FOREWORD

1. This publication is edition three which is revised on a periodic basis and incorporates updated relevant policy, previously contained in single and joint Service policy letters, concerned with the assessment of medical fitness in the RAF. It also contains extracts and references to policy contained in other APs, DINs, GAls etc which contain information regarding assessment and maintenance of fitness. This AP should be regarded as complementary to JSP 950 “Medical Policy”, specifically Part 6, Chapter 7 “Medical Employment Standards Policy”.

2. The AP contains the Head of RAF Medical Services policy on assessment of fitness. The RAF system for recording fitness and awarding limitations to employment is described in Section 1. Section 2 is concerned with the administrative procedures to be followed when awarding a joint medical employment standard (JMES). The arrangements for monitoring fitness, to ensure a JMES remains appropriate throughout a person’s career are detailed in Section 3. Section 4 details the fitness standards expected for all branches and trades in the RAF to help MOs assess the impact of employment on health. Finally, Section 5 adopts a systems approach to looking at the effect of ill-health/disease on employment. Advice is given on specific examination procedures, where appropriate, and treatment policy is given when it has a bearing on fitness and employability. The section referring to Civil Aviation Authority (CAA) medical standards contained in the second edition has been deleted. Authorised CAA medical examiners should refer to the up to date guidance notes issued by the CAA when examining aircrew for civilian licences.

3. New policy will continue to be issued as leaflets in JSP 950 “Medical Policy”. Head of RAF Medical Service’s policy will be issued directly as an Amendment List (AL) to this AP. Very occasionally, the urgency or uniqueness of the new policy will dictate the issue of RAF policy. Policy relevant to AP 1269A will subsequently be extracted and incorporated in routine amendments to the AP as new or re-issued leaflets.

AMENDMENT PROCEDURE

4. All medical personnel are to be proactive in ensuring that this Air Publication (AP) remains current. The following procedure is to be followed when requesting an amendment to AP1269A.

ACTION BY PERSON REQUESTING AMENDMENT

5. If an individual considers any part of this AP to be unsatisfactory, inaccurate or out of date, they are to report the fact to SO1 Med Pol (RAF) or WO Med Pol & Pub (RAF). The report should be forwarded electronically where possible and must outline the nature of the problem and an appropriate solution or form of amendment.

ACTION BY SO1 MED POL (RAF)

6. As sponsor for AP 1269A, SO1 Med Pol(RAF) is to take the following action:

   a. Review the proposed amendment and re-draft as necessary before taking appropriate staffing action. If the proposed amendment is agreed it is to be forwarded to WO Med Pol & Pub (RAF), newly issued policy will be in red font to draw the reader’s attention to significant changes. Highlighted changes will be removed subsequently when the AP is next published. Urgent policy updates may require interim policy to be issued as an amendment within the AP. Interim policy will be annotated in red font until it is ratified by the RAF Board.

   b. The originator of the request is to be informed of the outcome of the proposal by e-mail.

   c. Retain an electronic copy of all correspondence.

ACTION BY WO MED POL & PUB (RAF)

7. WO Med Pol & Pub (RAF) is responsible for co-ordinating and publishing leaflets incorporating amendments generated by SO1 Med Pol (RAF) and changes in policy relating to medical fitness, and its assessment, issued by other single and joint Service authorities.
DEFINITIONS

1. Throughout this publication the terms Aircrew and Controller are used repeatedly. These terms are defined in the Military Aviation Authority’s master glossary:

INTRODUCTION

1. This Leaflet is to be read in conjunction with JSP 950 Part 6, Chapter 7. "Medical Employment Standards Policy".

2. In order to ensure that personnel are fit to perform their Service duties, trade and branch fitness standards are set against which an individual’s fitness can be assessed. Where an individual's fitness falls short of the required standard, their employment may need to be restricted. This protects the individual and/or their colleagues whilst allowing the opportunity for the Service to retain their skills and knowledge. In this way the individual is protected and medical 'wastage' is minimised. All MOs act as occupational physicians when making judgements regarding an individual’s fitness for duty and it is essential that they have a thorough understanding of their professional obligations when acting in this capacity. All General Duties (General Medical Practitioners) [GD(GMP)s] and Civilian Medical Practitioners (CMPs) of independent practitioner status are very strongly encouraged to undertake the Diploma in Occupational Medicine as further training for this essential role (further detail is contained in AP1269, Lflt 3-02 Annex G).

3. Medical Fitness for the RAF is recorded using the Joint Medical Employment Standard (JMES). This medical administration system describes the deployability and the employability of Service Personnel. The JMES consists of a number of Primary Elements and a number of Detailed Elements.

4. **Primary Elements** are:
   a. Date of award
   b. Date of review
   c. Permanency
   d. Medical Deployment Standard (MDS)

5. **Detailed Elements** are:
   a. Medical Employment Standard (MES)
   b. Medical Limitations (MedLims)

6. This Lflt provides detail about the RAF employment of the MDS, the MES and MedLims.
THE MEDICAL DEPLOYMENT STANDARD (MDS)

7. The Medical Deployment Standard (MDS) describes the medical capacity for deployment.

<table>
<thead>
<tr>
<th>MDS CODE</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>MFD</td>
<td>1. Fit to deploy to all parts of the world on contingent or follow-on operations without any limitations or requirements for routine medical support beyond deployed Primary Healthcare.</td>
</tr>
<tr>
<td>MLD</td>
<td>2. Deployment limited due to:</td>
</tr>
<tr>
<td></td>
<td>a. A medical condition.</td>
</tr>
<tr>
<td></td>
<td>b. Medical treatment needs.</td>
</tr>
<tr>
<td></td>
<td>c. Medical support requirements.</td>
</tr>
<tr>
<td></td>
<td>d. Risk arising from exposure to specific climates (e.g., heat or cold).</td>
</tr>
<tr>
<td></td>
<td>e. The need to avoid specific exposures (e.g., noise, chemicals).</td>
</tr>
<tr>
<td></td>
<td>3. A grade of MLD requires a medical risk assessment (MRA) to be carried out for deployment. The decision on that deployment will depend on the medical condition, individual function, the proposed employment, length of the deployment and the medical support available.</td>
</tr>
<tr>
<td></td>
<td>4. MLD personnel may vary from those with minimal limitations who can be used in a wide range of roles and situations to those who can only undertake a limited role or Career Employment Group (CEG) within a specific, well supported setting.</td>
</tr>
<tr>
<td>MND</td>
<td>5. Not deployable outside the United Kingdom.</td>
</tr>
<tr>
<td></td>
<td>6. May be admitted to or under the care of a Medical Facility (MF) or awaiting medical discharge (A6 L6 M6 E5 or 6).</td>
</tr>
</tbody>
</table>

THE MEDICAL EMPLOYMENT STANDARD (MES)

8. The JMES relates to an individual’s ability to undertake their branch/trade duties and expresses it as numerical degrees of fitness in four functional areas. These areas reflect medical fitness for duties in the Air, Land and Maritime environments. These sit alongside any modifying requirements for Medical Support or Environmental Limitation. They are represented by the letters A, L, M and E respectively.

9. The JMES indicates whether an individual is fit for full duty, fit for limited duties or is non-effective. A JMES may be ‘permanent’ or ‘temporary’. Definitions are below:

a. Temporary JMES (non-effective). The award of a temporary non-effective JMES is appropriate when an individual is likely to be unfit for any form of work for a prolonged period of time. A temporary non-effective JMES can be awarded for a maximum period of 18 months from the date the individual became unfit for duty (QR 620 Para 2. a.). If the individual has first been awarded a temporary effective JMES early in the course of the illness, the combined length of both effective and non-effective JMESs is not to exceed 18 months. The conditions for awarding a temporary non-effective JMES are detailed at Lflt 2-03. A temporary non-effective JMES is designated by A6 L6 M6 E5/E6 (T). The P factor or S factor in the PULHEEMS profile becomes P0 or S0.

b. Temporary JMES (effective). This is a transitional JMES that reflects the individual’s employability during a period of treatment and rehabilitation. This leads either to the restoration of a former permanent JMES or to the award of a new permanent JMES. A temporary (effective)
employment standard can be awarded for a maximum period of 18 months. The conditions for awarding a temporary JMES are detailed at LfIt 2-03. A temporary JMES uses a ‘T’ suffix to differentiate it from a permanent JMES.

c. Permanent JMES. A permanent JMES is to be awarded whenever there is no medical reason to expect that there will be any change in the individual’s physical function or medical condition within the coming 18 months period.

10. The procedure for awarding and reviewing an individual’s JMES is detailed at LfIt 2-01.

11. The table overleaf details the MES codes and their meanings.

MEDICAL LIMITATIONS (MEDLIMS)

12. Specific restrictions on employment are defined by means of authorised limitations to the A, L M and E factors. The Defence Council authorised list of MedLims is detailed in LfIt 1-02.
<table>
<thead>
<tr>
<th>AIR MES Code</th>
<th>Description</th>
<th>Guidance</th>
<th>Single Service Supplementary Guidance</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1</td>
<td>Fit for flying duties without restriction.</td>
<td>Only for aircrew.</td>
<td></td>
</tr>
<tr>
<td>A2</td>
<td>Fit for flying duties but has reduced hearing or eyesight.</td>
<td>Only for aircrew.</td>
<td></td>
</tr>
<tr>
<td>A3</td>
<td>Fit for duties in the air within the stated employment or MedLims.</td>
<td>Aircrew 1.</td>
<td>May be used for: Remotely Piloted Air Systems Operators 2, Gliding Instructors 3, Flight Medical Officers, Air Stewards.</td>
</tr>
<tr>
<td>A4</td>
<td>Fit to be flown in a passenger aircraft.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A5</td>
<td>Unfit to be taken into the air.</td>
<td>Except as aeromedical evacuation patients.</td>
<td></td>
</tr>
<tr>
<td>A6</td>
<td>Unfit for any duties in the aviation environment.</td>
<td>Duties in the aviation environment include, but not limited to, air traffic control, baggage handling, aircraft towing, aircraft maintenance, airfield driving and duties on a flying station/base.</td>
<td>Personnel will usually be non-effective or given a medical board recommendation for discharge.</td>
</tr>
</tbody>
</table>

1 Including other Career Employments Groups defined in AP 1269A Royal Air Force Manual of Medical Fitness
2 RPAS Operators AP1269A Lft 4-02 para 20d AP 1269A Royal Air Force Manual of Medical Fitness
3 VGS Gliding Instructors AP1269A Lft 4-02 para 16 AP 1269A Royal Air Force Manual of Medical Fitness
<table>
<thead>
<tr>
<th>MES Code</th>
<th>Description</th>
<th>Guidance</th>
<th>Single Service Supplementary Guidance</th>
</tr>
</thead>
</table>
| L1       | Fit for unrestricted duty. | Must have appropriate level of musculoskeletal fitness to undertake role and military tasks in austere environments. Must be able to undertake Pre-Employment Training (PET) and Individual Pre-Deployment Training (IPDT) to deliver the minimum personal military skills to allow an individual to carry out the requirements of their job specification while maintaining their own Force Protection (FP) and positively contributing to the FP of those around them.

RN⁴ / RM⁶ unfit for defined aspects of mandatory fitness testing or modifications to command courses required but fully employable and deployable in branch/trade. | May undertake Operational Fitness Test (OFT) 4 for Combat Service / Combat Service Support Arms and OFT 5 and 6 for Combat arms. Must be fit PJHQ Global Low to Medium Threat environments. Operational deployments are subject to MRA. No limitation on exposure to weapons noise. Must be E1J or E2J. | Minor limitations, but fit for high-readiness roles. |
| L2       | Fit for high readiness roles with minor limitations. | Should not impose a significant and/or constant demand on the medical services if deployed, on exercise or deployments. The individual may deploy on operations or overseas exercises following completion of a MRA. Have no limitations in their ability to function wearing personal equipment demanded of the environment, trade/branch and rank. | Must be fit OFT 1 if confined to PJHQ Low Threat environments, personnel whose duties remain within the confines of designated Main Operating Bases (MOB) or OFT 2 for PJHQ Global Medium Threat environments. Deployable with follow on forces with established bases. | Able to undertake all trade/branch duties but has difficulty with specified general Service activities eg running. |
| L3       | Fit for limited duties but with some restriction subject to MRA. | | | |

⁴ DIN 2015 07-112 Individual Pre-deployment Training Policy. Global IPDT requirements are set against the overall risk to deployed personnel within an individual theatre. This assessment takes into account the identified risk from terrorism, armed attack, criminality and environmental factors including Road Traffic Accidents. Whilst there may be variations in IPDT requirements for personnel deployed on certain operations given their role and exposure to risk, the nature of certain Global operations require all personnel to be trained to a single standard to mitigate the expected threat. Global Low Threat. Environments where the identified threats or risks to deployed personnel may not require FP restrictions to be imposed. This category also includes personnel deployed within Medium and High threat environments where the nature of their deployment does not expose them to the threat. Global Medium Threat. Environments where there is an identified threat from terrorism, armed attack or high risk of environmental hazards to personnel operating in remote or isolated locations. Personnel deployed on Global Medium Threat deployments are required to complete enhanced training as defined by the JTRs, relevant to role or specific risks. Global High Threat. Environments where there is an identified high threat from terrorism, armed attacks, Insider Threat or violent criminality. Personnel deployed on Global High Threat deployments are required to complete enhanced training as defined by the JTRs, relevant to role or specific risks.


⁶ Royal Marines Fitness Test Annex A Feb 14.

⁷ MATT 2 Fitness Issue 6 Apr 14.
<table>
<thead>
<tr>
<th>MES Code</th>
<th>Description</th>
<th>Guidance</th>
<th>Single Service Supplementary Guidance</th>
</tr>
</thead>
<tbody>
<tr>
<td>L4</td>
<td>Fit for certain deployed roles into well-established MOB locations subject to Consultant Occupational Physician MRA.</td>
<td>Individuals whose medical conditions have the potential to pose a significant risk on deployment in the land environment. May be reliant on an uninterrupted supply of medication and/or a reliable cold chain. Must be able to function wearing a helmet and the minimum theatre entry standard body armour.</td>
<td>Likely to be restricted to Major Overseas Bases only. Consultant Occupational Physician must complete a MRA in liaison with the force generating HQ (eg PJHQ, Army HQ).</td>
</tr>
<tr>
<td>L5</td>
<td>Unfit deployment. Fit for branch/trade and limited UK operations.</td>
<td>Individuals who are unable to deploy due to significant MedLims. May be fit limited UK operations. Able to provide regular and effective service in the non-deployed land environment subject to meeting the minimum requirements as specified in sS employment policy.</td>
<td>May be employed within their branch/trade and are fit for UK internal operations within the bounds of their MedLims. Must be fit for branch/trade subject to allowable limitations as defined in extant version of PAP8. Limitations on weapon handling and full time hours, are limited to 1 year, beyond which the individual must be graded L6J.</td>
</tr>
<tr>
<td>L6</td>
<td>Unfit for service in the land environment.</td>
<td>Unfit for any duties.</td>
<td>L6J temp requires ROHT sanction to extend &gt; 6 months and DM(A) sanction to extend &gt;12 months. Personnel will usually be non-effective or given a medical board recommendation for discharge.</td>
</tr>
</tbody>
</table>

8 PULHHEEMS Administrative Pamphlet
<table>
<thead>
<tr>
<th>MES Code</th>
<th>Description</th>
<th>Guidance</th>
<th>Single Service Supplementary Guidance</th>
</tr>
</thead>
<tbody>
<tr>
<td>M1</td>
<td>Fit for unrestricted duties.</td>
<td>May be employed and deployed worldwide in the maritime environment.</td>
<td></td>
</tr>
<tr>
<td>M2</td>
<td>Fit for restricted duties afloat within the limitations as stated.</td>
<td>Fit for duties at sea but may be restricted to specific size or type of vessel, have medical support needs or environmental limitations as indicated by the MES and MedLims.</td>
<td>To be employed or deployed within the MedLims specified.</td>
</tr>
<tr>
<td>M3</td>
<td>Fit for restricted duties in a vessel in harbour or alongside with the limitations as stated.</td>
<td>Able to safely move around a ship alongside or within the confines of a harbour including the ability to evacuate from the vessel and take emergency action (eg fire fighting and damage control) without assistance.</td>
<td>Unfit to serve in a vessel at sea but may serve within the confines of a port or harbour.</td>
</tr>
<tr>
<td>M4</td>
<td>Fit to be carried as embarked forces in transit.</td>
<td>Fit to move safely around a ship at sea, in harbour or alongside including using ladders and stairs, opening heavy hatches, stepping over hatch combings and tolerating a moving/rolling platform. Not to be part of the fire fighting or damage control organisation but must be able to take emergency response and evacuation actions unaided.</td>
<td>RN personnel should not be graded M4J. Commando and Port and Maritime personnel should not normally be graded M4J.</td>
</tr>
<tr>
<td>M5</td>
<td>Fit for restricted duties ashore within the limitations as stated.</td>
<td>Not to work on ships/submarines alongside and may not be able to complete all duties required of their branch/trade ashore.</td>
<td>Embedded RAF personnel with severe seasickness or other medical condition(s) incompatible with being on board a ship.</td>
</tr>
<tr>
<td>M6</td>
<td>Unfit for any duties in the maritime environment.</td>
<td>Long-term sick or in a MTF for &gt;28 days or given a medical board recommendation for discharge.</td>
<td></td>
</tr>
</tbody>
</table>

9 Army personnel employed in the maritime environment should follow RN sS guidance.

10 Augmentees are personnel who will work as part of or alongside the ship’s personnel as part of their role and may be expected to undertake damage control of fire fighting duties.

11 Ladders may be vertical or sloping, hatch combings are up to 30 cm above the deck, hatches may weigh ≥100 Kg and require up to 8 clips (rotating metal handles) to be moved to allow opening and closing the hatch. Some hatches are horizontal and require to be lifted open. The ability to complete these tasks whilst the platform is rolling or being subject to the motion of the seas should be considered. The ability to hear alarms and move around in poor lighting or smoke are essential to the ability to safely evacuate from the vessel unaided in case of an emergency.
<table>
<thead>
<tr>
<th>MES Code</th>
<th>Description</th>
<th>Guidance</th>
<th>Single Service Supplementary Guidance</th>
</tr>
</thead>
<tbody>
<tr>
<td>E1</td>
<td>Fit for worldwide service in all environments.</td>
<td>Fit to deploy on contingent and enduring operations with no requirement for medical care within the deployed location beyond deployed Primary Healthcare (or equivalent).</td>
<td></td>
</tr>
<tr>
<td>E2</td>
<td>Fit for unrestricted duties but with a medical risk marker.</td>
<td>Has a specific medical condition, which does not currently affect employability or deployability but may do so in future. Has no climatic restriction and no requirement for medical support bar adequate supply of medication. The medical condition is stable with treatment. Should loss of medication occur for ≤ 1 week this should not lead to clinical deterioration in the condition or functional degradation during that time.</td>
<td>Examples of medical risk markers are early noise induced hearing loss, stable chronic condition requiring medical monitoring. Excludes any medical condition that would require review by a MO before authorising deployment. No functional limitation but has a stable controlled condition such as high blood pressure.</td>
</tr>
<tr>
<td>E3</td>
<td>Restricted employment outside UK due to medical support or environmental requirements.</td>
<td>Fit subject to limitations as will require access to enhanced medical support, or has specific medication requirements unlikely to be compatible with contingent operations. Fit to be in areas within limitations eg climatic injuries, hearing loss, susceptibility to environmental exposure.</td>
<td>Personnel may require guaranteed access to an MO outside UK waters or only be deployable where access to Secondary Healthcare is possible. Personnel may be employed in locations with reduced health care provision. When advising on employment or deployment away from the firm base the MO must ensure that in-theatre medical provision can meet the individual’s routine and emergency needs. Confirmation of the adequacy of medical support by receiving medical authority is required.</td>
</tr>
<tr>
<td>E4</td>
<td>Only to be employed out of the UK where there is access to established, ‘NHS equivalent or better’ Primary and Secondary Healthcare.</td>
<td>Has a medical condition requiring access either routinely or as an emergency to medical care at a level available equivalent to that provided in the UK.</td>
<td>Limited to major Overseas Bases only (excludes Falklands and Diego Garcia). When advising on employment outside the UK the MO must ensure that in-theatre medical provision can meet the individual’s routine and emergency needs.</td>
</tr>
<tr>
<td>E5</td>
<td>May be employed within the UK only.</td>
<td>To be employed appropriately to their MedLims within the UK.</td>
<td>See M grade for ability to be employed on a ship. Personnel with on-going health care needs, which would be adversely affected by employment outside of the UK.</td>
</tr>
<tr>
<td>E6</td>
<td>Pregnancy/Maternity.</td>
<td>Only to be used when the woman has formally informed her employer of her pregnancy (eg using Mat B1) and she has given her consent in writing for MES to be displayed as E6J or a contemporaneous record has been made in the clinical notes confirming permission granted. E6J is to be maintained until the Service woman has successfully completed a return-to-work medical post pregnancy and/or maternity leave.</td>
<td>Prior to formal declaration, to be graded MND A4J L4J M3J E5J. Personnel for example requiring medical treatment or follow-up more frequent than 6 monthly.</td>
</tr>
</tbody>
</table>
CONSEQUENCES OF A LOWERED MEDICAL EMPLOYMENT STANDARD

13. The JMES is used by Medical Officers to advise the executive of medical limitations on an individual's employability whilst preserving (so far as is possible) medical confidentiality. It is used in conjunction with other information by Manning to assess suitability for assignment, promotion and further service.

14. Temporary JMES. During a period of temporary downgrading individuals are unlikely to be assigned, promoted or undergo a change in their terms of service. Where it is requested, medical advice to Manning is provided by Manning Medical Casework. Although employment decisions are medically informed, the final employment disposal will always be an executive decision. Downgraded individuals should only be employed within the limitations required by their JMES.

15. Permanent JMES. Full details are given in QRS 531, 620, 621, 1421 and 1422. In general the following apply:

a. A JMES Indicating that the Patient is Fit to Continue Usefully in their Branch or Trade. Personnel in this category may be employed in their branch or trade. The career effect of a reduced JMES (for example, on assignment, promotion and further service) is determined by Manning. Manning Medical Casework will provide the executive with appropriate medical advice. Aircrew permanently awarded a non-flying JMES (below A3) are not required to have annual aircrew medical examinations.

b. A JMES Indicating Unfitness for Branch or Trade. In general the individual will be considered for retention in alternative branches or trades. Selection for this will be dependent upon the fitness standard applicable to that branch/trade (see Section 4), the individual's suitability, an available vacancy and the opportunity for re-mustering and retraining. The individual's disposal is an executive decision. It should be noted that aircrew may request invaliding under QRS 1421(3), (officers) and QRS 526A(4)(b), (non-commissioned aircrew) if they are permanently awarded an A4 category and withdrawn from flying duties on medical grounds.

c. A JMES Indicating Unfitness for Further Service. Such personnel will usually be discharged from the Service on medical grounds. The Medical Board must advise individuals that their disposal is an executive matter and that their mode of exit will be determined by the COS Pers staffs.

16. Review of Permanently Lowered JMES. All personnel who are permanently medically downgraded below A1/A2 L2 M4 E2 (aircrew) or A4 L2 M4 E2 (ground trades) are to be reviewed by their MO every 12 months to ensure the JMES remains correct, unless the Medical Board indicated in its report that there would be no chance of the individual ever regaining a higher JMES. The reviewing MO is to pay particular attention to ensure any limitations remain valid (Lft 1-02, paragraph 13 refers). If the reviewing MO is not content with the grading, they are to amend it through an Informal Medical Board or seek advice from the RAF MB. A record of the MO's review is to be recorded in the patient's medical record using the Read Code 'Permanent JMES – RAFMEPE1' and relevant text.

17. Temporary JMES During Phase 1 and Phase 2 Training. Personnel undergoing Initial Officer Training (IOT), Recruit Training (RT) and Non-commissioned Aircrew Initial Training Course who are awarded a temporary JMES below A4 L2 M4 E2 are to be given 6 months to regain a permanent JMES which meets the minimum selection criteria for their branch or trade as detailed at Section 4. Exceptionally this timescale may be reduced, or increased, if it is considered to be in the best interest of the Service and/or the individual. Personnel who fail to meet this requirement are to be referred to the Remedial Board (R&S DOM).

18. JMES for Graduation/Pass-Out from Initial Training. Personnel graduating / passing out from initial training are required to hold a JMES no lower than A4 L2 M4 E2. Individuals holding a temporary JMES may exceptionally be allowed to graduate / pass out if they are likely to achieve the minimum JMES for their selected branch/trade within 6 months of completion of initial training.
### 1000 Series - Miscellaneous Domain

<table>
<thead>
<tr>
<th>Sub-domain</th>
<th>MedLim Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>MedLims (&gt;12)</td>
<td>000</td>
<td>&gt; 12 MedLims allocated – CoC to seek further medical advice on employability</td>
</tr>
<tr>
<td>Not otherwise specified</td>
<td>1100</td>
<td>Restrictions on Service duties and employment not specified by a MedLim (details in med docs) (see notes 3, 4)</td>
</tr>
<tr>
<td>Working conditions</td>
<td>1200</td>
<td>Unfit shift work</td>
</tr>
<tr>
<td>Working conditions</td>
<td>1201</td>
<td>Unfit for night work</td>
</tr>
<tr>
<td>Working conditions</td>
<td>1202</td>
<td>Unfit for lone working</td>
</tr>
<tr>
<td>Working conditions</td>
<td>1203</td>
<td>Unfit to work at height</td>
</tr>
<tr>
<td>Working conditions</td>
<td>1204</td>
<td>Unfit to work on gantries</td>
</tr>
<tr>
<td>Working conditions</td>
<td>1205</td>
<td>Unfit to work underground</td>
</tr>
<tr>
<td>Working conditions</td>
<td>1206</td>
<td>Unfit to work in confined spaces</td>
</tr>
<tr>
<td>Working conditions</td>
<td>1207</td>
<td>Unfit to work without direct supervision (see note 5)</td>
</tr>
<tr>
<td>Working conditions</td>
<td>1208</td>
<td>Fit limited duties in trade or branch (type will be specified in Med Docs)</td>
</tr>
<tr>
<td>Working conditions</td>
<td>1209</td>
<td>Office duties only</td>
</tr>
<tr>
<td>Working conditions</td>
<td>1210</td>
<td>Fit limited working hours agreed between MO and Line Manager</td>
</tr>
<tr>
<td>Working conditions</td>
<td>1211</td>
<td>Unfit to conduct EPPs</td>
</tr>
<tr>
<td>Working conditions (App 9)</td>
<td>1212</td>
<td>Passenger - land vehicles restriction</td>
</tr>
<tr>
<td>Employment</td>
<td>1300</td>
<td>Medical marker (no functional limitation)</td>
</tr>
<tr>
<td>Employment</td>
<td>1301</td>
<td>Not for use with RAF Personnel</td>
</tr>
<tr>
<td>Employment</td>
<td>1302</td>
<td>Not for use with RAF Personnel</td>
</tr>
<tr>
<td>Safety critical duties</td>
<td>1400</td>
<td>Unfit to conduct safety critical duties</td>
</tr>
<tr>
<td>Safety critical duties</td>
<td>1401</td>
<td>Unfit to undertake service driving</td>
</tr>
<tr>
<td>Safety critical duties</td>
<td>1402</td>
<td>Unfit to undertake service driving with passengers</td>
</tr>
<tr>
<td>Safety critical duties</td>
<td>1403</td>
<td>Unfit to drive specific vehicle (type will be specified in Med Docs)</td>
</tr>
<tr>
<td>Safety critical duties</td>
<td>1404</td>
<td>Not to be responsible for operating machinery</td>
</tr>
<tr>
<td>Safety critical duties</td>
<td>1405</td>
<td>Unfit for work with unguarded machinery</td>
</tr>
<tr>
<td>Safety critical duties</td>
<td>1406</td>
<td>Below required colour perception standard requires supervision for colour discrimination tasks</td>
</tr>
<tr>
<td>Food handling</td>
<td>1500</td>
<td>Unfit food handling</td>
</tr>
<tr>
<td>Food handling</td>
<td>1501</td>
<td>Unfit for galley / kitchen duties</td>
</tr>
<tr>
<td>Diet</td>
<td>1600</td>
<td>Must have opportunity for regular meals</td>
</tr>
<tr>
<td>Diet</td>
<td>1601</td>
<td>To have access to a gluten free diet at all times</td>
</tr>
<tr>
<td>Diet</td>
<td>1602</td>
<td>To have access to specialist diet (type will be specified in Med Docs)</td>
</tr>
</tbody>
</table>
### 2000 Series - Aviation Domain

<table>
<thead>
<tr>
<th>Sub-domain</th>
<th>MedLim Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flying</td>
<td>2000</td>
<td>Unfit solo pilot - must fly with a pilot suitably qualified on type</td>
</tr>
<tr>
<td>Flying</td>
<td>2001</td>
<td>Unfit solo (aircrew category will be specified in Med Docs)</td>
</tr>
<tr>
<td>Flying</td>
<td>2002</td>
<td>Unfit specific aircraft (type(s) to be specified in Med Docs)</td>
</tr>
<tr>
<td>Flying</td>
<td>2003</td>
<td>Fit (details to be specified in Med Docs) flying duties only</td>
</tr>
<tr>
<td>Flying</td>
<td>2004</td>
<td>Unfit (conditions of flight to be specified in Med Docs)</td>
</tr>
<tr>
<td>Flying</td>
<td>2005</td>
<td>Permanently unfit flying duties</td>
</tr>
<tr>
<td>Flying</td>
<td>2006</td>
<td>Unfit to climb on aircraft</td>
</tr>
<tr>
<td>Flying</td>
<td>2007</td>
<td>Unfit ejection seat aircraft</td>
</tr>
<tr>
<td>Flying</td>
<td>2008</td>
<td>Restricted employability because of anthropometric limitations</td>
</tr>
<tr>
<td>Controlling</td>
<td>2100</td>
<td>Unfit aircraft controlling duties</td>
</tr>
<tr>
<td>Controlling</td>
<td>2101</td>
<td>Fit to control only when another qualified controller is on duty and in close proximity</td>
</tr>
<tr>
<td>Hearing / Vision</td>
<td>2200</td>
<td>Aircrew assessed as hearing standard &lt;H1 but with a satisfactory functional hearing test iaw AP1269A</td>
</tr>
<tr>
<td>Hearing / Vision</td>
<td>2201</td>
<td>Must wear approved visual correction when flying or controlling aircraft</td>
</tr>
<tr>
<td>Hearing / Vision</td>
<td>2203</td>
<td>Must carry approved corrective flying spectacles when flying or controlling aircraft</td>
</tr>
<tr>
<td>Respirators</td>
<td>2300</td>
<td>Unfit aircrew respirators</td>
</tr>
<tr>
<td>STASS</td>
<td>2400</td>
<td>Fit dry/poolside STASS training only</td>
</tr>
<tr>
<td>STASS</td>
<td>2401</td>
<td>Unfit any STASS training</td>
</tr>
<tr>
<td>Parachuting</td>
<td>2500</td>
<td>Unfit land parachuting</td>
</tr>
<tr>
<td>Parachuting</td>
<td>2501</td>
<td>Unfit sea parachuting</td>
</tr>
</tbody>
</table>

### 3000 Series - Land Domain

<table>
<thead>
<tr>
<th>Sub-domain</th>
<th>MedLim Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deployment</td>
<td>3000</td>
<td>Limited operational land deployments. Employable within the confines of a rear echelon only</td>
</tr>
<tr>
<td>Deployment (App 9)</td>
<td>3001</td>
<td>No operational land deployments. Must not deploy to any operational arena</td>
</tr>
<tr>
<td>Deployment (App 9)</td>
<td>3002</td>
<td>Fit for short land deployments subject to Medical Risk Assessment</td>
</tr>
<tr>
<td>Deployment (App 9)</td>
<td>3003</td>
<td>Fit detachments in worldwide areas not exceeding 30 days</td>
</tr>
<tr>
<td>Mobility (App 9)</td>
<td>3100</td>
<td>Infantry activities (including digging) restrictions</td>
</tr>
<tr>
<td>Mobility (App 9)</td>
<td>3101</td>
<td>Travel on foot across rough terrain restrictions</td>
</tr>
<tr>
<td>Mobility (App 9)</td>
<td>3102</td>
<td>Move tactically and adopting fire positions restrictions</td>
</tr>
<tr>
<td>Field conditions (App 9)</td>
<td>3200</td>
<td>Living in field conditions restrictions</td>
</tr>
<tr>
<td>Sub-domain</td>
<td>MedLim Code</td>
<td>Description</td>
</tr>
<tr>
<td>-----------------------------------</td>
<td>-------------</td>
<td>------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Ships / submarines</td>
<td>4000</td>
<td>Not for use with RAF Personnel</td>
</tr>
<tr>
<td>Ships / submarines</td>
<td>4001</td>
<td>Not for use with RAF Personnel</td>
</tr>
<tr>
<td>Ships / submarines</td>
<td>4002</td>
<td>Fit to serve in ships or submarines at sea in UK waters only</td>
</tr>
<tr>
<td>Ships / submarines</td>
<td>4003</td>
<td>Not for use with RAF Personnel</td>
</tr>
<tr>
<td>Ships / submarines</td>
<td>4004</td>
<td>Not for use with RAF Personnel</td>
</tr>
<tr>
<td>Ships / submarines</td>
<td>4006</td>
<td>Not for use with RAF Personnel</td>
</tr>
<tr>
<td>Ships / submarines</td>
<td>4007</td>
<td>Not for use with RAF Personnel</td>
</tr>
<tr>
<td>Ships / submarines</td>
<td>4008</td>
<td>Not for use with RAF Personnel</td>
</tr>
<tr>
<td>Marine Craft</td>
<td>4100</td>
<td>Not for use with RAF Personnel</td>
</tr>
<tr>
<td>Royal Marines</td>
<td>4200</td>
<td>Not for use with RAF Personnel</td>
</tr>
<tr>
<td>Diving</td>
<td>4300</td>
<td>Not for use with RAF Personnel</td>
</tr>
<tr>
<td>Diving</td>
<td>4301</td>
<td>Not for use with RAF Personnel</td>
</tr>
<tr>
<td>Diving</td>
<td>4302</td>
<td>Not for use with RAF Personnel</td>
</tr>
<tr>
<td>Diving</td>
<td>4303</td>
<td>Not for use with RAF Personnel</td>
</tr>
<tr>
<td>Sea survival / fire fighting</td>
<td>4400</td>
<td>Unfit for BSSC or ISSC</td>
</tr>
<tr>
<td>Sea survival / fire fighting</td>
<td>4401</td>
<td>Unfit BSSC / ISSC but fit Embarked Forces Fire Fighting Training</td>
</tr>
<tr>
<td>Sea survival / fire fighting</td>
<td>4402</td>
<td>Unfit fire fighting training and duties</td>
</tr>
<tr>
<td>Dockyard</td>
<td>4500</td>
<td>Not for use with RAF Personnel</td>
</tr>
<tr>
<td>Medical review</td>
<td>4600</td>
<td>Not for use with RAF Personnel</td>
</tr>
<tr>
<td>Medical support</td>
<td>4601</td>
<td>Fit to serve in ships, submarines or RM Units with a permanent MO borne only</td>
</tr>
<tr>
<td>Medical support</td>
<td>4602</td>
<td>Needs access to a MO within 24 hours when deployed outside UK waters</td>
</tr>
<tr>
<td>Medical support</td>
<td>4603</td>
<td>Needs access to a MO within 2 days when deployed outside UK waters</td>
</tr>
<tr>
<td>Medical support</td>
<td>4604</td>
<td>Needs access to a MO within 3 days when deployed outside UK waters</td>
</tr>
<tr>
<td>Medical support</td>
<td>4605</td>
<td>Needs access to a MO within 5 days when deployed outside UK waters</td>
</tr>
<tr>
<td>Medical support</td>
<td>4606</td>
<td>Needs access to a MO within 7 days when deployed outside UK waters</td>
</tr>
<tr>
<td>Sub-domain</td>
<td>MedLim Code</td>
<td>Description</td>
</tr>
<tr>
<td>------------------------</td>
<td>-------------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Geographical</td>
<td>5000</td>
<td>Geographical/Regional assignment restrictions (details specified in medical documents)</td>
</tr>
<tr>
<td>Geographical</td>
<td>5001</td>
<td>Unfit to deploy, travel or reside in malarious areas</td>
</tr>
<tr>
<td>Geographical</td>
<td>5002</td>
<td>Unfit Service outside base areas</td>
</tr>
<tr>
<td>Climatic (App 9)</td>
<td>5100</td>
<td>Not for use with RAF Personnel</td>
</tr>
<tr>
<td>Climatic</td>
<td>5101</td>
<td>Unfit for work outdoors</td>
</tr>
<tr>
<td>Climatic</td>
<td>5102</td>
<td>Unfit exposure to hot environments (including within the UK) seek guidance from medical staff (see note 6)</td>
</tr>
<tr>
<td>Climatic</td>
<td>5103</td>
<td>Unfit exposure to cold environments (including within the UK) seek guidance from medical staff (see note 5)</td>
</tr>
<tr>
<td>Climatic</td>
<td>5104</td>
<td>Unfit exposure to excessively wet environments (see note 5)</td>
</tr>
<tr>
<td>Climatic</td>
<td>5105</td>
<td>Unfit exposure bright light / strong sunlight</td>
</tr>
<tr>
<td>Climatic</td>
<td>5106</td>
<td>Not for use with RAF Personnel</td>
</tr>
<tr>
<td>Climatic</td>
<td>5107</td>
<td>Fit to be employed in temperate climates only</td>
</tr>
<tr>
<td>Environmental hazards</td>
<td>5200</td>
<td>Unfit exposure skin irritants / sensitizers (type will be specified in Med Docs) (see note 3)</td>
</tr>
<tr>
<td>Environmental hazards</td>
<td>5201</td>
<td>Unfit exposure to dusts, fumes and vapours (type will be specified in Med Docs) (see note 3)</td>
</tr>
<tr>
<td>Environmental hazards</td>
<td>5202</td>
<td>Has (or may have) been exposed to environ hazard, avoid further exposure, refer to med docs/JPA</td>
</tr>
<tr>
<td>Med support</td>
<td>5300</td>
<td>Not to conduct safety critical duties if medical support device(s) unavailable</td>
</tr>
<tr>
<td>Med support</td>
<td>5301</td>
<td>To have access to appropriate power supply for medical equipment</td>
</tr>
<tr>
<td>Med support</td>
<td>5302</td>
<td>Requires access to irradiated Blood Products</td>
</tr>
<tr>
<td>Auto-upgrade</td>
<td>5400</td>
<td>Not for use with RAF Personnel</td>
</tr>
<tr>
<td>Auto-upgrade</td>
<td>5401</td>
<td>Not for use with RAF Personnel</td>
</tr>
<tr>
<td>Auto-upgrade</td>
<td>5402</td>
<td>Not for use with RAF Personnel</td>
</tr>
<tr>
<td>Medical review</td>
<td>5500</td>
<td>Not for use with RAF Personnel</td>
</tr>
<tr>
<td>Medical review</td>
<td>5501</td>
<td>Not for use with RAF Personnel</td>
</tr>
<tr>
<td>Medical review</td>
<td>5502</td>
<td>Not for use with RAF Personnel</td>
</tr>
<tr>
<td>Medical review</td>
<td>5503</td>
<td>Not for use with RAF Personnel</td>
</tr>
<tr>
<td>Medical review</td>
<td>5504</td>
<td>Not for use with RAF Personnel</td>
</tr>
<tr>
<td>JCC / SCC</td>
<td>5600</td>
<td>Not for use with RAF Personnel</td>
</tr>
</tbody>
</table>
### 6000 Series - Locomotion, Lifting and Carrying Domain

<table>
<thead>
<tr>
<th>Sub-domain</th>
<th>MedLim Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Locomotion</td>
<td>6000</td>
<td>Unfit strenuous physical exertion</td>
</tr>
<tr>
<td>Locomotion</td>
<td>6001</td>
<td>Requires to be seated at place of work</td>
</tr>
<tr>
<td>Locomotion</td>
<td>6002</td>
<td>Fit sedentary duties only</td>
</tr>
<tr>
<td>Locomotion</td>
<td>6003</td>
<td>Unable to sit for long periods</td>
</tr>
<tr>
<td>Locomotion</td>
<td>6004</td>
<td>Unable to stand for long periods</td>
</tr>
<tr>
<td>Locomotion</td>
<td>6005</td>
<td>Unfit for work kneeling down</td>
</tr>
<tr>
<td>Locomotion</td>
<td>6006</td>
<td>Unfit marching / drill</td>
</tr>
<tr>
<td>Locomotion</td>
<td>6007</td>
<td>Not for use with RAF Personnel</td>
</tr>
<tr>
<td>Locomotion</td>
<td>6008</td>
<td>Unable to climb stairs regularly in course of duty</td>
</tr>
<tr>
<td>Locomotion</td>
<td>6009</td>
<td>Unable to climb vertical ladders</td>
</tr>
<tr>
<td>Upper Limbs</td>
<td>6100</td>
<td>Fit limited use of one hand / arm (details will be specified in Med Docs)</td>
</tr>
<tr>
<td>Lifting/Carrying</td>
<td>6200</td>
<td>Unfit heavy lifting</td>
</tr>
<tr>
<td>Lifting/Carrying</td>
<td>6201</td>
<td>No load carrying</td>
</tr>
</tbody>
</table>

### 7000 Series Hearing and Vision Domain

<table>
<thead>
<tr>
<th>Sub-domain</th>
<th>MedLim Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hearing</td>
<td>7000</td>
<td>To have annual audiograms with subsequent review by PMO / SMO</td>
</tr>
<tr>
<td>Hearing</td>
<td>7001</td>
<td>Not for use with RAF Personnel</td>
</tr>
<tr>
<td>Hearing</td>
<td>7002</td>
<td>Not for use with RAF Personnel</td>
</tr>
<tr>
<td>Hearing</td>
<td>7003</td>
<td>Unfit exposure to noise above (to be specified) level</td>
</tr>
<tr>
<td>Hearing</td>
<td>7004</td>
<td>Unfit wearing of headsets</td>
</tr>
<tr>
<td>Hearing</td>
<td>7005</td>
<td>Unfit split headsets</td>
</tr>
<tr>
<td>Vision</td>
<td>7100</td>
<td>To wear appropriate eye protection including specialist or tinted eyewear</td>
</tr>
<tr>
<td>Sub-domain</td>
<td>MedLim Code</td>
<td>Description</td>
</tr>
<tr>
<td>------------</td>
<td>-------------</td>
<td>-------------</td>
</tr>
<tr>
<td>Fitness testing</td>
<td>8000</td>
<td>Medically exempt from all requirements of RNFT / RAFFT / PFA</td>
</tr>
<tr>
<td>Fitness testing</td>
<td>8001</td>
<td>Fit for Alternative Aerobic Assessment or Rockport Walk element of RNFT / RAFFT</td>
</tr>
<tr>
<td>Fitness testing</td>
<td>8002</td>
<td>Not for use with RAF Personnel</td>
</tr>
<tr>
<td>Fitness testing</td>
<td>8003</td>
<td>Not for use with RAF Personnel</td>
</tr>
<tr>
<td>Fitness testing</td>
<td>8004</td>
<td>Not for use with RAF Personnel</td>
</tr>
<tr>
<td>Fitness testing (App 9)</td>
<td>8005</td>
<td>Not for use with RAF Personnel</td>
</tr>
<tr>
<td>Fitness testing</td>
<td>8006</td>
<td>Not for use with RAF Personnel</td>
</tr>
<tr>
<td>Fitness testing</td>
<td>8007</td>
<td>Unfit Alternative Aerobic Assessment</td>
</tr>
<tr>
<td>Fitness testing</td>
<td>8008</td>
<td>Unfit press-ups</td>
</tr>
<tr>
<td>Fitness testing</td>
<td>8009</td>
<td>Alternative press-up hand position allowed</td>
</tr>
<tr>
<td>Fitness testing</td>
<td>8010</td>
<td>Unfit sit-ups</td>
</tr>
<tr>
<td>PT</td>
<td>8100</td>
<td>Unfit running</td>
</tr>
<tr>
<td>PT</td>
<td>8101</td>
<td>Unfit impact activity</td>
</tr>
<tr>
<td>PT</td>
<td>8102</td>
<td>Unfit organised physical training; fit individual PT programme only</td>
</tr>
<tr>
<td>PT</td>
<td>8103</td>
<td>Unfit Upper body PT</td>
</tr>
<tr>
<td>Rehabilitation</td>
<td>8200</td>
<td>Not for use with RAF Personnel</td>
</tr>
<tr>
<td>Rehabilitation</td>
<td>8201</td>
<td>Graduated Rehabilitation as directed by Clinical Lead</td>
</tr>
<tr>
<td>Rehabilitation</td>
<td>8202</td>
<td>Not for use with RAF Personnel</td>
</tr>
<tr>
<td>Rehabilitation</td>
<td>8203</td>
<td>Fit travel outside UK on duty for adaptive sport/adventurous trg/represent the Service following MRA</td>
</tr>
<tr>
<td>Rehabilitation</td>
<td>8204</td>
<td>Not for use with RAF Personnel</td>
</tr>
<tr>
<td>Rehabilitation</td>
<td>8205</td>
<td>Not for use with RAF Personnel</td>
</tr>
<tr>
<td>Rehabilitation</td>
<td>8206</td>
<td>Not for use with RAF Personnel</td>
</tr>
<tr>
<td>Rehabilitation</td>
<td>8207</td>
<td>Not for use with RAF Personnel</td>
</tr>
<tr>
<td>Sport</td>
<td>8300</td>
<td>Unfit sport (to be specified in Med Docs) (see note 3)</td>
</tr>
<tr>
<td>Sport</td>
<td>8301</td>
<td>Unfit contact sports</td>
</tr>
<tr>
<td>Sport</td>
<td>8302</td>
<td>Unfit solo swimming</td>
</tr>
<tr>
<td>Sub-domain</td>
<td>MedLim Code</td>
<td>Description</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>-------------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Weapon handling</td>
<td>9000</td>
<td>Unfit handling live arms</td>
</tr>
<tr>
<td>Weapon handling</td>
<td>9001</td>
<td>Not for use with RAF Personnel</td>
</tr>
<tr>
<td>Weapon handling</td>
<td>9002</td>
<td>Not for use with RAF Personnel</td>
</tr>
<tr>
<td>Weapon handling (App 9)</td>
<td>9003</td>
<td>Not for use with RAF Personnel</td>
</tr>
<tr>
<td>Guard / Ceremonial</td>
<td>9200</td>
<td>Unfit guard duties</td>
</tr>
<tr>
<td>Guard / Ceremonial</td>
<td>9201</td>
<td>Unfit for ceremonial duties</td>
</tr>
<tr>
<td>Personal Kit and Equipment</td>
<td>9300</td>
<td>Clothing restrictions / military PPE (to be specified in med docs)</td>
</tr>
<tr>
<td>Personal Kit and Equipment</td>
<td>9301</td>
<td>Unfit wearing Service footwear (to be specified in Med Docs)</td>
</tr>
<tr>
<td>Personal Kit and Equipment</td>
<td>9302</td>
<td>Unfit non-aircrew respirators</td>
</tr>
<tr>
<td>Dog handling</td>
<td>9400</td>
<td>Unfit for dog handling</td>
</tr>
<tr>
<td>CBRN</td>
<td>9500</td>
<td>Unfit CBRN threat areas, unable to tolerate CBRN protection and / or prophylactic measures</td>
</tr>
<tr>
<td>Unit</td>
<td>9600</td>
<td>Not for use with RAF Personnel</td>
</tr>
<tr>
<td>UKSF</td>
<td>9700</td>
<td>Permanently unfit UKSF Selection</td>
</tr>
</tbody>
</table>
Notes:

1. It has been decided that the RAF will not adopt the full list of JMES MedLims. The RAF MB approved list is outlined above. More detailed explanatory notes are available in the RAF MB JMES Workbook.

2. The full list of JMES limitations and computer codes is available in JSP 950 Lft 6-7-2.

3. If more than one limitation is required under the same code number, the limitations are to be combined and the code entered only once on the Patient Advice Notice.

4. Code 1100 is not to be used for ‘core’ branch or trade duties for example; ‘Unfit Parachute Jumping Instructor (PJI)’ for Admin PEd Branch and ‘Unfit use of SA 80’ for members of the RAF Regt.

5. An initial medical/management workplace assessment is to be undertaken jointly by the MO and Line Manager for individuals who are awarded the following MedLims: 1207, 1208, 5102, 5103, 5104, 6000, 6002 and 6200. This is in order to provide the Executive with the SME required to personalize the detailed nature of the employment limitation. The assessment is to be subject to periodic management review and, where necessary, further joint medical/management re-assessment. Where Primary Healthcare Practitioners feel unable to provide detailed advice, assistance should be sought from Regional Occupational Medical Departments.

6. See para 5 to para 9 (below) for conditions of use.

7. Immediately an individual is awarded the following MedLims: 9000 - ‘Unfit handling live arms’ or 1208 ‘Fit for limited range of duties in branch or trade – unfit handling live arms’ the MO is to:
   a. Advise the patient that their medical limitation will be disclosed to the Station Executive (i.a.w. AP3392 Vol 5 Lft 107).
   b. Record the fact that the individual has been suitably advised of this on the consultation record on the DMICP.
   c. Inform the Station Executive immediately by telephone of the limitation on employment. Written confirmation is to be sent in the form of a FMed 566, and a record of this notification is to be recorded on DMICP in the patients ‘Medical Record’ using the Read Code ‘9N57’ – ‘Admin reason for encounter’ and relevant text.
   d. RAF Regiment, RAFP and Weapons Technicians who are unable to handle weapons or ammunition are to be awarded MedLim 1208 (L4) (MLD) in preference to MedLim 9000 (L3) MLD.

8. MedLim 7003 requires specification of a Lower Exposure Action Value or an Upper Exposure Action Value. The following notes should be used to determine which to adopt. The Lower Exposure Action Values (LEAV) are a DAILY or WEEKLY personal exposure of 80 dB (A-weighted) or a peak sound pressure of 135 dB (C-weighted). The Upper Exposure Action Values (UEAV) are a DAILY or WEEKLY personal exposure of 85 dB (A-weighted) or a peak sound pressure of 137 dB (C-weighted)
   a. Service personnel who have H2 or “downward trending” hearing loss audiometry results should not be exposed to noise above the UEAV. More severe hearing loss should be ‘Unfit exposure to noise above the LEAV’. It is rare that cases are clear cut and further advice should be obtained from an ROMD or service approved Otorhinolaryngologist.
   b. Individuals may still undergo their annual personal weapon or live armed guard qualification using double hearing protection; unless an occupational medicine opinion has contraindicated this.
USE OF LIMITATIONS

1. Use of prescriptive limitations provides useful statistical data but if used inappropriately may fail to give the desired protection to the individual being medically downgraded. Where additional refinement is required, codes 1100, 'Unfit (general service condition to be specified)', and 1208, 'Fit for limited range of duties in branch or trade (to be specified)', are to be used for L3 and L4 restrictions respectively. These codes allow the limitation to be fine tuned to the individual. Unless the MO is confident they fully understand the potential duties of the Service person, they are to liaise with the individual’s line manager to ensure any limitations awarded are appropriate, necessary and clearly understood. Where necessary occupational health advice may be sought from a ROMD, further information is contained in AP1269 Lflt 1-04.

OPERATIONAL DEPLOYMENT OF DOWNGRADED INDIVIDUALS

2. The Executive may, on occasions, wish to deploy individuals holding a lowered JMES to an established deployed environment. In this instance the following action is to be taken:

a. Non-Formed Unit Deployment. At the request of ACOS Manning staffs, Manning Medical Casework will perform an individual risk assessment based on the clinical needs of the patient and the available medical facilities in theatre. If the deployment is approved by Manning Medical Casework, ACOS Manning staffs then seek operational clearance via A1 Ops Tasking, the command chain in the gaining theatre and the Post Sponsor to establish whether they are content to accept the individual with a reduced JMES and employment limitation.

b. Formed Unit (FU) Deployment. The SMO is to advise the FU commander (through squadron admin staffs) to request clearance from Manning Medical Casework and if given, operational clearance as detailed above.13

3. Where the Executive dictate a minimum JMES in the mounting instruction, it is based on assessment of risk within the deployed theatre. This JMES requirement may only be overridden in extreme cases (for example, the downgraded individual is the only available person with the required qualification). In such cases, it is essential that the following information is available to Manning Medical Casework prior to the decision to deploy being taken14:

   c. Knowledge of the deployed location.
   d. Knowledge that the deployment is static in nature.
   e. The exact duties to be undertaken.

4. In all cases where medical advice is provided on the assignment of downgraded individuals, a written record of the advice used in the decision process is to be maintained on the individual’s electronic case file/medical record.

BASE AREAS

5. Restriction - Unfit for Service Outside Base Areas (E3). Any member of the RAF who is awarded a JMES that includes the E3 limitation ‘Unfit for service outside base areas’ is only to serve in areas where there is a suitable Service or civilian hospital with an appropriate range of relevant (to the individual’s condition) specialties within easy access under normal peacetime conditions. This may include a mature operation as defined at footnote 13. The nature of current UK military operations and individual medical conditions is such that a prescriptive list of areas that qualify for Base Area status is not practicable, in cases of doubt; advice can be sought from SO1 OH (RAF).

6. Limitation of Duties. Personnel ‘unfit for service outside base areas’ are not to be employed on:

   a. Mountain rescue teams.

---

13 For the purpose of this policy a ‘mature deployed operation’ is defined as an established Deployed Operating Base (DOB) with fixed working and domestic accommodation and permanent/semi-permanent Role 1 and Role 3 support with Aeromedical Evacuation (AE) available by fixed wing aircraft.

14 The decision to assess downgraded personnel for non-operational assignments (e.g. exercises, route flying) as fit to proceed lies with the SMO. The decision must conform to the limitations of the JMES.
b. Escape or evasion exercises.

c. Isolated field deployments.

7. **Permanent Limitation of Duties.** When a permanent JMES with the limitation ‘Unfit for service outside base areas’ is awarded, the reasons are to be fully explained in the proceedings of the Medical Board. The President and members of the Board are to bear in mind this limitation may have serious effects on the individual’s Service career, for example:

a. In ground trades, the limitation may preclude acceptance for extension of service or promotion.

b. The individual cannot be placed on an emergency draft.

c. If assigned overseas, the individual can only be sent to selected stations.

8. These restrictions will be taken into consideration by ACOS Manning staff when considering whether the individual should be retained in the Service.

9. **Assignments Outside Base Areas.** Unless otherwise specified in the findings of the Formal Medical Board, a MO may authorise personnel awarded the ‘Unfit for service outside base areas’ limitation, to serve in a non base area for periods not exceeding 30 days, provided the MO is satisfied that neither the individual nor any other person will be exposed to undue risk to health or safety. Exceptionally, further extensions to this period may be authorised by Manning Medical Casework.

**MEDICAL CATEGORIES**

10. An unrestricted medical category [A1/A2 L2 M4 E2 or above (aircrew) or A4 L2 M4 E2 or above (ground trades)] may be awarded by a Formal Medical Board at unit level, with or without a specialist’s recommendation, subject to the approval of the RAF FMB. An unrestricted category is normally only to be awarded to an individual holding a P2 category. The award of an unrestricted category is appropriate under the following circumstances:

a. An individual who has, or has had, a medical condition that may excite later disability but requires no employment restriction at present.

b. An individual who is below the entry L1 JMES standard in their branch/trade, but for who there is no requirement for employment restriction.

c. An individual who has a condition that would disqualify them from certain specialist non-core branch/trade duties but they remain otherwise fully fit (for example, TG12 personnel unfit mission crew duties who are otherwise fit for all trade duties).

11. When awarding an unrestricted category, care is to be exercised to ensure that the individual is truly able to safely fulfil all their general service and core branch/trade duties. In cases where individuals have multiple conditions, each of which is individually compatible with the award of an unrestricted category, a Formal Medical Board reflecting the overall clinical status of the patient is to be conducted. This is to ensure that the compounding effects of multiple conditions is not overlooked. For example hypertension, hypercholestreolaemia and impaired glucose tolerance are not treated in isolation – the risk is aggregated.

12. Although an individual with an unrestricted category may currently have no disability or limitation to duty, it does not mean that they will remain fully fit in the future nor does it imply that they will be extended beyond their current terms of service.

**FITNESS TO UNDERTAKE COMMON CORE SKILLS (CCS) TRAINING**

15 Approval from the RAF FMB must be obtained by the unit MO either informally or formally unless and documented in DMICP unless an advanced directive has already been issued by the RAF FMB previously. Care must be taken to ensure patient consent is obtained as per leaflet 1-02 Annex A.

16 In exceptional circumstances an oncology patient who is in full remission may be awarded P3, with an L2 E3 category if they are undergoing regular hospital follow-up (see Lft 5-17).
13. All downgraded individuals, irrespective of JMES, are to undertake annual CCS training as far as their underlying condition allows. MOs are to provide advice to downgraded individuals on their fitness for CCS, or aspects thereof, as appropriate.

OBSOLETE LIMITATIONS

14. JMES limitations are introduced and replaced as necessary. Only the RAF MB approved limitations outlined in this leaflet are to be awarded. Any individual retaining an obsolete limitation is to have action taken, by either; Informal Medical Board approved by Manning Medical Casework or Formal Medical Board approved by RAF MB, to replace the obsolete limitation immediately upon its discovery.
LEAFLET 1-02 ANNEX A:

Reassessment of Employment Standard – Patient Advice Notice (Mar 11)

<table>
<thead>
<tr>
<th>Surname</th>
<th>Initials</th>
<th>Service No.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Surname</th>
<th>Forenames</th>
<th>Service Number</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
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<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Rank</th>
<th>Trade/Branch</th>
<th>Rank/Title</th>
<th>Trade/Branch</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **Effective from**
  - Day
  - Month
  - Year

- **Due date of review**
  - Day
  - Month
  - Year

- **Medical Deployment Standard**

- **New Medical Employment Standard (JMES)**
  - A L M E
  - P/T or N/A

- **The individual’s employment standard is subject to the following limitations**

**Plain Language Version**

I have attended a medical board and have been awarded the above JMES.

*Informal Medical Board:* I understand that the board proceedings\(^{19}\) will be forwarded for approval to Manning Medical Casework who is responsible for advising the RAF Executive in their determination of my future employability. I do / do not* consent to Manning Medical Casework accessing my relevant medical record (including my electronic Medical Record) where necessary in order to give such approval and advice. I realise that I must not commit myself or others to decisions based upon this JMES until such times as the board proceedings are finally confirmed.

*Formal Medical Board:* I understand that the board proceedings\(^{19}\), after approval of the RAF Medical Board if required, will be forwarded to Manning Medical Casework who is responsible for advising the RAF Executive in their determination of my future employability. I do/do not* consent to Manning Medical Casework accessing my relevant medical record (including my electronic Medical Record) where necessary in order to give such advice. I realise that I must not commit myself or others to decisions based upon this JMES until such times as the RAF Executive has confirmed my employability.

*In both Informal and Formal Medical Boards:* the board proceedings may be reviewed by Medical Officers working on behalf of Head of RAF Medical Services in order that the health/medical fitness of the Royal Air Force can be monitored and the board proceedings audited. I do/do not* consent to the Head of RAF Medical Services accessing my relevant medical record (including my electronic Medical Record) where necessary in order to conduct health surveillance and audit.

*Non-Effective:* I am / am not content that clinical staff at the PRU RAF High Wycombe will need to access my medical record (including the electronic Medical Record) to ensure appropriate continuity of care is provided.

* Delete as appropriate

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\(^{17}\) Insert MFD, MLD or MND
\(^{18}\) Insert a “P” for Permanent “T” for Temporary or N/A if there is an unrestricted JMES.
\(^{19}\) Forms required in accordance with AP1269A, Lflt 2-01, Annex B.
\(^{20}\) If consent is denied, advice and/or approval will be given based on routine personal information available to Manning, but without the benefit of the medical record.

Page: 23
Publication date: 01/08/16
Signature of Individual Boarded

Signature of the President of the Medical Board

President's name (block letters)

Distribution: Individual Line Manager (Please see AP3392 Vol. 5 Lflt 138)
LEAFLET 2-01: AWARDING JOINT MEDICAL EMPLOYMENT STANDARDS - MEDICAL BOARDS

Sponsor: DACOS Occ Med (Last reviewed: Aug 16)

INTRODUCTION

1. This section details the processes used to award or amend a RAF Service person’s Joint Medical Employment Standard (JMES). This policy applies equally to members of the Reserve Air Forces (RAFR and RAuxAF).21

2. The accurate award of a JMES is essential for the Executive to assess an individual’s immediate deployability and future employability. A lowered JMES, particularly if permanent, may have significant consequences for an individual’s career. It is therefore essential that all medical staff are familiar with the policy outlined in this section and in Queen’s Regulations (RAF).

PRINCIPLES OF ASSESSMENT

3. A permanent JMES (PJMES) is normally performed by a Formal Medical Board (FMB)22 whereas a temporary JMES (TJMES) is normally performed at unit level by means of an Informal Medical Board (IMB). These boarding procedures are described in detail in Lflts 2-02 and Lfit 2-03 respectively. Medical Officers (MOs)23 and other specialists advising Medical Boards (MBs) are to offer an informed occupational medicine opinion, appropriate to their level of competency, which they consider to be in the best interests of both the patient and the Service.

4. The award of an accurate PULHEEMS profile and JMES is to be based on the clinical findings of a medical board or examination, as appropriate. JMESs need not be tied to particular PULHEEMS profiles.

5. JMESs awarded by a MB should correlate with any employment limitations deemed necessary to protect the individual from activities which are likely to aggravate their illness or injury. Any secondary effect on the individual’s career must not influence the MO’s decision.

6. MBs are responsible for advising the RAF Executive on how an individual may be suitably employed by the RAF in their existing branch or trade, or if relevant, in other branches or trades. Presidents of MBs must be familiar with the patient’s working environment and the occupational health effects of working within them. This is essential before an informed medical opinion relating to employment can be offered. Unit MOs are ideally placed to fulfill this role when conducting IMBs and must be prepared to interpret the recommendations of specialists unfamiliar with the individual’s workplace accordingly. In the case of concerns relating to aircrew employability, advice may be sought from CFMO (RAF) prior to the MB occurring.

7. If an individual’s medical fitness for role is uncertain, Manning Medical Casework (MMC) is responsible for advising Executive authorities appropriately while protecting the individual’s medical confidentiality. To fulfill this responsibility MMC will assess the individual’s clinical condition and liaise, if necessary, with the appropriate Service medical authorities for further advice.

8. The Executive is responsible for determining the ultimate employability of an individual. They have access to non-medical information which is likely to influence employability decision making beyond the medical recommendations. MB presidents, members and medical specialists should avoid expressing personal opinions on an individual’s overall employability but should record accurately the reasons behind medical recommendations regarding employability. It is worth emphasising that the Executive decision regarding employability may differ from that of the MB and that individuals may initiate complaints as a result of poorly informed comments made to them by clinical staff.

9. The Executive branches can only act upon the recommendations of a MB once it has been completed. As such prompt initiation, completion and disposal is essential and MOs are to ensure that a robust system is in place to ensure individuals under their medical care are awarded the appropriate JMES by the correct MB at the earliest opportunity.

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21 Definitions of the RAuxAF and RAFR are detailed in AP3392, Vol.. 7, Lfit 101.
22 See leaflet 1-01
23 Including CMPs
10. An appropriate JMES protects both the Service and the individual. If an individual is likely to be unfit for any aspect of their duties for more than 4 weeks, a TJMES is to be awarded. A TJMES may be awarded at any time from initial presentation onwards and may be reviewed or upgraded at any time before expiry.

ROLE OF SECONDARY CARE PRACTITIONERS IN MB PROCEDURES

11. The responsibility for amending the JMES of Service individuals rests with MOs working within Defence Primary Health Care (DPHC) and with single Service (sS) MBs. However, secondary healthcare practitioners (SHPs) play a significant role in providing an accurate diagnosis and prognosis. Additionally SHPs are able to offer specialist advice to the MB on detailed medical restrictions relating to employment.

ADMINISTRATION

12. The forms detailed below are to be used to document the results of a Formal Medical Board:

   a. FMED 1 – Medical examination report
   b. FMED 23 – Medical Board report
   c. FMED 24 – Formal Medical Board Proceedings – Personal Statement
   d. FMED 133 – Medical History on Release from HM Forces
   e. FMED 144 – Formal Medical Board To Assess Fitness For Commission, Cadetship or Aircrew Duties
   f. RAF F 657 – Reassessment of JMES – RAF Personnel
   g. RAF F 1085 – Medical Board On A Service Person Recommended For Discharge Under QRs 607 (16)

13. Further information on the use of these forms is available in AP1269 Lflt 5-02. I should be noted that professional responsibility for completing a narrative account supporting a board’s recommendations lies with the examining MO and is not to be delegated to administrative staff.

14. The disposal of forms used for FMB documentation is detailed at Annex A.

15. An algorithm to identify the type of board required is available at Annex B.

CONSEQUENCES OF A LOWERED JMES

16. The effect that a lowered JMES may have on an individual’s career is likely to depend on the medical restrictions that are applied. All decisions regarding promotion prospects, future employment or retention in the Service are the responsibility of the Manning branches. MOs are not to offer comment or pre-empt Manning decisions on these matters. Information to be given to those awarded a permanently reduced JMES is available at Annex D.

RELEASE FROM THE SERVICE WITH A TJMES

17. It is permissible for individuals to leave the Service whilst holding a TJMES providing the medical problem is neither serious nor likely to lead to later significant disability. Advice is to be sought from the President of the FMB at RAF Henlow if there is any doubt. In complex cases, the individual should when possible, be referred for specialist occupational medicine assessment and the award of a PJMES through the FMB process. In accordance with JSP 950 Part 6 Chapter 7, an individual normally should not be discharged or invalidated from the Service with a P0 grading.
LEAFLET 2-01 ANNEX A: DISPOSAL OF FORMS - MEDICAL BOARDS

1. Boards Held at R&SDOM Before Appointment to Commissions, Cadetships or Aircrew Duties (including AEF, Reserve and Civilian Aircrew)

<table>
<thead>
<tr>
<th>Person Boarded</th>
<th>Forms Used</th>
<th>Copies</th>
<th>Disposal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Civilian Candidates</td>
<td>FMed 144</td>
<td>Original</td>
<td>Outcome of Board recorded in DMICP and candidate informed verbally or by letter. Recruiting executive informed by TAFMIS entry.</td>
</tr>
<tr>
<td></td>
<td>FMed 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Service Personnel</td>
<td>FMed 144</td>
<td>Original</td>
<td>To be saved into DMICP record</td>
</tr>
<tr>
<td></td>
<td>FMed 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lflt 1-02, Annex A</td>
<td>2</td>
<td>No 1 - To the individual boarded (recruiting executive informed by TAFMIS entry)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>No 2 - To be saved into DMICP record</td>
</tr>
<tr>
<td>Defence Technical Undergraduate Scheme Students</td>
<td>FMed 1</td>
<td>Original</td>
<td>To be retained at OASC R&amp;SDOM for 1 year. Confirmation of fitness is through the AFCO/TAFMIS system</td>
</tr>
<tr>
<td>(once awarded a place)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gliding Instructors</td>
<td>FMed 144</td>
<td>1</td>
<td>To the candidate’s DMICP record</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Original – Returned to originating unit</td>
</tr>
</tbody>
</table>

2. Formal Medical Boards Convened to Reassess JMES of Serving Personnel

<table>
<thead>
<tr>
<th>Person Boarded</th>
<th>Forms Used</th>
<th>Copies</th>
<th>Disposal</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Personnel</td>
<td>RAF F 7519</td>
<td>1</td>
<td>Retained in the individuals FMed 4.</td>
</tr>
<tr>
<td></td>
<td>FMed 23</td>
<td>5</td>
<td>No 1 - To CHRL.</td>
</tr>
<tr>
<td></td>
<td>FMed 15</td>
<td></td>
<td>No 2 - To FMed 4.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>No 3 - To be retained by the medical board/centre for 7 years.</td>
</tr>
<tr>
<td></td>
<td>Annex A to Lift 1-02</td>
<td>3</td>
<td>No 4 - Manning Medical Casework.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>No 5 - DASA (Medical Statistics) for coding purposes.</td>
</tr>
</tbody>
</table>

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Publication date: 01/08/16
3. Additional Documentation. The following additional documentation is required for all individuals for whom discharge on medical grounds is recommended, and for Service Personnel who are awarded a permanently reduced JMES below A1/A2 L2 M4 E2 (aircrew) or A4 L2 M4 E2 or (ground trades):

<table>
<thead>
<tr>
<th>Person Boarded</th>
<th>Forms</th>
<th>Copies</th>
<th>Disposal</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Personnel</td>
<td>FMed 24</td>
<td>3</td>
<td>The FMed 24 is to be completed by the individual at the time of the board. No 1 - To be retained by the medical board for 7 years. No 2 - To FMed 4⁸. No 3 - To the individual boarded.</td>
</tr>
<tr>
<td></td>
<td>FMed 133</td>
<td>3</td>
<td>No 1 - To the individual boarded. No 2 - To FMed 4⁸. No 3 - To be retained by the medical board. NB. See full details contained in AP1269 Lflt 5-02.</td>
</tr>
<tr>
<td></td>
<td>FMed 1017</td>
<td>2</td>
<td>Discharge recommended - Returned to patient’s SMO for completion of Part 2 and forwarding to Manning Medical Casework. A copy is to be retained by the FMB.</td>
</tr>
<tr>
<td>Airmen</td>
<td>Form 1085</td>
<td>2</td>
<td>Both copies are to be forwarded to the President of the R&amp;S DOM, as the Competent Medical Authority, for approval with FMeds 4/23/24/133, RAF F 657 and RAF F 7519. If discharge is recommended under QRs 607 (16), the SMO is to forward Form 1085 to the appropriate AOC/CO. On return a copy is to be retained by the medical centre for 2 years.</td>
</tr>
<tr>
<td></td>
<td>RAF F 7519</td>
<td>1</td>
<td>Retained in the individuals FMed 4⁸.</td>
</tr>
<tr>
<td></td>
<td>FMed 23</td>
<td>5</td>
<td>No 1 - To CHRL. No 2 - To FMed 4⁸. No 3 - To be retained by the medical centre for 7 years. No 4 - Manning Medical Casework.⁴ No 5 - DASA (Medical Statistics) for coding purposes¹.</td>
</tr>
<tr>
<td></td>
<td>FMed 15</td>
<td></td>
<td>After approval of the MB: No 1 - To be retained in the medical centre for 2 years.⁴ No 2, 3 &amp; 4 - To be forwarded to the patient’s CO, who is to give one copy to the individual, one to the individual’s Line Manager and retain a copy.</td>
</tr>
<tr>
<td></td>
<td>Lflt 1-02, Annex A</td>
<td>4</td>
<td>No 1 - To the individual boarded. No 2 - Retained in the FMed 4⁸. No 3 - To be retained by the medical board. NB. See full details contained in AP1269 Lflt 5-02.</td>
</tr>
<tr>
<td></td>
<td>FMed 133</td>
<td>2</td>
<td>Discharge recommended - Returned to patients’ SMO for completion of Part 2 and forwarding to Manning Medical Casework.</td>
</tr>
<tr>
<td></td>
<td>FMed 1017</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

Page: 28
Publication date: 01/08/16
4. Boards Convened to Repatriate Service Personnel from Overseas

<table>
<thead>
<tr>
<th>Person Boarded</th>
<th>Forms</th>
<th>Copies</th>
<th>Disposal</th>
</tr>
</thead>
</table>
| Service Personnel | FMed 23 | 4 | No 1 - To CHRL.*  
No 2 - To FMed 41.*  
No 3 - To be retained by the hospital/medical centre for 2 years.* |
| | FMed 15 | 4 | No 4 - Manning Medical Casework.5  
* After approval by Manning Medical Casework. |
| | Lift 1-02 Annex A | 3 | No 1 - To the individual boarded.  
No 2 - To the individual’s Line Manager.  
No 3 - To be retained by the hospital/medical centre for 2 years3. |

5. Informal Medical Boards

<table>
<thead>
<tr>
<th>Location</th>
<th>Forms</th>
<th>Copies</th>
<th>Disposal</th>
</tr>
</thead>
</table>
| RAF Units | FMed 23 | 4 | No 1 - To CHRL.*  
No 2 - To FMed 41.*  
No 3 - To be retained in the medical centre for 2 years.* |
| | FMed 15 | 4 | No 4 – Manning Medical Casework.5  
* After approval by Manning Medical Casework. |
| | Lift 1-02 Annex A | 3 | No 1 - To the individual boarded.  
No 2 - To the individual’s line manager.  
No 3 - To be retained in the medical centre for 2 years3.  
NB. For non-effective Medical Boards, units are to send a copy of both the FMed 23/15 and RAF F657 to SNCO Clinical Co-ordinator and / or SO2 Medical Recovery Co-ordinator PRU, RAF High Wycombe. |

6. Notification of JMESs of New Entrant RAF Service Personnel including the PMRAFNS.

Two copies of the RAF Form 657 are to be raised by reception units for every new entrant and re-enlisted Service person. The RAF Forms 657 are to be distributed as detailed below:

No 1 To SMO of reception unit for input onto JPA.  
No 2 To the individual assessed.

Notes:

1. The medical examination is currently valid for 12 months. Therefore, the documents relating to candidates who are passed as medically fit but were unsuccessful in their selection are to be retained for 1 year.

2. Unsuccessful candidates’ forms are to be held in the candidates file.

3. Scanned into the patient’s iHR if DMICP enabled.

4. Where approval has been given, the copies to be distributed by the RAF MB.

5. To be retained by Manning Medical Casework, once approval has been given.
LEAFLET 2-01 ANNEX B: ALGORITHM - TYPE OF BOARD REQUIRED

Sponsor: DACOS Occ Med (Last reviewed: Aug 16)

VALIDITY OF JMES IN DOUBT

- Injury/Illness
  - Is the patient a Phase 1 trainee, a Phase 2 trainee or within 6 months of attestation and unlikely to maintain the required RAF fitness standard in accord with QRs 607?
    - Y: Formal Medical Board FMed 23 and F 1085 (see Lflt 2-01, Annex B, Lflt 2-02 and QRs 607(16))
    - N: Is fitness for intended duty or trade in doubt (after specialist referral if appropriate)? (see Lflt 4-04)
      - Y: Formal Medical Board FMed 144 (see Lflt 2-01, Annex B, Lflt 2-02, Lflt 4-02 and Lflt 4-03)
      - N: What is the anticipated/actual period of non-effectiveness? (see Lflt 2-03, Annex E)
        - Y: Has a maximum period of temporary medical downgrading at unit level been awarded (18 months)?
          - Y: Informal Medical Board award TMES on a FMed 23 (see Lflt 2-03, Annex F)
          - N: Is a geographical assignment in UK necessary to promote a more rapid recovery? (see Lflt 2-03, Annex F)
            - Y: Informal Medical Board award JMES on a FMed 23 (see Lflt 2-01, Annex B and Lift 2-02)
            - N: Formal Medical Board FMed 23 (see Lflt 2-03, Annex C)
              - >8 weeks <18 months: Sickness absence to be dealt with in accord with AP1269 Lift 5-06.
              - >18 months: Informal Medical Board in accord with Lift 2-03, Annex E for 6 month periods or Formal Medical Board FMed 23? Recommend medical discharge. (see Lflt 2-01, Annex B and Lift 2-02)

- Change in “Terms of Service”
  - Is the change a result of commissioning, change of branch or aircrew duties?
    - Y: Formal Medical Board FMed 144 (see Lflt 2-01, Annex B, Lflt 2-02, Lflt 4-02 and Lflt 4-03)
    - N: Fit for duty. No medical board action required. Issue FMed 566 as appropriate.
INTRODUCTION

1. This information leaflet is produced in order to advise you of the various actions which take place at Air Command – COS Pers, following the award of a permanently reduced Joint Medical Employment Standard (JMES), below A4 L2 M4 E2 for ground personnel or below A1/A2 L2 M4 E1 for aircrew. Should medical discharge be recommended, the secondary purpose of this leaflet is to seek your informed authority for Manning Medical Casework to disclose essential medical information to Boards of Officers at COS Pers, Defence Business Services (DBS), and when indicated, the Discretionary Awards Panel (DAP) in order that they may make an appropriate assessment of your pension entitlements.

MEDICAL BOARD AWARD

2. In general terms, the Medical Board’s award falls into one of 2 categories:
   a. **Fit for Further Service** - within the limitations defined by the Medical Board:
      (1) Fit for continued branch or trade employment.
      (2) Unfit for current branch or trade, but fit alternative branch or trade employment.
   b. **Unfit for Further Service** - a recommendation for medical discharge.

MANNING MEDICAL CASEWORK ACTIONS

3. On being advised of your permanently reduced JMES, Manning Medical Casework advises a Board of Officers of your new JMES. The advice includes:
   a. The details of your employment limitations and the principal effects on your employability.
   b. An estimation of the likelihood of invalidity during your remaining period of Service.
   c. An estimation of the likelihood of your JMES improving in a defined period.
   d. A comment on your fitness for employment in alternative branches or trades, if appropriate.

Manning Medical Casework will only disclose the minimum essential medical information to the COS Pers Board of Officers and other personnel responsible for determining your mode of exit and pension arrangements, if that should be appropriate, on receipt of a completed consent for disclosure.

4. In the event of the Medical Board recommending your discharge, Manning Medical Casework will comment on the effect of your discharge disability on your quality of life and civilian employment prospects. In addition, comment will be provided on an appropriate mode of exit and, if indicated, comment on Service attributability for pension purposes.

COS PERS STAFFS ACTIONS

5. **Personnel Awarded JMESs Compatible with Further Service.** The Medical Board awards a JMES which describes how you may be employed. A Board of Officers will convene to review the effect of your new JMES on your retention within your current branch or trade. Clearly, there will be a number of instances when the Medical Board, in purely medical terms, makes an award compatible with your retention whilst, in personnel management terms, this may not be a practical proposition. The options open to the Board of Officers include the following:
   a. Offer retention in your current branch or trade within stipulated limitations.
   b. Offer employment in other branches or trades.
c. Recommend medical discharge.

Whatever the decision of the Board of Officers, you will be advised of their decision as soon as possible.

6. **Personnel Recommended for Medical Discharge.** Regardless of whether the recommendation for medical discharge is made by the Medical Board or the Board of Officers at COS Pers, all individuals qualifying under the Armed Forces Pension Scheme (APFS) or Armed Forces Compensation Scheme (AFCS) may attract invaliding benefits. Those that are not likely to attract invaliding benefits will be those:

   a. Who may be expected to make a full recovery on discharge from the RAF.
   
   b. Who have significantly contributed to their own disability (by their own actions or by unreasonable refusal of treatment).
   
   c. Whose disability relates to a deliberately undeclared condition(s) at enlistment.

The normal criteria for invaliding discharge are that a disability should be genuine, discernible and lasting and have a significant effect on quality of life or civilian employment prospects.

**DEFENCE BUSINESS SERVICES**

7. Following the decision to invalid, your particulars are referred to the DBS where an assessment of invaliding benefits is made in accordance with Queen’s Regulations [QRs 2938 (Officers) & QRs 3023 (other ranks)]. As part of the complete process, your particulars are also assessed by the DBS, who require access to your medical documents. On receipt of your medical documents, the DBS will arrange, if necessary, for their regional Medical Boarding Centre’s local medical examiner to call you for an examination to make an assessment of disability and, against their own criteria, comment on Service attributability.

8. Should the DBS assess a condition to be attributable to, or aggravated by, the Service, they will award a War Pension or gratuity. The DBS will determine whether your invaliding condition(s) was attributable to Service. However, attributable AFPS benefits will only be awarded should the percentage of disability be assessed as 20% or greater. In order to be able to assess Service attributable causes, DBS need access to your medical records and advice from medical staff.

**DISCRETIONARY AWARDS PANEL (DAP) ACTIONS**

9. When DBS is unable to recommend Service attributability, your eligibility for attributable benefits will be reviewed by the DAP. The DAP draws together all the relevant information but, before it can come to any meaningful conclusion, it will require access to a limited amount of medical information; the DAP does not require access to your medical documents; they will seek additional medical information from their own medical advisers or, occasionally, Manning Medical Casework.

**DISCLOSURE AUTHORITY**

10. In order for COS Pers and associated agencies to make an accurate assessment of your entitlement, it is necessary to seek your authority for Manning Medical Casework to disclose the minimum essential information to the various responsible departments. Any medical information disclosed will be treated in confidence. If you are content for this action to proceed, please complete the attached authority and either return it to the RAF Medical Board or forward it directly to Manning Medical Casework.

**APPEALS PROCEDURE**

11. If you wish to appeal against a decision to medically discharge you from the Service and you are still serving you should raise a redress of complaint in accordance with JSP 831 – Redress of Individual Grievance: Service Complaints. If you have already been discharged from the Service, you should write to Air Personnel Casework (APC) at HQ Air Command.
LEAFLET 2-01 ANNEX E: CONSENT FOR DISCLOSURE OF PROTECT – MEDICAL INFORMATION

Name ___________________________ Initials ___________________________

Rank ___________________________ Service Number ___________________________

Unit ___________________________

Date of Medical Board __________ Held At ___________________________

To

Air Manning (Medical Casework)
Room 01 Building 22
Air Command
RAF High Wycombe
Bucks
HP14 4UE

As a result of the award of a permanently reduced medical employment standard (JMES) I have been advised that the effect of the JMES award will be reviewed by an Employment Review Board (ERB) at HQ Air Command – COS Pers.

I authorise Manning Medical Casework to disclose essential medical information to the ERB, DBS and other personnel that are responsible for determining and administering my mode of exit and pension arrangements (if that should be appropriate).

I consent to the disclosure of essential medical information to the appropriate Unit and HQ Welfare Staff for the purpose of career guidance and to ensure I am duly informed of HR processes in order that the RAF can discharge its duty of care to ensure my welfare.

I also consent to the disclosure of my Personal Statement (FMed 24) to the ERB. I understand that non-medical personnel will handle the information disclosed.

I have received Annex A, and Appendix 1 to Lflt 1410 of the AP 3392, Volume 2.

Date ___________________________ Signed ___________________________

The appropriate sentences are to be deleted where consent is not given.

Disposal on Completion:

Personal Medical Records (FMed 4 and/or scanned into the individual’s iHR on DMICP).
Personal File/Dossier.
INTRODUCTION

1. A Formal Medical Board (FMB) is convened in accordance with QR 1425 for the purpose of:
   a. Examining an individual.
   b. Assessing the individual’s medical condition in accordance with JSP 950 Chapter 7.
   c. Awarding, in accordance with QR 1427 and Lflt 1-01, a Joint Medical Employment Standard (JMES) appropriate to the medical condition and the individual’s branch or trade.

2. **Authority.** Unless otherwise stated, a FMB will be convened under the authority of QR 1425 and QR 1427 to award a permanent JMES (PJMES). It is also empowered to award a temporary JMES (TJMES) if appropriate. FMBs vary in location, composition and function as detailed in this leaflet. FMBs have significant implications for both the individual and the Service; adherence to the guidance in this leaflet is essential in order to achieve a fair and consistent outcome for all concerned.

OCCASIONS WHEN FORMAL MEDICAL BOARDS ARE CONVENED

3. For Service individuals FMBs are convened for the following reasons:
   a. **Confirmation of an Individual’s JMES following a period of temporary assessment by an Informal Medical Board (IMB).** If an individual's JMES is restricted following a period of temporary reassessment by an IMB the individual is brought before a FMB.
   b. **Change of Branch or Trade.** When an individual applies to transfer or re-muster to another branch or trade, their fitness for the new branch/trade may need to be assessed by a FMB (see Lflt 3-03, Annex A, paragraph 3a).
   c. **Fitness for Aircrew and Controller Duties.** All individuals being considered for aircrew or controller duties are to be examined.
   d. **Ground Personnel Making Frequent Category 1 Flights.** Ground personnel making frequent Category 1 flights (see Lflt 3-03, Annex C) are to be medically boarded, as are civilians who undertake Category 1 flights occasionally.
   e. **Civilian Aircrew.** Civil servants employed as aircrew, contractor’s aircrew, part-time reserve aircrew and AEF staff pilots are to attend a FMB at R&SDOM to establish their fitness for their proposed duty unless a waiver applies. See paragraph 21 for further detail.
   f. **Discharge of an Airman whose Disabilities are Discovered within the First Six Months of Service.** A unit MO who considers that Service individuals, during their first six months of service, is unlikely to become effective within 6 months, because of a disability which was either present on entry or arose subsequently, may recommend that the individual be discharged as unlikely to become effective. QR 620 Para 16 refers. The unit MO is to refer the patient for specialist opinion if appropriate.

4. FMBs may also be convened for other reasons as deemed necessary by the Head of RAFMS The authority for such boards will specify their composition and location. The location and responsibilities of each unit performing FMBs is detailed at Annex A.
COMPOSITION OF FORMAL MEDICAL BOARDS

5. A FMB is a standing medical board comprising:

a. **The President.** Normally a Consultant in Occupational Medicine. The Terms of Reference (TOR) for the President are at Annex B.

b. **A Member.** The member is normally drawn from the staff of the President of the FMB or appointed by the Head of the RAF Medical Services. The member of the FMB may be a Medical Officer or Civilian Medical Practitioner, who has not previously been involved in the care of the individual.\(^{24}\)

c. **An Aircrew Specialist Adviser (ASA).**\(^{25}\) The role of the ASA is to give specialist advice to the President of the FMB on matters pertinent to the role of the individual being boarded out with the FMB procedure. If attending for the first time they are to contact the President of the FMB prior to the board for a briefing. When an ASA is required, the President of the FMB is to advise ACOS Manning Staffs, who are to appoint an ASA of a rank no lower than Flt Lt. An ASA is to be involved in the following circumstances:

   (1) In cases where an individual may lose a permanent flying category.

   (2) In cases where a medical downgrading would necessitate a significant change of role, for example, fast jet to multi-engined aircraft.

   (3) In all cases when a member of the aircrew challenges the decision of an earlier FMB.

   (4) The President of the FMB may decide that the involvement of the ASA is unnecessary; however, the written agreement of the individual and the ASA is required. In these situations, the ASA is to be available by telephone. Should problems arise then the Board is to be suspended and reconvened with an ASA in attendance.

   (5) The TORs for the ASA are detailed at Annex C. ASAs are to sign a certificate stating that they will not disclose medical information imparted by the FMB. A copy of the certificate is at Annex D.

CONSENT

6. Informed consent for release of medical records as well as consent to undergo an occupational medicine assessment must be obtained from an individual before undertaking a FMB. The General Practitioner referring the individual is to ensure that they counsel the individual on the reasons for and implications of disclosure. In addition medical staff are to ensure that the RAF Form 7519 (DCN) has been completed by the patient and enclosed in their Health Record. On completion of the FMB the Board is to complete a **Patient Advice Notice** which permits disclosure of the Board’s advice to Manning. The consent form at Lf2 2-01 Annex E is also to be completed. Where necessary, the consent form at Lf2 2-02 Annex E is also to be completed.

7. Specific consent must be obtained from the individual being boarded before release of any medical information is given to an ASA.

8. **R&SDOM Formal Medical Board.** The R&SDOM FMB is a standing medical board comprising:

   a. The President who will normally be a GD [GMP] normally of the rank of wing commander. The TORs for the President of the R&SDOM FMB are at Annex F.
b. One member drawn from the staff of R&SDOM or appointed by the Head of the RAF Medical Services, who may be a specialist MO, a GD[GMP] or CMP who has not been involved in the care or disposal of the individual in their capacity as a specialist.

9. **Defence Primary Health Care (DPHC) Medical Centres.** All DPHC medical centres with a MO\(^{26}\) are authorised to undertake FMBs under the circumstances detailed at Annex A. Locum MOs will not usually be permitted to undertake FMBs. However, there will be circumstances when this is acceptable if the locum can demonstrate experience of RAF medical board procedures e.g. former RAF MOs. Authority for locums to undertake RAF medical boards is to be obtained from the President of the FMB.

**APPROVAL OF FORMAL MEDICAL BOARDS**

10. The findings of the FMBs do not require approval by higher authority however individuals may appeal against the findings. This should be done in accordance with local appeals processes. If local negotiation fails to achieve a resolution then the individual should proceed in accordance with JSP 831 – Redress of Individual Grievance: Service Complaints.

**FORMAL MEDICAL BOARDS - PRELIMINARY MEDICAL EXAMINATIONS**

11. All individuals undergoing a FMB are, wherever possible, to have the following preliminary examinations conducted in the 5 working days preceding their FMB:

   a. Height.
   b. Weight.
   c. Urinalysis.
   d. Pulse.
   e. Blood pressure.
   f. Visual acuity.
   g. Audiometry.

The preliminary examinations are to be conducted by the parenting medical centre and the results recorded on DMICP. If it is not possible to record the results of the examination on DMICP prior to the patient attending the FMB, a copy is to be given to the patient to bring by hand.

**ADMINISTRATION**

12. The proceedings of a FMB are to be recorded on the appropriate forms as detailed in Lft 2-01, Annex A and are to include:

   a. A summary of the individual’s relevant medical history.
   b. A summary of the relevant specialist’s reports, including any assessment of fitness and prognosis.
   c. A statement of the board’s opinion regarding fitness for duty within the proposed or existing branch/trade and recommendations for limitations if appropriate.
   d. A PULHEEMS profile in accordance with JSP 950 Part 6 Chapter 7. If this differs from the specialist’s assessment, the reasons are to be clearly stated.

\(^{26}\) uniformed GD[GMP] or CMP
e. A JMES which expresses the individual’s fitness for duty, and endorsed with limitations if required, in accordance with Lftt 1-01.

f. A brief note on prognosis, and the need to convene a further permanent Board, if appropriate.

13. The disposal of the forms raised at medical boards is detailed at Lftt 2-01, Annex B.

SERVICE PERSONNEL FOUND PERMANENTLY UNFIT FOR DUTIES OF THEIR BRANCH/TRADE OR SERVICE OUTSIDE THE UK

14. Where a FMB is considering the award of a JMES making an individual permanently unfit their branch/trade or permanently unfit service outside UK (E5) the individual is to be boarded under the authority of QR 1425 and QR 1427. The future of an individual awarded a PJMES below A1/A2 L2 M4 E2 (aircrew only), A4 L2 M4 E2 (groundcrew only) will be decided in accordance with COS Pers arrangements.

15. If the individual is unfit their branch/trade but considered medically fit for other branches/trades, the following additional information is to be included in the FMB’s narrative summary in order to assist the executive:
   
   a. Will the individual’s condition hamper or prevent them from carrying out the duties of their branch/trade? (If so, a detailed explanation is to be given).
   
   b. Is the individual physically capable of performing the duties of other branches/trades? Where possible, suggestions for alternative branches/trades are to be stated.
   
   c. Is the individual’s condition likely to be aggravated to a material degree by further service?
   
   d. Is there a chance of the individual becoming physically unfit for any form of RAF service?
   
   e. Is the condition likely to require frequent treatment or to result in increased non-effectiveness?
   
   f. Is there a probability of upgrading in a specified period?

16. Aircrew who are withdrawn from flying duties on account of permanent medical unfitness may elect to be invalided under the following authority:

   a. Officers - QR 1421(3).
   
   b. Non-commissioned Aircrew - QR 526A (4) (b).

PERSONNEL ASSESSED PERMANENTLY UNFIT FOR FURTHER SERVICE

17. The FMB may recommend a termination of service on medical grounds, however only the Executive has the authority to effect discharge. Personnel recommended for discharge are to complete the certificate of understanding at Annex E. Additional administrative procedures to be followed for ground personnel27 are detailed at QR 621 and Appendix 9B to QRs.

18. Individuals who have been recommended for medical discharge by the FMB may request to have their medical discharge date postponed for up to 4 months when discharge on the due date would:

   a. Have such a profound medical impact upon the health of the individual that their medical recovery would be compromised.28
   
   b. Hasten the death of an individual whose life expectancy is 4 months or less.

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27 For ‘ground personnel’ read ‘airmen’ in QR 621 and Appendix 9B. Officers of the GD Branch and Non-Commissioned aircrew are dealt with under para 20.

28 Note: requests for medical extensions will normally be rejected for personnel who are able to access similar treatment pathways within the NHS. In addition care should be taken to ensure that any predominantly welfare cases are actioned through unit welfare systems, not Manning Medical Casework.
19. Medical requests for postponement of discharge are to be submitted by the SMO on a FMed 7 to Manning Medical Casework. Consent must be obtained from the individual for the release of their health record for this purpose. The SMO is to ensure that unit PSF staff are aware that a medical request has been made in order that any additional administrative action can be performed.

20. Upon receipt of the FMed 7, Manning Medical Casework will advise the appropriate Manning authority on the medical implications of the request taking into consideration the requirements of paragraph 19. The Manning authority will subsequently make the final decision on extending the individual and will notify the unit’s PSF staff accordingly. The Service Person should be made aware that the final decision will be made by Manning staff and not by medical staff.

21. When a Service person undergoing sentence of detention, or with outstanding charges against them, is considered to be medically unfit for further service, they are to undergo a FMB. In addition to the usual findings and recommendations, the FMB is to specifically advise on the individual’s fitness to carry out full or modified duties at a corrective establishment or detention barracks in accordance with QR 623.

**WAIVER OF INITIAL AIRCREW AND CONTROLLER MEDICAL BOARDS**

22. Policy for the waiver of initial medical boards for aircrew and controllers is at AP 1269A Lft 4-02 paragraph 9.
LEAFLET 2-02 ANNEX A: LOCATION AND RESPONSIBILITIES OF FORMAL MEDICAL BOARDS

1. The location and responsibilities of Formal Medical Boards (FMBs) are detailed below.

2. **The FMB, RAF Henlow.** This FMB examines officers, aircrew and others referred for permanent assessment of their medical fitness as follows:
   a. Certain candidates for commissions (R Aux AF and some re-entrants).
   b. Officers, cadets, non-commissioned aircrew, and others who may be referred for an opinion as to their fitness for duty in the RAF or PMRAFNS, as appropriate.
   c. Individuals wishing to fly as passengers in RAF aircraft under Category 1 conditions of flight.
   d. Such individuals as are presented by Head of RAF Medical Services
   e. The FMB, RAF Henlow is to act as the final arbiter in difficult cases. It will normally adhere to the standards laid down in Lflt 1-01 and Lflt 1-02 but, exceptionally, may award a JMES at variance with normal standards. In such cases, the reasons are to be clearly stated in the board proceedings.

3. **The OASC R&SDOM FMB, RAFC Cranwell.** The OASC FMB is appointed for the purpose of assessing the fitness of candidates attending the OASC as follows:
   a. Applicants for aircrew or controller branches or trades.
   b. Individuals requiring specialist examination not available to the RAF MB.
   c. Allied and foreign air force personnel.
   d. Civilian Aircrew.
   e. Individuals wishing to fly as passengers in RAF aircraft under Category 1 conditions of flight and personnel undertaking mission crew duties.
   f. Such individuals as are presented by Head of RAF Medical Services or Manning Medical Casework.
   g. Individuals nominated by the Army Air Corps or Royal Navy under the terms of the relevant Service Level Agreements.

4. **Defence Primary Health Care Medical Centres.** FMBs may be conducted at RAF medical centres as detailed below:
   a. On non-aircrew personnel in the following circumstances:
      (1) Award of an unrestricted medical category (see Lflt 1-01 for further detail).
      (2) Recommendation for discharge of an airman within the first six months of service under the provision of QRs 607 (16).
      (3) As directed by the Head of the RAFMS
   b. To award an unrestricted medical category to aircrew personnel when specifically authorised by the President of the FMB. Such boards may only be conducted at unit level when the board is considered to be straightforward and non-contentious. The Board is to be conducted in accordance with Lflt 1-01

5. **Other Service and Civilian Centres.** Exceptionally, FMBs may be convened outside of normal locations, such as: private homes, hospitals or other service and civilian centres on the authority of the President of the FMB.
LEAFLET 2-02 ANNEX B: TERMS OF REFERENCE FOR FORMAL MEDICAL BOARDS

TERMS OF REFERENCE FOR THE PRESIDENT OF THE RAF MEDICAL BOARD, RAF HENLOW.

1. The President of the RAF Medical Board, RAF Henlow is responsible to Head of RAF Medical Services for the following activities in relation to medical boarding procedures:
   a. Boarding individuals at Permanent Medical Boards.
   b. The compilation of pre-board narratives.
   c. Briefing and assisting the Aircrew Specialist Advisers to the FMB on board proceedings and the requirement to maintain medical confidentiality.
   d. Ensuring that medical information is released to the Aircrew Specialist Adviser only with the specific written consent of the subject of the board.
   e. Advising units, as required, on Joint Medical Employment Standards and medical board procedures.
   f. Liaising with Manning Medical Casework, Command staffs (for example, CFMO (RAF)), unit executives and SMOs with respect to medical board administration.

TERMS OF REFERENCE FOR AIRCREW SPECIALIST ADVISER TO THE RAF MEDICAL BOARD, RAF HENLOW

2. The Aircrew Specialist Adviser to the RAF Medical Board is appointed by COS Pers Staffs and is to be of a rank no lower than Flt Lt. The Aircrew Specialist Adviser is to have a working knowledge of aircraft type and operations pertinent to the Board’s proceedings.

3. The Aircrew Specialist Adviser is responsible for:
   a. Providing advice to the President of the Board on the operational and working environment of the boarded individual.
   b. Providing advice to the President of the Board on the employment implications of any change in the Medical Employment Standard of the boarded individual.
   c. Assisting the Board to protect the health and safety interests of the Service and the boarded individual.
   d. Maintaining total confidentiality regarding medical information released to them.

TERMS OF REFERENCE FOR THE PRESIDENT OF THE RECRUITING AND SELECTION DEPARTMENT-OF OCCUPATIONAL MEDICINE MEDICAL BOARD

4. The President of the Recruiting & Selection Department of Occupational Medicine (R&S DOM) Medical Board is responsible to OC Recruiting and Selection Department of Occupational Medicine for:
   a. The conduct of medical examinations.
   b. The assessment of service and civilian candidates in accordance with R&S DOM Standing Orders and Instructions and medical selection policy for fitness for entry into the Service.

5. The President of the R&S DOM Medical Board is to advise the executive with regard to:
   a. The fitness of candidates for the selection procedures, the medical aspects of their eligibility for branch and trade preferences and final fitness for their selected branch or trade.
   b. Medical risk factors in those candidates who do not meet normal entry standards but are to be considered for an executive waiver.
c. Appeals against medical board assessments.

d. Officers seeking branch reselection.

6. The President of the R&S DOM Medical Board is to advise RAF staff at Armed Forces Careers Offices on an applicants’ medical suitability for selection
LEAFLET 2-02 ANNEX C: CONFIDENTIALITY OF MEDICAL INFORMATION PROVIDED TO THE AIRCREW SPECIALIST ADVISER TO THE RAF MEDICAL BOARD, RAF HENLOW

Medical information can only be disclosed to non-medical individuals with the freely given informed consent of the patient. Under such circumstances, such information must not be discussed outside the medical board proceedings with anybody, including other medical individuals. This duty of confidentiality continues to exist after the patient and/or Aircrew Specialist Adviser have left the RAF and even following the demise of the patient.

CERTIFICATE

I,

understand the contents of the above passage on medical confidentiality.

I certify that I will never disclose any medical information concerning:

impacted to me in my role as Aircrew Specialist Adviser to the RAF MB.

The RAF MB directive is that an Aircrew Specialist Adviser is required. I will be attending the Formal Medical Board.*

The RAF MB directive is that an Aircrew Specialist Adviser is not required. I have discussed the situation with the individual and we both agree attendance is not required. I will be available by telephone.*

The RAF MB directive is that an Aircrew Specialist Adviser is not required. However, I have discussed the situation with the individual and I will be attending the Formal Medical Board.*

*[tick as applicable]

Date | Signature
--- | ---

Contact Details: GPTN: Ext:

This certificate is to be included in the patient's medical records (FMed 4/DMICP enabled units can scan it into the patient's iHR) on completion.
LEAFLET 2-02 ANNEX D: CERTIFICATE OF CONSENT TO DISCLOSURE OF MEDICAL INFORMATION TO THE AIRCREW SPECIALIST ADVISER

I,

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<thead>
<tr>
<th>No:</th>
<th>Rank:</th>
<th>Name:</th>
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consent to my medical records being made available to the medical members of the RAF Medical Board.

I have been interviewed by a medical officer/CMP and counselled on the reasons for, and implications of, medical disclosure.

In addition:

I CONSENT/DO NOT CONSENT* to the Aircrew Specialist Adviser to the RAF Medical Board having knowledge of limited medical information as necessary for them to guide the Board effectively. I understand that the Aircrew Specialist Adviser will not have access to my medical record (FMed 4/DMICP) or any summary thereof, that they have a duty to keep any information about me confidential and will sign a confidentiality agreement as detailed at Lft 2-02, Annex D.

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<th>Date:</th>
<th>Signature:</th>
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*Delete as necessary

MEDICAL OFFICER’S/CMP’S DECLARATION

I have interviewed the above and counselled them on the reasons for, and implications of, medical disclosure.

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<th>No:</th>
<th>Rank:</th>
<th>Name:</th>
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<table>
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<tr>
<th>Appointment:</th>
<th>Signature:</th>
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</table>

This certificate is to be attached to the FMed 7 requesting that a Medical Board be convened, and included in the patient’s medical record (FMed 4/DMICP enabled units can scan it into the patient’s iHR).
LEAFLET 2-02 ANNEX E: MEDICAL BOARD RECOMMENDING DISCHARGE FROM THE ROYAL AIR FORCE CERTIFICATE OF UNDERSTANDING

I,

<table>
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<tr>
<th>Service Number:</th>
<th>Rank:</th>
<th>Name</th>
</tr>
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</table>

hereby certify that I understand that the Medical Board before which I appeared today has recommended that I be discharged from the Royal Air Force. I also fully understand that this is only a recommendation and that the final decision will be made by COS Pers Staffs, who, if discharge is approved, will decide my mode of exit.

<table>
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<tr>
<th>Date:</th>
<th>Signed:</th>
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Distribution:
Manning Medical Casework.
Medical Board Recommending Discharge.
Individual Being Boarded.
Scanned into patient’s iHR if DMICP enabled.
LEAFLET 2-03: INFORMAL AND L2 MEDICAL BOARDS

Sponsor: DACOS Occ Med (Last reviewed: Aug 16)

INTRODUCTION

1. The Joint Medical Employment Standard (JMES) of Service personnel may be temporarily reassessed without a the requirement for a Formal Medical Board (FMB) by a MO at a medical centre. Temporary reassessments of the JMES are classed as Informal Medical Boards (IMBs) and are time limited. In particular circumstances permanent assessments may also be performed by IMBs in accordance with paragraph 14.

INITIATING AN INFORMAL MEDICAL BOARD

2. Initialising IMBs. Individuals suffering, or under investigation for, a medical issue that has not resolved or is unlikely to resolve within 4 weeks are to undergo a JMES review through the IMB process.

3. IMB Authority. A temporary JMES (TJMES) may be awarded by a suitably experience MO working within Defence Primary Health Care for periods not exceeding those detailed in paragraph 9.

4. IMB Procedures. The procedures for temporarily reassessing a JMES are listed below:
   a. Annex A: Any patient who is likely to be unfit for full military duties for more than 4 weeks.

APPROVAL OF INFORMAL MEDICAL BOARDS.

5. Manning Medical Casework Approval. Temporary amendments to an individual’s JMES are to authorised by Manning Medical Casework (MMC) on the following occasions:
   a. When the JMES grade is first reduced below A1 L1 M4 E1 (aircrew) or A4 L1 M4 E1 (ground trades).
   b. When, on completion of treatment, the TJMES is raised back to the original PMES or on the first award of A2, L2 or E2.
   c. When a new medical condition is added to the IMB, even if the JMES remains unchanged.
   d. When an existing medical condition fully and permanently resolves and is removed from an IMB, even if the JMES remains unchanged.
   e. When a non-effective individual has been reviewed.
   f. When requesting a geographical posting.
   g. When requesting an exceptional extension.

6. Manning Medical Casework is to receive notification of the above IMBs within 15 working days for routine TMES and 5 days for Non Effective and Geographical Posting requests.

Unit Level Approval.

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29 MO includes GD(GMP)s, CMPs and suitably experienced locum doctors (as determined by the SMO) working within DPHC

30 Note however: temporary reassessments may also be performed by FMBs.

31 Note: changes to individual Med Lims do not need to be notified if the overall JMES is unchanged.
7. There is no requirement for medical centres to submit IMBs for approval to MMC other than in the specific circumstances outlined in para 5 of this Lft. Where there is no change in the MES or MedLims, units are to continue within the time limits outlined in Lft 1-01 para 9.

REVIEWING INFORMAL MEDICAL BOARDS.

8. Individuals with a lowered, but effective JMES (PULHEEMS grades P3, P4, P7), must have their JMES re-assessed, as a minimum, every 6 months by a MO. Those individuals with a non-effective JMES must be reviewed monthly.

9. JMES Timeframes. A temporarily lowered JMES may be awarded, for a maximum period of 18 months for any discrete or particular medical condition. Exceptions to this are detailed below:

   a. **Trainees.** For individuals undergoing Phase 1 or Phase 2 training, a TJMES may be held for a maximum period of 6 months. This may be reduced or increased with the agreement of 22 Trg Gp, if it is considered to be in the best interest of the Service and/or the individual.

   b. **Non-Effective Personnel.** A temporarily non-effective JMES is to be authorised, when appropriate up to a maximum period of 18 months. MOs however should consider the need for a FMB sooner, if the clinical condition has reached a plateau.

   c. **Geographical Postings.** A TJMES may be awarded to individuals recommended for a Geographical Assignment within the UK up to a maximum period of 12 months.

   d. **Exceptional Extensions.** Authority may be granted for an individual to continue on a TJMES up to a maximum period of 24 months by MMC. Requests for an exceptional extension are to be made in advance on a FMed 7 and should detail the reason for the request and if appropriate, the most recent specialist report pertaining to the medical issue. An exceptional extension will normally be authorised only where there is a realistic expectation that the condition will improve significantly within the period of extension. If authority for the extension is not granted by MMC the individual is to be referred for a FMB. Any requests for exceptional extension or referrals to RAF MB should be actioned no later than 8 weeks before the review date and take into account the current waiting times for a FMB.

10. Calculating Periods of Temporarily Lowered JMES. MOs are to ensure that the following processes are adhered to when calculating the period of time that individuals have held a lowered JMES:

   a. All periods of lowered JMES, relating to a single medical issue, are to be aggregated unless separated by a continuous 6 month period where a full, unrestricted JMES was awarded for resolution of the same medical issue.

   b. Personnel with a lowered JMES due to multiple medical issues are to have the aggregated periods of time calculated for each individual medical issue as detailed in paragraph 10a. See also paragraph 11 for further information.

   c. When a lowered JMES is awarded following a period of sickness absence, the period of sickness absence is also to be included when calculating the JMES duration.

DOWNGRADING FOR TWO OR MORE SIMULTANEOUS CONDITIONS

11. When individuals require downgrading for multiple medical issues, the clinical information for each condition is to be summarised separately. Limitations are to be awarded for each condition at the end of the summary. When all conditions have been recorded, the final paragraph is to record the PULHEEMS profile and JMES appropriate to the combined limitations.

12. When a new condition arises during a period of downgrading, the FMed 23 is to be updated in accordance with Para 11 and is to be submitted for approval in accordance with Para 5 and Para 6.

RELATIONSHIP BETWEEN INFORMAL MEDICAL BOARDS AND FORMAL MEDICAL BOARDS

13. **Referral for a FMB.** Individuals who require a JMES below A4 L2 M4 E2 (groundcrew) or A1/A2 L2 M4 E2 (aircrew) beyond 18 months are to be referred for a FMB unless an exceptional extension (up to 24

32 In accordance with QR1427 para 2. a.
months) has been granted by Medical Manning Casework (MMC). Referrals for FMB should be made 3 months in advance of the maximum periods stated above.

14. **Awarding a PJMES during an IMB.** An IMB may award a PJMES in the following circumstances:

   a.  *Regaining Former JMES.* Where an individual regains their former JMES, unless the temporary downgrading was effected by a FMB. In the latter case the individual must be referred for FMB action.

   b.  *Award of A2 to Aircrew.* Aircrew may be awarded a PJMES in the following circumstances:

      (1). When the hearing standard in either ear has fallen from H1 to H2. Cases must be reviewed by an FMO or Service Consultant in Occupational Medicine. Where the sum of hearing loss in either ear does not exceed 60 dB at low frequencies (0.5, 1 and 2 KHz) or 85dB at high frequencies (3, 4 and 6 KHz), an A2 marker (MedLim 2200) is to be awarded.

      (2) Individuals whose hearing loss exceeds the limits given above are to have a functional hearing check with a QFI in flight as per Lft 2-03 Annex G. If satisfactory, they may be awarded A2 (MedLim 2200) on the authority of the CFMO.

      (3) Those failing the functional hearing check, those with first occurrence of H3 hearing or those with rapid hearing loss should be referred to an aviation medicine trained consultant in ORL and the Defence Audiological Service. Aircrew with H3 hearing are also to be awarded an L2 marker (MedLim 1300). See also Lflt 3-04, Annex E and Lflt 5-15, paragraphs 9-11. Actions and gradings are summarised as follows:

          (a) Summed loss low frequency ≤45 dB (A) and high frequency ≤45 dB (A). The appropriate JMES is A1L1.

          (b) Summed loss low frequency > 45 dB (A) ≤ 60 dB (A) or high frequency > 45 dB (A) ≤ 85dB (A). Arrange for clinical review by an FMO or Service Consultant in Occupational Medicine. The appropriate JMES is A2 L1 (MedLim 2200).

          (c) Summed loss low frequency > 60 dB (A) or high frequency >85 dB (A). An acceptable in-flight functional hearing check is required and the case must be reviewed by the CFMO (Lflt 5-15 Annex A). The appropriate JMES remains A2 L1 (MedLim 2200).

          (d) Failed in-flight functional hearing check / rapid hearing loss / H3 hearing. Arrange review by an aviation medicine trained consultant in ORL and the Defence Audiological Service. Temporary JMES A3L4 (MedLim 2000/2001 and 7003) pending outcome of investigations. Once investigations are complete, refer to RAF MB for award of PMES.

   (4) There is a need for corrective flying spectacles or approved contact lenses (within the permitted refractive range as detailed at Lflts 4-02, Annexes A and B) when visual acuity is no worse than 6/36 in each eye separately and there is no other ocular pathology.

   c.  *Aircrew to Ground individuals.* When the A factor is changed for individuals permanently removed from flying duties for non-medical reasons and re-employed in a ground branch, the following conditions apply:

      (1) The individual must have previously held a PJMES of A3 L2 M4 E2 or better.

      (2) A medical inspection (level 2) is to be conducted to ensure that the intended JMES is valid.

      (3) If there is any reason to doubt the individual’s fitness for the ground branch, they are to be referred for a FMB.

**REPATRIATION ON MEDICAL GROUNDS**

15. MMC is to be alerted through electronic signal format regarding Service personnel who are to be repatriated from parent units overseas to the UK for medical reasons. Repatriation of Service personnel from overseas to the UK for medical reasons requires temporary reassessment of the JMES in order to:
a. Formalise transfer to the UK.

b. Alert the executive of the possible need for a replacement.

c. Effect an assignment to an appropriate UK unit. Losing units are to ensure that the receiving unit is provided with all necessary medical and welfare information. Assignment to the Personnel Recovery Unit (PRU) must be agreed in advance with OC PRU and is subject to the administrative requirements at Annex C Para 2.

16. One of the following employment standards is to be awarded:

a. A5 L6 M6 E5/6 - to be repatriated on medical grounds by air; or

b. A6 L6 M6 E5/6 - to be repatriated on medical grounds by land and sea routes only.

17. On arrival in the UK the receiving unit may initiate a further IMB in order to award an effective JMES. The IMB is to be approved by MMC. The administration is otherwise the same as for other temporary assessments and disposal of documentation is detailed at Lft 2-01, Annex B.
INTRODUCTION

1. Any patient who is likely to be unfit for elements of their duties for more than 4 weeks, regardless of whether a specialist opinion has yet been gained, is to be awarded a temporary JMES (TJMES) immediately.

NB. Servicewomen who are pregnant are to be downgraded using the procedure detailed at Annex B, unless a secondary medical condition exists, in which case the procedure contained within this Annex is to be followed.

PROCEDURE – INITIAL PERIOD OF DOWNGRADING/CONTINUATION/UPGRADING TO FORMER JMES

2. The procedure for temporarily reassessing the JMES of a patient for the initial period of downgrading, continuation, or when upgrading an individual to their former category, is detailed below:

   a. When awarding a TJMES, the MO is to consider the appropriate timescale based on the clinical condition of the patient and known waiting list times with an aim of keeping periods of medical downgrading to an appropriate minimum. The MO is to award a PULHEEMS profile and JMES on the documentation indicated at Lft 2-01 Annex A, Para 5 for a period not exceeding the limits detailed in Lft 1-01 Para 9.

   b. The MO is professionally responsible for completing the narrative account to support a board’s recommendations. This task is not under any circumstances, to be delegated to administrative staff. The MO is to support the award with a full narrative account of the history, examination findings and where appropriate the prognosis, sufficient to make the award understandable without access to the full electronic Integrated Health (DMICP) Record (eIHR). It is essential that the information contained in the clinical summary of a medical board is accurate and logical.

   c. Modifications and extensions to the initial temporary downgrading need not repeat the full history but should detail all changes since the last Medical Board and where possible give an indication of the prognosis.

   d. The FMed 23 must include the following:

      (1) The date the JMES becomes effective (for initial downgrading this must not be backdated).

      (2) A PULHEEMS profile (See JSP 950 Part 6 Chapter 7) and JMES.

      (3) The type of JMES:

         (i) T - Temporary.

         (ii) P - Permanent.

      (4) The duration of the JMES.

      (5) The diagnosis.

      (6) Where the IMB is the result of an injury, record the date, location, circumstances and whether the individual was on or off duty at the time of the injury.

      (7) A list of limitations and codes awarded, together with any relevant permanent limitations previously awarded.

   e. The Practice Manager or a nominated deputy is to ensure a RAF F 7519 (DCN) has been completed and scanned into the iHR, in addition all IMBs are to be scrutinised for accuracy prior to dispatch and forwarded to Manning Medical Casework as detailed at Lft 2-01 Annex A.

   f. Seek approval from Manning Medical Casework if necessary, as detailed at Lft 2-03, paragraph 10.
g. Once approval has been obtained, dispose of all documents as detailed at Lft 2-01 Annex A.

PROCEDURE – 6 MONTHLY CLINICAL REVIEW OF TEMPORARY JMES

3. All individuals awarded a TJMES exceeding 6 months are to undergo a review with an MO on a 6 monthly basis in accordance with Lft 2-03. The MO is to conduct a review of the individual to ensure that their TJMES and limitations remain valid. The following actions are to be taken as appropriate:

a. Where the individual is fit to be upgraded or the award of a PJMES is appropriate, the clinical review is to be recorded on the DMICP and the appropriate documentation is to be raised to either:

   (1) Upgrade the individual to their former medical category using the procedure detailed at paragraph 2.

   (2) Refer the individual for a FMB.

b. Where an individual's JMES or limitations are no longer appropriate, they are to be changed using the procedure detailed at paragraph 2. Six monthly clinical reviews are to take place in line with the original start date.

c. Where the TJMES and limitations remain valid the clinical review is to be recorded on the DMICP.
LEAFLET 2-03 ANNEX B: TEMPORARY REASSESSMENT OF JMES – PREGNANCY

INTRODUCTION

1. This leaflet should be read in conjunction with JSP 950 Lflt 6-7-5, Annex J, ‘Reproductive’.

2. Servicewomen are strongly advised to notify their unit MO as soon as they become pregnant, even if the medical centre will not be providing antenatal care. Upon confirmation of the pregnancy the MO is to carry out an IMB to protect both the Servicewoman and the unborn child from conditions at work which may be hazardous to the Servicewoman or unborn child (see Lflt 5-16 for further detail). Maternity Arrangements for Servicewomen in the Regular Armed Forces are found in JSP 760, Chapter 20.

PROCEDURE

3. The procedure relating to the use of P4R in this Annex refers exclusively to Servicewomen who are pregnant; no other medical condition, which would warrant a lowering of the JMES, is to be present. Where a secondary condition exists the P4R grade is **not** to be awarded and downgrading is to be actioned using the procedure detailed at Annex A.

4. The following actions are to be taken:

   a. Award a TJMES of P4R, A4 L5 M5 E6 for an initial period of 12 months.

   b. Follow the procedure at Annex C paragraph 2.

   c. Award the limitation: ‘Unfit for service outside base areas’ (MedLim 5002). Additional limitations may be required subject to the individual’s normal duties and previous fitness. Aircrew are to be grounded. Ground personnel who fly as crew members (for example, stewards and Aeromed personnel) are to be made ‘fit limited duties in trade or branch (unfit employment in the air)’ (MedLim 1208) and will consequently be awarded L4.

   d. Record the estimated date of confinement on the FMed 23.

   e. It must be explained to the Servicewoman that the award of E6 will inform personnel staff that the JMES reassessment has taken place as a result of pregnancy. Since an E6 grading divulges medical information, it is necessary to obtain the individual’s informed consent to the award of E6. The Servicewoman must sign the form at Appendix 1 consenting/not consenting to the award of E6. The form is to be retained in the individual’s FMed 4 or scanned into their eIHR. If the Servicewoman does not give permission to the award of E6, she is to be awarded P7R with a JMES of A4 L5 M5 E4 with MedLims as outlined in sub-paragraph 3c above, for a period of 12 months, using the procedure detailed at Annex C. The personnel management effects of not giving permission, as referred to above, are to be explained to her and she is to be advised that she may be re-graded using the E6 code at a later stage of pregnancy if she wishes.

   f. The MO is to issue a FMed 566 to the Servicewoman stating that she is pregnant and giving the estimated date of confinement. She is to be instructed that this written notification must be given to her line manager under Section 18 of the Management of Health and Safety at Work Regulations 1999.

   g. **Clinical Review.** In cases of downgrading due purely to pregnancy there is no requirement for the MO to conduct a formal 6 monthly clinical review.

   h. The MO must ascertain the Servicewoman’s ability to assume her full military duties before considering returning the JMES to its pre-pregnancy level. Where a condition has arisen during pregnancy that necessitates the award of a TJMES beyond the 12 month point, this is to be treated as a new TJMES episode. Servicewomen are not to hold a TJMES for the sole purpose of breastfeeding.

   i. **Approval.** All IMBs require approval by Manning Medical Casework in accordance with Lflt 2-03 Para 5.

ADVICE TO LINE MANAGEMENT
5. If/when requested, the MO is to assist line management and provide advice concerning the medical aspects of risk assessment. If the MO lacks confidence or expertise then assistance can be obtained from the Regional Occupational Medicine Departments (ROMDs).

FITNESS FOR DEPLOYMENT

6. When a Servicewoman is found to be pregnant, and is awarded a TJMES, she is to be made non-deployable through the award of the MND (Medically Non-Deployable) code. If the Servicewoman is already deployed when the pregnancy is discovered, the MO is to conduct a clinical risk assessment, which in most cases will result in the Servicewoman being returned to the UK with the award of a MND code.

7. Exceptionally, where it can be demonstrated that clinical risk is acceptable, a MLD (Medically Limited Deployability) code may be awarded allowing for the return to the UK to be deferred to a later stage of the pregnancy. Should the MO deem the clinical risk unacceptable and the Servicewoman contests this decision, advice is to be sought from personnel and legal staffs and will require the Servicewoman to consent to the disclosure of her pregnancy. Refusal to consent to disclosure of the pregnancy will result in the award of a MND code on which personnel staffs would take action.
LEAFLET 2-03 ANNEX B, APPENDIX 1: FORM OF CONSENT TO THE AWARD OF A MEDICAL EMPLOYMENT STANDARD WITH AN E6 CODE

I,

Service Number:  
Rank:  
Inits and Name:  

have been advised by, (Name of medical staff),

Service Number:  
Rank:  
Inits and Name:  

of the need to restrict my employment during my pregnancy in order to protect both myself and my unborn child.

*I consent* to my being awarded a Joint Medical Employment Standard (JMES) which informs RAF Personnel staffs that the recommended restrictions on my employment result solely or in part from my pregnancy and that I will normally be expected to regain my former employment standard on my return to work unless there are medical reasons to justify continued downgrading. I understand that an effect of this JMES is that people other than my medical attendants are likely to become aware of the fact that I am pregnant.

*I do not consent* to my being awarded a Joint Medical Employment Standard (JMES) which informs RAF Personnel staffs that the recommended restrictions on my employment result solely from my pregnancy. If at a later stage in my pregnancy I am content to have RAF Personnel staffs informed that my employment restrictions result solely from my pregnancy I will inform the medical centre staff in order that a revised JMES can be awarded.

Signature:  
(of individual being boarded)  

Date:  

* Delete as appropriate.
INTRODUCTION

1. The assessment of Service Personnel who are made non-effective is of great importance to the individual’s unit, especially if absence is expected to last many months. After a period of 2 months, Line Managers may initiate proceedings to obtain a replacement. However, if it is made clear by medical practitioners from the outset that the period of absence will exceed 2 months, the unit may seek a replacement immediately.

2. Personnel graded non-effective can either remain at their unit or be assigned to Personnel Recovery Unit (PRU), depending upon the circumstances. Referrals to PRU must be accompanied by a HARDFACTS proforma. For ground trades, replacements are unlikely to be assigned until 3 months after the unit request is received, allowing 90 days notice to be given to the replacement; if, during this period, the status of the individual graded non-effective changes for the better, the replacement’s assignment can be cancelled.

3. The award of a temporary non-effective JMES is appropriate when an individual is likely to be medically unfit for all duty for a prolonged period as detailed at Lft 1-01. A temporary non-effective JMES is to be awarded for a maximum of 18 months subject to monthly reviews at unit level as detailed in Lft 1-01 Para 9 and Lft 2-03 paragraph 8. Thereafter, the individual is to be awarded a PJMES by a Formal Medical Board.

CALCULATING PERIODS OF ABSENCE

4. For the purpose of calculating the periods mentioned above, all periods of absence from duty due to the same disability are to be aggregated, except when they are separated by a continuous period back on duty of not less than 6 months.

PROCEDURE

5. After an individual has been absent from duty, due to illness or injury, for a 4 week period, MOs are to assess the individual’s likelihood of returning to any form of duty within the next 4 weeks. Action is to be taken as detailed below:

   a. Where it is likely that the individual will return to work within the 4 week period, an extension of the current absence is to be authorized by the MO at unit level, in accordance with AP1269 Lft 5-06.

   b. Where it is anticipated that the individual will remain absent from work beyond a total 8 weeks; non-effective boarding action is to be taken immediately. The MO is to discuss the individual case with the ROMD at this stage and make a record of the discussion on DMICP.

   c. Where the sickness absence reaches a period of 8 weeks, the MO is to take non-effective boarding action and, if not already completed, discuss management of the individual with the ROMD. The MO is to make a record of these discussions on DMICP. The ROMD may consider a Graduated Return of Work (GRoW) programme in accordance with the ROMD best practice guidelines which are shown at Annex C, Appendix 2.

   d. Where there is no expectation of the patient returning to any form of productive service, the individual is to be awarded a non-effective TJMES and immediately referred to the RAF MB for a review of their fitness for further service. Consultant / Specialist opinion is likely to be required and details should be discussed with RAF MB.

Full details are shown diagrammatically at Appendix 1.

5. **Administrative Procedure.** Once it has been decided that a patient is likely to be non-effective as described above, the procedure for temporarily reassessing the JMES of the patient is detailed below:

   a. The MO is to:

      (1) Assess the patient’s current situation.
(2) Raise an FMed 23 completing a full, accurate and logical narrative account to support the award of a non-effective JMES. The narrative is to be sufficient to make the award understandable without access to the full medical record and is to include:

(a) The history.

(b) Examination findings, where possible.

(c) The patient’s progress and prognosis where appropriate.

(d) Details of the hospital specialist or civilian GP who is caring for the patient if applicable.

(e) The address and contact telephone number of the patient.

(f) Confirmation that ROMD have been contacted regarding the patients condition.

NB. Narrative accounts for extensions to the initial temporary downgrading need not repeat the full history but should detail all changes since the last Medical Board.

b. The FMed 23 must include the following information:

(1) The date the JMES becomes effective.

(2) A JMES of A6 L6 M6 E5/E6 (T). The P factor, and where appropriate, the S factor in the PULHEEMS profile becomes P0/S0 as appropriate (see JSP 950 Part 6 Chapter 7).

(3) The duration of the employment standard.

(4) The diagnosis.

(5) Where the non-effective board is the result of an injury, record the date, location, circumstances and whether the individual was on or off duty at the time of the injury.


d. SMOs are to inform the Chief Clk/OC PMS of the results of a Unit-level non-effective Medical Board on the date the Board is carried out. This should also be copied to Manning Medical Casework. The text is to state that ‘the individual has been boarded and found to be temporarily non-effective pending Manning Medical Casework approval’.

e. The Practice Manager or a nominated deputy is to ensure a RAF F 7519 (DCN) has been completed and scanned into the iHR. When a patient is unable to sign the RAF F 7519 (DCN) through incapacity it is to be annotated on the FMed 23. In addition the non-effective IMB is to be scrutinised for accuracy prior to dispatch. Advice may be sought from Manning Medical Casework if required.

f. Seek approval from Manning Medical Casework using the referral capability of DMICP (for units without DMICP, the FMed 23 should be attached as a zip document to an email and be forwarded to Med Casework using the Defence Intranet.) The FMed 23 should reach Med Casework within 5 working days of the decision to make non effective. When seeking approval, the IMB documentation is to be accompanied by the most recent relevant specialist report.

g. Dispose of all documents as detailed at Lflt 2-01, Annex A.

6. Periodic Clinical Monitoring. It is imperative that all individuals awarded a temporary non-effective JMES are closely monitored by their SMO to ensure that both the JMES and the patient’s clinical care remain appropriate. The purpose of this contact is to: monitor clinical wellbeing; to check on medication; to consider the need for physiotherapy or other interventions; to consider JMES and/or Regional Occupational Medicine Consultant (ROMC) referral; and to confirm plans for the next period of clinical monitoring. Individuals are to be reviewed by a Medical Officer monthly with the consultation recorded in DMICP (where the individual is an in-patient, a conversation with the Doctor responsible for the patient’s care will suffice). If the patient has been assigned to PRU & they are an in-patient in a Military establishment, the SMO may want to delegate responsibility for updating DMICP with the latest clinical information to SNCO Clinical Co-ordinator at PRU,
The SMO is to be informed of any significant changes in patient care. In cases where a temporary non-effective JMES is no longer appropriate, action is to be taken as detailed below:

a. Where the individual is fit to return to duty with no limitations, they may be upgraded by an IMB.

b. Where the individual is fit to return to duty, but requires limitations on their employment, the individual is to be awarded a TJMES providing that this does not exceed the maximum period of time allowed for a TJMES.

c. Should it become clear that there is no expectation of the patient returning to productive Service, the individual is to be referred for a Formal Medical Board. The referral should be sent at the earliest opportunity.

7. Administrative Responsibility. Individuals holding a temporary non-effective JMES are to be medically administered as detailed below:

a. Personnel remaining on the unit strength – parenting SMO.

b. Personnel assigned onto the strength of PRU – SNCO Clinical Co-ordinator, PRU, High Wycombe. Full details are contained in AP1269 Lflt 5-06.

c. SMOs of individuals whose medical care has been delegated to another PHC provider that is not RAF, must retain an oversight of the clinical administration of that individual ensuring compliance with paragraph 6 above and document accordingly on the electronic health record.

Where such a patient requires a Medical Board, but is located a considerable distance from the parenting medical centre, the President of the Medical Board, RAF Henlow is to be informed who will direct an appropriate medical centre or FMB to undertake the necessary boarding action.

8. Release from the Service. Individuals are not to be released from the Service whilst holding a temporary non-effective JMES.

9. Personnel awarded Unfit Further Service. Any individuals who are made unfit further service by a FMB and proceed on indefinite sick leave are to be reviewed monthly by their unit MO until discharged from the Service. This can be done by proxy and/or telephone encounter however, oversight must be maintained by the parent unit until discharge.

10. Monthly Return. Medical Centres are to complete a monthly return to Air-COSPers-Pol RAF PRU CncCoord, RAF High Wycombe, confirming the details of all ‘non effective’ and all ‘unfit further service’ (P0, P8) patients on Station strength and the date of last MO/CMP review. Nil returns are expected. Returns are to be submitted by the 10th day of each calendar month.
LEAFLET 2-03 ANNEX C, APPENDIX 1: MANAGEMENT OF INDIVIDUALS WHO ARE NON-EFFECTIVE FOR MORE THAN FOUR WEEKS

After a period of absence from duty (due to sickness) of 4 weeks

Individual is fit to return to duty

Return to Duty with Full JMES

Individual is likely to return to duty in the next 4 weeks

Return to Duty with lowered JMES

Extend Period of absence IAW AP 1269, Lft 5-06

Award a Non-Effective JMES A6 L6 M6 E5 (T)

No expectation of individual ever returning to productive Service

A6 L6 M6 E5 (T) and refer to RAF MB for consideration of invaliding

Individual to be clinically reviewed at least monthly

On reaching the maximum period for a Non-Effective JMES (18 months) refer to the RAF MB

33 “…Where it is anticipated that the individual will remain absent from work, due to illness, for a further period of at least 4 weeks, non-effective boarding action is to be taken immediately. The MO is to discuss the individual case with the ROMD at this stage and make a record of the discussion on DMICP. Where the sickness absence reaches a period of 8 weeks, the MO is to take non-effective boarding action and, if not already completed, discuss management of the individual with the ROMD. The MO is to make a record of these discussions on DMICP…”

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LEAFLET 2-03 ANNEX C, APPENDIX 2: GRADUATED RETURN OF WORK: BEST PRACTICE GUIDELINES FOR USE BY REGIONAL OCCUPATIONAL MEDICINE DEPARTMENTS

Background

1. Facilitation of a Graduated Return of Work (GRoW) is agreed core business\textsuperscript{34} for RAF Regional Occupational Medicine Departments (ROMDs). The purpose of a GRoW is to return Service personnel who have been ill or injured to normal working hours of meaningful employment guided by functional capability and resilience. Each GRoW is tailored to the Service Person’s situation by the overseeing ROMD clinician.

2. Best practice guidelines have been developed for use by ROMD clinicians with the aim of improving quality of service. The guidelines provide a structured framework for development of a GRoW programme whilst affording flexibility according to the needs of the Service Person and cognisant of Service needs.

Best Practice Guidelines

3. The following best practice guidelines provide a framework for the development of a ROMD-facilitated GRoW programme:

   a. A working Medical Employment Standard should be awarded prior to the Service Person commencing a GRoW.
   
   b. A GRoW should be planned with the Service Person’s involvement and review arrangements made from the outset.
   
   c. A GRoW should plan incremental increases of time in productive work and aim to progress the Service Person to normal working hours.
   
   d. If appropriate and necessary, the ROMD clinician should accommodate multidisciplinary activity into the GRoW plan.
   
   e. The Line Manager (LM) should be actively engaged with the Service Person’s GRoW, involved with the planning if appropriate and consulted on progress as necessary.
   
   f. A copy of the GRoW timetable should be given to the Service Person, copied to the LM and attached to the Service Person’s DMICP medical record.
   
   g. If the GRoW is stopped before the Service Person reaches normal working hours, an attempt to restart the GRoW should be considered if appropriate.
   
   h. All activity and progress relating to the GRoW should be documented on DMICP. Any changes to the GRoW plan should be communicated to the Service Person and LM.
   
   i. The Service Person should be made aware of the potential employment implications of not achieving normal working hours within a reasonable time period and this will usually include referral to the RAFMB for review of JMES and consideration of fitness for further service.

\textsuperscript{34} DPHC Service Level Agreement dated 1 Apr 14.
INTRODUCTION

1. An Informal Medical Board, may, on the recommendation of a Consultant Occupational Physician working in Regional Occupational Medicine Departments or military secondary care specialist, propose that an individual, restricted to service in the UK, be assigned to a specified area for a short period in order to access medical or rehabilitation services that are unavailable elsewhere. This recommendation may exceptionally be made by a GD[GMP] when the individual is under the care of a civilian consultant. Recommendations for geographical assignments are rare and are subject to the following restrictions:

   a. **Clinical Grounds.** The medical recommendation for an assignment to a specified area in the UK is to be made on treatment and rehabilitation grounds alone. If there are no clinical grounds to support the recommendation, e.g. welfare reasons, individuals should be managed through preferential treatment grounds by the executive.

   b. **Duration of Recommendation.** A medical board may recommend a geographical assignment for a maximum period of 12 months, subject to 6 monthly unit level reviews. If the requirement is likely to extend beyond the allowable 12 month period then, the individual is to be brought before the RAF MB which may then recommend discharge on medical grounds.

2. Where cases do not meet the clinical criteria for Geographical Assignment but there is clear evidence to suggest the assignment of an individual to a particular location may benefit the Service, then unit welfare staff should be advised to contact WO PMS to consider submitting a case to Manning Staneval for deliberation.

DISADVANTAGES

3. In making a recommendation for geographical assignment in the UK, the Board is to bear in mind the following:

   a. Should the executive be unable to effect a geographical assignment, the individual may have to be considered for discharge from the Service in their existing employment standard.

   b. It is likely to disadvantage other Service individuals as an assignment chain will be initiated.

ADMINISTRATIVE PROCEDURE

4. Once it has been decided that a patient requires a geographical assignment on clinical grounds, the procedure for temporarily reassessing the JMES of the patient is detailed below:

   a. The MO is to:

      (1) Assess the patient’s current situation.

      (2) Physically examine the patient if appropriate.

      (3) Raise a FMed 23 completing a full, accurate and logical narrative account to clinically support the award of a geographical assignment. The narrative is to be sufficient to make the award understandable without access to the full medical record and is to include:

         (a) The history.

         (b) Examination findings.

         (c) The patient’s progress and prognosis where appropriate.

       NB. Narrative accounts for the extension to the initial temporary downgrading need not repeat the full history but should detail all changes since the last Medical Board.

   b. The FMed 23 must include the following information:
(1) The date the JMES becomes effective.
(2) A PULHEEMS profile (see JSP 950 Part 6 Chapter 7) and JMES.
(3) As a minimum, the limitation ‘geographical assignment in UK (area will be specified in Med Docs)’, (MedLim 5000) is to be used with any of the following permutations:
   (a) Unfit service at (station(s) or area to be specified).
   (b) Unfit service at stations other than (to be specified).
   (c) Unfit service outside the catchment area of (to be specified).
(4) The duration of the employment standard.
(5) The diagnosis.
(6) A statement that the patient has been seen by the MO and that the JMES awarded is correct.

c. Raise a RAF F 657.

d. The Practice Manager or a nominated deputy is to ensure a RAF F 7519 (DCN) has been completed and scanned into the iHR, they are also to scrutinise the Geographical Board documentation for accuracy prior to dispatch. Advice may be sought from Manning Medical Casework if required.

e. Seek approval from Manning Medical Casework.

NB. When seeking approval, the Informal Medical Board documentation is to be accompanied by the specialist report which recommended the geographical assignment and any relevant subsequent reports.

f. Dispose of all documents as detailed at Lft 2-01, Annex A.
LEAFLET 2-03 ANNEX E: FUNCTIONAL HEARING CHECKS

**AIRCrew**

1. Aircrew with hearing loss requiring a functional hearing check should have this performed in the aircraft type they currently fly, supervised by a QFI. The test should be conducted on a typical sortie using the full range of radio equipment, and should contain the following elements:
   
   a. Routine communications air to ground (controller).
   
   b. Routine communications air to air.
   
   c. Routine communications between cockpit/flight crew members.
   
   d. Simulated emergencies, including non routine phraseology.
   
   e. Identification of navigation beacon signals.
   
   f. Identification of audio warning devices.

2. The form at Lflt 2-03 Annex E Appendix 1 should be completed, and a copy kept with the medical record (scanned onto DMICP), and the aircrew personal record (series 5000).

3. Those failing a functional hearing check are to be referred to an Aviation Medicine trained service consultant in ORL and the Defence Audiological Service, requesting clinical review and assessment of speech frequencies. Pending review, the individual should be downgraded A3 (MedLim 2000 or MedLim 2001).

4. A Functional Hearing Check should be repeated on the following occasions:
   
   a. Where clinically indicated.
   
   b. On change of aircraft type.
   
   c. On progression of hearing loss by greater than 25 dB(A) summed at the frequencies 1, 2 and 3 kHz from the level when the last test was performed.

**CONTROLLERS**

5. Controllers with hearing loss requiring a functional hearing test may have this performed locally by a qualified instructor, Unit Assurance Officer or Unit Examining Officer. The conditions must be conducted under representative traffic levels.

6. The form at Lflt 2-03 Annex E Appendix 2 should be completed and a copy kept with the medical record (scanned onto DMICP) and another with their personal record.
LEAFLET 2-03 ANNEX E, APPENDIX 1: IN FLIGHT FUNCTIONAL HEARING ASSESSMENT FORM

1. PERSONAL DETAILS - SUBJECT

<table>
<thead>
<tr>
<th>Name</th>
<th>Rank</th>
<th>Service Number</th>
<th>Date of birth</th>
</tr>
</thead>
<tbody>
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</table>

2. DETAILS OF TEST

<table>
<thead>
<tr>
<th>Place of test:</th>
<th>Aircraft Type:</th>
<th>Tail Number:</th>
<th>Date of Test</th>
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<table>
<thead>
<tr>
<th>Sortie Type:</th>
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</table>

<table>
<thead>
<tr>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Can the subject hear adequately in the aircraft during all phases of flight?</td>
</tr>
<tr>
<td>Does their hearing loss interfere with the ability to communicate with Aircraft Control during all phases of flight?</td>
</tr>
<tr>
<td>Does their hearing loss interfere with the ability to communicate with other aircraft during all phases of flight?</td>
</tr>
<tr>
<td>Does their hearing loss interfere with the ability to communicate with other flight crew members during all phases of flight?</td>
</tr>
<tr>
<td>Can he/she accurately identify non-routine R/T phraseology?</td>
</tr>
<tr>
<td>Can he/she identify accurately the identification signals of Navigation Beacons?</td>
</tr>
<tr>
<td>Can he/she accurately identify audio warning devices?</td>
</tr>
<tr>
<td>In your opinion, does his/her hearing loss interfere with flight safety?</td>
</tr>
<tr>
<td>Have you any other observations or comments?</td>
</tr>
</tbody>
</table>

3. DETAILS OF INDIVIDUAL SUPERVISING TEST

<table>
<thead>
<tr>
<th>Name</th>
<th>Rank</th>
<th>Service Number:</th>
<th>Signature:</th>
</tr>
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</table>

Page: 62
Publication date: 01/08/16
LEAFLET 2-03 ANNEX E, APPENDIX 2 : ATC FUNCTIONAL HEARING ASSESSMENT FORM

1. PERSONAL DETAILS – SUBJECT

<table>
<thead>
<tr>
<th>Name</th>
<th>Rank</th>
<th>Service Number</th>
<th>Date of birth</th>
</tr>
</thead>
</table>

2. DETAILS OF TEST

<table>
<thead>
<tr>
<th>Place of test:</th>
<th>ATC Position:</th>
<th>Date of Test:</th>
</tr>
</thead>
<tbody>
<tr>
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<th>Controlling duration:</th>
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<table>
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<tr>
<th>Comments</th>
<th>Yes</th>
<th>No</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Can the subject hear adequately in the ATC environment during all phases of task?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Does their hearing loss interfere with the ability to communicate with aircraft during all phases of task?</td>
<td>Yes</td>
<td>No</td>
<td>N/A</td>
</tr>
<tr>
<td>Does their hearing loss interfere with the ability to communicate with other colleagues during all phases of task?</td>
<td>Yes</td>
<td>No</td>
<td>N/A</td>
</tr>
<tr>
<td>Does their hearing loss interfere with the ability to communicate with other units during all phases of task?</td>
<td>Yes</td>
<td>No</td>
<td>N/A</td>
</tr>
<tr>
<td>Can he/she accurately identify non-routine R/T phraseology?</td>
<td>Yes</td>
<td>No</td>
<td>N/A</td>
</tr>
<tr>
<td>Can he/she accurately identify audio warning alarms?</td>
<td>Yes</td>
<td>No</td>
<td>N/A</td>
</tr>
<tr>
<td>In your opinion, does his/her hearing loss interfere with flight safety?</td>
<td>Yes</td>
<td>No</td>
<td>N/A</td>
</tr>
<tr>
<td>Have you any other observations or comments?</td>
<td>Yes</td>
<td>No</td>
<td>N/A</td>
</tr>
</tbody>
</table>

3. DETAILS OF INDIVIDUAL SUPERVISING TEST

<table>
<thead>
<tr>
<th>Name</th>
<th>Rank</th>
<th>Service Number:</th>
<th>Signature:</th>
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</table>
INTRODUCTION

1. This section details the arrangements for conducting medical assessments other than by a medical board and is to be read in conjunction with the JSP 950 Part 6 Chapter 7.

2. Service personnel will present at the medical centre for a variety of reasons throughout their career to seek treatment and advice. Such occasions present the MO with an opportunity for opportunistic screening and review of the individual’s JMES. As primary care physicians and occupational health advisers, station MOs are to ensure that these aspects of their duties are not overlooked. Additionally, there are occasions when it is necessary to review an individual’s fitness by conducting an assessment of medical fitness. These assessments are conducted at routine intervals and in response to specific events as detailed at Lflts 3-02, 3-03 and 3-04. The principles of assessment are the same as those applied by a medical board when awarding a JMES (see Lft 2-01).

3. In order to tailor the needs of the assessment to the occasion and avoid unnecessary examination procedures, medical assessments are graded into four levels:

   a. Confirmation of JMES (Level 1).
   b. Medical Inspection (Level 2).
   c. Medical Screening - limited medical examination (Level 3).
   d. Full Medical Examination (Level 4).

Assessments at Levels 2 to 4 involve contact between the individual and medical centre staff and may be referred to generically as medical examinations. Service personnel may present for an assessment of medical fitness which is not detailed in Lflts 3-02, 3-03 and 3-04. In these instances the needs of the medical assessment may not have been specifically graded against the occasion. Individuals may only undergo a medical examination if there are sufficient details in order for the MO to ascertain the level of medical fitness required.

LEVELS OF ASSESSMENT

4. The actions required for each level of assessment are detailed below:

   a. Confirmation of JMES - (Level 1). This assessment may be performed by the Practice Nurse, or RAF TG15 personnel and the following regulations apply:

      i. Applicable to personnel with an unrestricted JMES only.
      ii. Validity of the current JMES is to be confirmed in the following manner:

          (a) Request the individual to sign the ‘Health Declaration’ at leaflet 3-01 annex A.
          (b) Review the content of the completed Health Declaration, the FMed 4 and DMICP record. Any ‘active’ problem is to be discussed with the MO.

      iii. Documentation:

          (a) The Health Declaration is to be retained in the individual’s FMed 4, placed on the enclosure clip or scanned into their iHR. An enclosure number is not to be allocated and a copy is not required by the Central Health Record Library (CHRL). The Health declaration may also be scanned into the integrated Health Record (iHR) on DMICP.
          (b) Complete documentation which prompted the requirement for JMES confirmation if required.

      iv. DMICP Action. Enter the Read Code ‘Present JMES Confirmed’ – ‘TRISPR2’.
b. **Medical Inspection - (Level 2).** The Practice Nurse may perform this assessment provided they have received appropriate training and supervision. The following regulations apply:

i. Conduct a Confirmation of JMES (Level 1) assessment.

ii. Ensure that the JMES is valid for the intended duty. Refer to a MO if fitness is in doubt.

iii. Address any specific requirements, for example vaccination status, requirement for malaria prophylaxis, requirement for respirator lenses/defence spectacles.

iv. Documentation:

   (a) Unless indicated otherwise, an entry is to be made on the FMed 5 / DMICP including the date, reason for inspection, advice given, and outcome.

   (b) A FMed 566 or appropriate executive document is to be raised to inform the executive of the outcome as necessary.

   (c) Raise additional documentation as required (for example, FMed 965).

v. DMICP Action. Record the Inspection using the following Read Code: ‘Medical Inspection’ - ‘TRISME2’. Specific data is to be recorded as appropriate.

c. **Medical Screening - (Level 3).** The Practice Nurse may perform the medical screening provided that they have received appropriate training and supervision. Use of written protocols is essential. The following regulations apply:

i. Conduct a Medical Inspection (Level 2).

ii. Record the following:\n
   (a) Height.

   (b) Weight.

   (c) Urinalysis using a colour meter reading stick.

   (d) Blood pressure.

   (e) Visual acuity using a standard Snellen Chart.

   (f) Audiometry (if not recorded in previous 18 months).

iii. Refer to a MO if fitness is in doubt.

iv. A lifestyle health check as detailed at paragraph 6 may be offered.

v. Documentation. Unless indicated otherwise findings are to be recorded on a FMed 143.

vi. DMICP Action. Record medical screening using the following Read Code: ‘Formal Medical Screening’ - ‘TRISFO2’. All findings are to be recorded.

d. **Full Medical Examination - (Level 4).** Untargeted full physical examination is rarely productive. MOs are to direct their examination in relation to the history, findings of screening tests and the duties of the individual. Medical examinations for aircrew are to be completed by a Military Aviation Medical Examiner (MAME). The following regulations apply:

i. The MA or Practice nurse is to undertake and record the prelims as detailed in subparagraph 4c.

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35 Preliminary Medical Examinations may be performed by the Practice Nurse, or RAF Medic personnel.
ii. A MO is to take a medical history and conduct a physical examination. Gynaecological assessment of females is not required. If clinically indicated, the patient is to be offered the opportunity of attending separately for this assessment in accordance with AP1269 Lflt 6-02.

iii. Spirometry if clinically or occupationally indicated.

iv. Other tests as clinically indicated.

v. A lifestyle health check (if not already completed), as detailed at paragraph 6, is to be offered.

vi. Documentation:

(a) Unless indicated otherwise findings are to be recorded on the Fs Med 1, 143 or 144 as appropriate.

(b) Following routine medical examination of aircrew, MOs are to sign the aircrew logbook (see paragraphs 21, 22 and 23).

vii. DMCIP Action. Record Full Medical Examination using the following Read Codes as appropriate:

<p>| | |</p>
<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>(a)</td>
<td>‘PME’ (Ground Personnel)</td>
</tr>
<tr>
<td>(b)</td>
<td>‘PME AIRCREW’</td>
</tr>
<tr>
<td>(c)</td>
<td>‘Air Traffic PME’ (Ops Spt (ATC &amp; FC)and WO/SNCOs of TG 9 and 12 employed on ATC/FC duties)</td>
</tr>
<tr>
<td>(d)</td>
<td>‘Full Medical Examination Performed’</td>
</tr>
<tr>
<td>(e)</td>
<td>‘Release Medical’</td>
</tr>
</tbody>
</table>

5 In addition to the actions listed above for each level of assessment, additional tests may be required as detailed in the relevant sections of Lflts 3-02, 3-03 and 3-04.

6 Aircrew may not be considered medically fit if they are dentally unfit. If the FMed 143 is used, the Dental Officer will indicate the current NATO DF Cat on the form. If the FMed 143 is no longer printed off, the MO/Dental Officer is to enable a robust system to ensure accurate data capture (Aircrew DF Cat) is available for the annual aircrew medical examination, pending the availability of this data via DMICP. NATO DF Cat 1 and 2 are considered compatible with full flying duties. Aircrew with NATO DF Cat 3 should be discussed with the Dental Officer to determine fitness for flying duties. Aircrew with NATO DF Cat 4 are unfit until they have been dentally inspected and a current NATO DF Cat assigned. Further information is at AP1269 Lflt 5-05, Annex Q.

LIFESTYLE HEALTH CHECK

7 Whilst undergoing a medical assessment, an individual may be offered the opportunity for a Lifestyle Health Check. Such a check is to be carried out at the discretion of the health professional who may wish to offer advice and specific health counselling in addition to ensuring that health promotion data is accurate regarding the following:

- Smoking status.
- Alcohol intake.
- Diet.
- Exercise.
- Immunizations.
- Cervical cytology (if applicable).
g. Breast screening (if applicable).

h. Family medical history.

SPECIAL INVESTIGATIONS

8 Aircrew Visual Acuity. Aircrew visual acuity is to be tested using an appropriately illuminated standard Snellen Chart viewed at 6m or using a reverse Snellen Chart viewed in an optical quality mirror at an overall distance of 6m. In all cases the visual acuity is to be tested by a suitably trained health care worker.

9 Good vision is essential for aviation. Although normal vision is defined the ability to discern one minute of 1° of arc, measured at 6m as 6/6\(^{36}\), the best achievable resolution may be up to 6/3. Visual acuity (VA) better than 6/6 promotes flight safety, and confers an operational advantage; therefore, all aircrew with uncorrected VA of 6/6 are to be referred for routine refraction every other year. Those who are able to achieve better VA with correction are to be offered CFS (Lfit 5-14 Annex C). If they elect to use contact lenses, they should be referred in the usual manner. As this is a voluntary provision for aircrew who are able to achieve the minimum VA uncorrected, an A2 marker is not required. However, if they are subsequently unable to achieve 6/6 uncorrected, the appropriate A2 marker must be awarded (Lfit 4-02)

10 Lung Function Testing. All aircrew are required to undergo lung function testing during their initial specialist medical at R&SDOM and if clinically indicated at PMEs. The FEV\(_1\) should be between 80-120%, the FEV\(_1\)/FVC 75-80% and the PEFR\(\geq\) 80% of the calculated normal for age, sex and height.

11 Electrocardiography (ECG). The personnel identified below are to have a routine 12-lead ECG examination (including S3R Inspiratory), at the intervals specified below:

- All aircrew (including regular, reserve, auxiliary, part time, Class 3 RPAS operators, civil servants, contractors and FMOs with A3 or higher) , Ops Spt (ATC & FC), and WOs and SNCOs of TGs 9 and 12 employed on ATC/FC duties:
  - i. On appointment.
  - ii. At ages 25 and 30
  - v. Age 50+: Every 6 months whilst appointable to flying or aircraft control duties.

- When Air Traffic Control Assistants (ATCA) personnel are selected for conversion to ATC.

- Air Cadet Gliding Instructors (including RAF VR and civilian gliding instructors):
  - i. On appointment.
  - ii. Age 40-49: 2-yearly.
  - iii. Age 50+: Annually.

Waivers may be granted to gliding instructors holding a valid Class 1 CAA medical certificate.

- All aircrew and controllers aged 60 and over require a stress (exercise) ECG on alternate years and those aged 65 or over require an annual ETT to identify those with an increased risk of sudden cardiac incapacitation. Target personnel should be referred for testing in advance of their annual PME to ensure results are available at the time of the medical. There is no need to ground or downgrade aircrew or limit controllers pending results of the investigation, which should be completed in any case within one month of the PME. This policy includes aircrew operating under a CAA Class 1 waiver; this is an additional requirement over and above CAA regulations.

\(^{36}\)6/6 means that a figure designed to be seen at 6 m can be read at 6 m. 6/3 means a figure designed to be read at 3m can be read at 6m.
e. Regular and FTRS Aircrew and controllers are to be referred to CAMS clinic, RAF Henlow. Other members of the reserve air forces (e.g. AEF and VGS) are also eligible for referral to CAMS; however it is acceptable to source the investigation locally when necessary (funded as below).

f. A satisfactory result entails achieving a minimum of Bruce protocol stage 4 or equivalent. Stress ECGs carried out by non-service sources are acceptable if reported as normal by a consultant cardiologist. Reports from Technicians are not acceptable.

g. Those unable to achieve a satisfactory result or experiencing problems during testing should be referred to either CAMS clinic or a Service consultant physician with aviation medicine training. Pending investigation, aircrew should be awarded a TJMES of A3 ‘Unfit solo pilot – must fly with a pilot suitably qualified on type’ (MedLim 2000) or ‘Unfit solo (aircrew category will be specified in Med Docs’ (MedLim 2001); controllers should be awarded a TJMES of L4 ‘Fit controlling duties except where a single controller is employed. Fit to control only when another controller is on duty and in close proximity’ (MedLim 2101). If the investigation is performed elsewhere and reported as abnormal the individual is to be grounded / unfit controlling until consultation with CAMS. Final JMES will be determined by the outcome of this referral.

h. Funding for these ECGs is to be met by the medical budget for those entitled to full medical care (including PHC, secondary care and Occupational medicine). For all others, the cost is to be met by the individual’s employment organisation, not the medical budget. It is recommended that funding lines be established with the employing organisation before referring for investigation.

i. In order to ensure correct administration and documentation of this process, the following Read codes are to be used.

i. Referral for exercise ECG – ‘8HRA’ which should be added to the individual’s diary for a date 2 months before the exercise ECG is required. It is also to be used when making the referral.

ii. Exercise ECG normal – ‘32130’ to be used to record normal results.

iii. Exercise ECG abnormal – ‘32131’ to be used to record abnormal results.

j. Pilots are not permitted to undertake single pilot operations once they attain 65 years of age as per Regulatory Article 2135(3). Those aircrew who continue to fly beyond age 65 are only permitted to fly dual where the other pilot is under age 65 and does not carry the A3 limitation ‘unfit solo pilot – must fly with a pilot suitably qualified on type’ (MedLim 2000). This restriction is a regulatory one not medical; therefore, aircrew over the age of 65 do not require an A3 annotation to their JMES. Enhanced cardiovascular screening should continue beyond age 65 for all aircrew who continue to fly.

ATCA recruits require a routine 12-lead ECG examination (including S3R inspiratory); following successful completion of selection procedures (see Lflt 4-04 Annex I).

AUTO REPORTING OF SCREENING ECGs

12 Screening ECGs that are auto-reported as normal are considered acceptable without awaiting specialist confirmation. Screening ECGs that are reported as “otherwise normal” or “borderline” may be acceptable subject to satisfactory clinical assessment of the aircrew member and the following:

a. Marked sinus bradycardia; accept only if rate > 40 bpm

b. Minimal or moderate voltage criteria for LVH, may be normal variant; accept only if: physically fit; no hypertension; no murmur.

c. Rightward axis; accept only if no murmur

d. Sinus tachycardia; accept only if rate < 110 bpm

e. No abnormalities noted on examining the rhythm strip.
In assessing “otherwise normal” or “borderline” screening ECGs, it is helpful to compare the ECG with previous ECGs if available. If fitness is in doubt, the aircrew member should be grounded pending discussion with a Service physician and/or referral if indicated.

All screening ECGs, including those reported as “normal” are still to be submitted for specialist reporting. This is to permit appropriate and accurate audit of all screening ECGs.

13 **Electroencephalography (EEG).** There is no requirement for individuals to undergo an EEG unless clinically indicated.

14 **Routine Blood Testing.** All personnel listed at para 11a and b, with the exception of Ops Spt (ATC & FC), WOs and SNCOs of TGS 9 and 12 employed on ATC/FC duties and ATCA recruits are to have selection blood tests (verbal consent must be given) as detailed below: Blood samples are for screening purposes and therefore do not require a period of fasting. However depending upon the results, further investigation may be required. If there is documentary evidence in the candidate’s previous Service medical records of normal results for the tests below which were taken at the correct age or stage of recruitment these tests need not be repeated.

<table>
<thead>
<tr>
<th>HbA1c Result (mmol / mol (%))</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>48 (6.5%) or higher</td>
<td>Probable diabetes: requires formal diagnosis</td>
</tr>
<tr>
<td>42-47 (6.0 - 6.4%)</td>
<td>Increased risk: requires further investigation by Primary Health Care</td>
</tr>
<tr>
<td>42 (6.0% or less)</td>
<td>Low risk: formal testing only if indicated</td>
</tr>
</tbody>
</table>

**Selection Blood Test (non-fasting)**

- Haemoglobin
- Total cholesterol and HDL
- HbA1c

In addition, all personnel listed at para 11a and b are to have routine blood screening at age 40 (verbal consent must be given) as detailed below:

**Blood Test at Age 40 (non-fasting)**

- Total cholesterol and HDL
- HbA1c
- Thyroid Stimulating Hormone (TSH)

15 Wherever possible, tests are to be performed prior to the medical examination so that results are available at the time of the physical examination. A record of the test is to be recorded in the patient’s medical record on the DMICP using the Read Code ‘Routine aircrew blood tests’ – ‘TRIQQRO8’. The periodicity of tests specified is the mandatory minimum acceptable. Where a MO believes that there are clinical grounds to perform additional tests, they may be performed more frequently. Operational contingencies or exchange service may prevent the collection of blood samples in accordance with the schedule. MOs are to ensure that missed tests are completed at the earliest subsequent opportunity.

16 Timeliness in delivering specimens to the laboratory is essential. If local arrangements prevent specimens reaching the laboratory within 4 hours, the responsible MO is to obtain specific advice from the laboratory on steps that should be taken to ensure the validity of test results.

17 **Audiometry.** All RAF personnel may be exposed to excessive levels of noise in the course of their duties. As it can be difficult to predict who is so exposed, all personnel are to have audiometry every other year as part of the HCP. Where individuals have an annual medical, it is not necessary to perform audiometry every year. Those deemed to be at increased risk of hearing loss may still require annual audiometry on clinical grounds.

18 **DNA Typing.** DNA typing provides a useful addition to other methods of identification in fatal aircraft accidents; see AP 1269 Lflt 5-05, Annex Y for further details.

19 **Chest Radiography.** Chest radiography is discussed at Lflt 5-03. A chest X-ray is required for the following:

37 Note non-fasting bloods are not suitable for measurement of triglycerides
a. Non-industrial medical examinations as detailed at Lflt 3-03.

b. Industrial hazard medical examinations as detailed at Lflt 3-04.

20 **Fitting of Helmet and Mask.** The fit of the aircrew helmet and mask (where applicable) is to be checked by the MO annually at the time of the routine medical examination for aircrew on a flying appointment or who fly on a regular basis in a non-flying appointment. Where unsatisfactory the aircrew logbook (see paragraph 21) is not to be signed until satisfactory adjustment has been made.

**ADMINISTRATION**

21 The compilation and disposal of forms used to record the results of medical examinations are detailed at Lflt 3-01 Annex B. DMICP templates allow simultaneous updating of computerised health data and are to be used to record aspects of the individual's history and examination findings. Typescript forms reproduced on the DMICP are acceptable alternatives to pre-printed forms if they contain the same data in a similar format.

22 **Aircrew Logbooks.** The following information is to be recorded in the aircrew logbook (including Gliding Instructors) following each annual medical examination and whenever permanent limitations on flying are introduced by a medical board:

a. The medical category and any permanent limitations. All permanent limitations are to be entered in **red** ink on the first occasion that they are introduced; the limitations must be written in full with both the numerical values and written explanations of the code. Existing limitations that have never been recorded in **red** should be highlighted to identify this fact on the entry where awarded; the limitation should be written again in full with both the numerical values and written explanations of the codes. The cancellation or revision of a limitation is to be recorded similarly. Cancelled limitations are to be ruled through with a single thin line; they are not to be rendered illegible.

b. Confirmation that the fit of the helmet and mask has been checked and is satisfactory.

c. The place of examination.

d. The date by which the next examination is due (expiry date see Lflt 3-02 paragraph 6).

e. The signature and signature block of the MO.

It should be noted that policing of this policy falls to the flying executive and is not a medical responsibility. In the event of an aircrew member failing to provide their logbook, the MO is to remind them of the requirement laid down in this AP, but no further action is required by medical staff.

23 In the event that the logbook cannot be signed by the MO, due to outstanding results or checks, the individual is to be issued with a FMed 566 to indicate to the executive the individual’s fitness to continue flying or otherwise; any limitations temporary or permanent should also be recorded on the FMed 566 with both numerical values and written explanations of the codes.

24 Temporary JMESs are also to be recorded in the log book and any limitations are to written with both numerical values and written explanations of the codes.

38 Follow link for Aircrew log book waiver policy: Lflt 4-02 Annex D
LEAFLET 3-01 ANNEX A: HEALTH DECLARATION – CONFIRMATION OF JMES

<table>
<thead>
<tr>
<th>Full Service Number</th>
<th>Rank/Rating</th>
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<td>Branch/Trade</td>
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Patient Declaration

To the best of my knowledge, I am not suffering from any condition that would make me unfit to carry out my duties.

I have/have not* consulted my doctor in the last six months. If you have, please give details below.

I have/have not* attended or been admitted to hospital in the last six months. If you have, please give details below.

I am not on any medication nor have been for the last six months. If you are, or have been, please give details below.

If you feel that you may have a problem not covered above, please give details below.

* Please delete as appropriate.

Further Details

Signature of Patient: 
Name/Rank *(Block Capitals)* 
Date of Signing:

Disposal:

FMed 4 (DMICP enabled units are to scan it into the patient’s iHR)
FMED 1

1. **Description and Use.** The FMED 1 is the manuscript report of a medical examination conducted on any of the following occasions:
   
a. On entry to the Service for all recruits:

b. Reservist rejoining for regular service or full-time service during an emergency.

c. On leaving the Service with exemptions being those detailed at para 2b where an individual leaves the Service for non-medical reasons, within 6 months of attestation.

2. **Compilation and Disposal.**

   a. **On Entry to Service.** The FMED 1 is raised at the initial medical examination. For regular Service recruits the Armed Forces Careers Office (AFCO) forwards the FMED 1 and the FMED 691 (see paragraph 13) to the SMO RAF Halton, RAF Honington, RAFC Cranwell or R&SDOM and for Reserves to the SMO of the parenting medical centre as appropriate, for scrutiny. The SMO is to ensure that the forms are fully completed prior to attestation taking place. Documentation that is incomplete or records a medical standard below that required, is to be returned to the originating AFCO. The FMED 1 is completed at the Recruit Training School or Reservist's reception unit where the appropriate JMES is awarded. The MO is to countersign the FMED 1 stating 'Based upon the findings of the medical report and examination undertaken by the AFCO Doctor'. The National Health Service (NHS) number is recorded on the FMED 691 by the AFCO staff and is to be entered onto the FMED 1 and DMICP by the unit medical staff. On completion the FMED 1 is to be photocopied scanned into the DMICP record and the hard copy disposed of. If the applicant is unsuccessful on medical grounds, the original FMED 1/691 is to be forwarded to OC R&SDOM at RAF Cranwell and retained for 3 years. It may then be called upon if the applicant reapplies or appeals against the findings of the medical examiner. If the applicant is unsuccessful but is otherwise fit, the original FMED 1/691 is returned to the Armed Forces Careers Office (AFCO) and retained for 1 year. A photocopy may be forwarded to the candidate's GP with the candidate's written permission.

   b. **On Leaving the Service.** The FMED 1 is raised at the examination held between 3 and 6 months before an individual leaves the Service, or as soon as the information is received if less than 3 months of Service remain. It is important to set an appropriate JMES as there are instances when the individual may elect for further Reserve service. On completion it is to be photocopied and disposed of as follows:

   1) Original - Forwarded to CHRL.

   2) Photocopy - Filed in individual's FMED 4. This can also be scanned into the iHR on DMICP. The FMED 4 is to be disposed of in accordance with instructions detailed in AP1269 Lft 5-05, Annex F.

   NB. Where an individual leaves the Service for non-medical reasons, within 6 months of attestation, there is no requirement to conduct a full medical examination unless the individual's condition has changed since the initial entry medical examination. A Confirmation of JMES (level 1) assessment is to be conducted and the FMED 1 on which the entry medical examination was conducted is to be signed at the base. The remainder of the discharge procedure is to be conducted in accordance with AP1269 Lft 5-05, Annex F.

FMED 133 - MEDICAL HISTORY ON RELEASE FROM HM FORCES

3. **Description and Use.** The FMED 133 is the form raised when an individual is released from the Service. It records the summary of a Serviceperson's medical history and is to be handed by the patient, to the civilian GP with whom the patient registers. It also serves as a consent form for disclosure of information to the individual's new GP. Refer to Lft 2-01 Annex A, paragraphs 11-12 for more detail.

4. **Disposal.**
FMED 143 - SPECIAL MEDICAL EXAMINATION - RECORD

5. **Description and Use.** The FMed 143 is a typescript record of a level 3/4 medical examination carried out on the occasions detailed at Lfts 3-02, 3-03 and 3-04 when a FMed 1 is not appropriate. Prior to signature the MO is to ensure that all the details have been recorded.

6. **Disposal.**
   a. Original - Enclosed in the individual's FMed 4. This can also be scanned into the iHR on DMICP.
   b. Copy – Handed to the patient in a sealed envelope for onward transmission to the patients new GP.

FMED 143A - CONTROL OF SUBSTANCES HAZARDOUS TO HEALTH (COSHH) - MEDICAL SURVEILLANCE RECORD

7. **Description and Use.** The FMed 143A is the form used to record the typescript results of medical surveillance under the COSHH regulations and medical examinations for other industrial hazards as detailed in Lft 3-04.

8. **Disposal.**
   a. Original - Enclosed in the individual's FMed 4. This can also be scanned into the iHR on DMICP.
   b. Copy - Forwarded to CHRL.

FMED 144 – FITNESS FOR CONTROLLER OR AIRCREW DUTIES

9. **Description and Use.** This form is used to record the findings of a Formal Medical Board held to assess a candidate's fitness for controller or aircrew duties as detailed at Lft 2-01 Annex A. In relation to medical examinations, the FMed 144 is used to record the initial examination of fitness for Gliding Instructors in accordance with Lft 4-02 paragraphs 16-18.

FMED 566 - MEDICAL CERTIFICATE

10. **Description and Use.** This form is used to inform line management of an individual's fitness to undertake specified duties.

11. **Disposal.** The completed medical certificate is handed to the individual to pass to their line manager. A record of its date of issue, content and validity is to be kept in the individual's medical record and appropriate details are to be recorded on the DMICP, using the correct Read Codes [as detailed in the AP 1269, Lft 5-06 for tracking sickness absence.

FMED 691


RAF FORMS 6595 AND 6596

13. **Description and Use.** Every Service person committed to detention or imprisonment is to be medically examined. The examining MO is to complete the fitness certificate on the appropriate form:
   a. Form 6595 is an order for committal on the award of detention by a CO.
b. Form 6596 is an order for committal on the award of imprisonment or detention by a court-martial.

14. **Disposal.** The completed form is to be handed to the prisoner’s escort.
This form is to be used in lieu of AP3392, Lflt 1511, Appendix 4 to Annex A

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**Patient Health Declaration**

I confirm that my Joint Medical Employment Standard (JMES) is A......L......M......E......and my JMES meets the minimum standard to deploy iaw the Op Order or exercise instructions.  

I confirm that, to the best of my knowledge, I am not suffering from any condition that would make me unfit to carry out my duties.

Prior to deploying I will ensure that my immunisations are in date and will remain so for the duration of the deployment / exercise plus 1 month, iaw the Op Order or exercise instructions.

I will ensure that I have sufficient supplies of any regular medications (including, where applicable, oral contraceptive pills) for the duration of my stay overseas.

Upon my return, I will notify the Unit Medical Officer of any medical treatment that I may receive during my stay overseas,

I will notify my Unit Medical Officer if there are any changes to my health between signing this declaration and my deploying overseas,

I am aware that this declaration is valid for 12 months, or until my next routine medical examination is due, or until I require routine immunisations.

I do / do not wish to make an appointment at the medical centre to discuss my fitness to deploy.

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<tr>
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<tr>
<td>Date of Signing:</td>
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39 Your JMES can be obtained from JPA under JPA Employee – Extra Information Types – Medical Employment Standards. If you are in doubt then please consult your unit medical centre staff.

40 Examples include: if you are suffering from any chronic or relapsing illness; if you are waiting for a hospital appointment; if you have a condition currently being investigated, or if you are pregnant.
INTRODUCTION

1. This leaflet has been updated to include policy previously contained within AP 1269 Lft 5-05 Annex T. This leaflet outlines single service RAF medical policy for the use of electrocardiography (ECG) examination. While the Royal Navy and Army maintain separate medical policy for the use of electrocardiography (ECG) examination on their personnel, this leaflet also details tri-service policy on the process to be followed for Defence Medical Services Medical Officers (DMS MOs) using the RAF ECG Management Service (RAF ECGMS).

PERFORMING ECGs - OCCUPATIONAL MEDICAL EXAMINATIONS

2. Medical staff performing ECGs as part of a periodic medical examination (PME) are to ensure that the ECG trace is made available for the examining MO to review at the time of the medical examination. Staff are to ensure that the following information is recorded on the ECG trace:
   a. ID – patient’s Service number.
   b. Surname and forename
   c. Gender
   d. Weight (kg)
   e. Height in (cm)
   f. Blood pressure
   g. Unit
   h. Branch/Trade

REASON FOR TRACE

3. The SMO is to ensure that medical staff performing ECGs are appropriately trained in accordance with single Service requirements and the following principles adhered to:
   Ensure all leads are present and there are no ‘artefacts’ affecting the trace
   a. Traces are to be recorded in the ‘standard’ format as follows:
      (1) 25 mm/sec
      (2) 10 mm/mV
      (3) 3 x 4 on single page (if possible)
      (4) Inspiratory and expiratory rhythm strips are not required. However, a V1 rhythm trace displayed on the same page as the 12 lead trace is beneficial if available.

THE RAF ECG MANAGEMENT SERVICE

4. The RAF Electrocardiography Management System (ECGMS) provides reporting of ECGs undertaken for occupational reasons on Service aircrew and divers. The current system is moving to RAF CAMS at RAF Henlow on 28 Apr 15.

ECGMS
RAF Medical Board
RAF Henlow
Bedfordshire
SG16 6DN

Page: 76
Publication date: 01/08/16
SECURITY

4. ECGs are subject to a ‘PROTECT-MEDICAL’ privacy classification. This has implications for the transfer of information on removable media (RM) in accordance with JSP 440 Part 8 Section 3 Chapter 2.\(^{41,42}\) To ensure the ECG reporting system remains secure, ECGs are to be preferentially sent in digital format on an encrypted CD-R as per paragraph 9. The process for creating an encrypted CD-R is detailed in Appendix 1. SMOs without this capability are to:

   a. Highlight the risk to their Information Technology Security Officer (ITSO)
   b. Ensure the risk is documented on the unit’s risk register.
   c. Follow the process at paragraph 10.

REMOVABLE MEDIA

5. The SMO is to ensure that local medical treatment facility (MTF) processes are reviewed by the unit ITSO to ensure their compliance with JSP 440. The processes below are designed to give medical staff authority to demand RM for ECG reporting:

   a. The authorised demander (AD) within the MTF is to inform the local ITSO of the requirement for a DII card reader.
   b. Once the ITSO has given approval, the AD is to order a USB card reader from the DII service catalogue.
   c. The SMO is to identify appropriate users in the MTF and authorise their addition to the DII card reader group, (the AD will require individual’s PUID (i.e. SmithJ123) and the computer (UAD) on which they will use the card reader).
   d. Through the ITSO, buff coloured CD-Rs and SD cards are to be sourced. The justification is detailed below:

      1. SD card (For use in ECG equipment)
      2. CD-R (Transfer of encrypted medical records to RAF ECGMS)

   e. CD-Rs and SD cards must be delivered to the ITSO for registration. The ITSO will record the unique reference number of each CD-R on a RM register before issuing them to the MTF asset owner (AO), normally the practice manager.
   f. The AO is to ensure that the MTF holds a register for tracking RM
   g. The AO will be responsible for the control and muster of the RM

REMOVABLE MEDIA REGISTER

6. The MTF register should record the following minimum information:

   a. Media type
   b. ID number (unique identifiable sequential serial numbers can found on each card/disk)
   c. Serial number
   d. Location
   e. Date in / out
   f. Asset owner

\(^{41}\) Personal Data held on removable media regardless of Protective Marking or location must be encrypted

\(^{42}\) Removable Media holding information at Impact Level (IL) 1 (PROTECT) and above is to be encrypted
7. The tracking of RM by its serial number should be auditable from creation and despatch by the manufacturer/supplier, through to its destruction. The MTF register may be required for external audit by unit ITSO staffs. Accordingly, no personal or identifying medical-in-confidence data is to be held on the register. The MTF register may be in hard copy or electronic format but must record the RM’s unique serial number.

DISPATCHING ENCRYPTED CD-Rs TO THE RAF ECGMS

8. The following process is to be used preferentially to send ECGs to the RAF ECG reporting service:

   a. Encrypted CD-Rs are to be sent weekly to the address in paragraph 4. CD-Rs are to be double-wrapped and sent via recorded mail. It is important to ensure prompt dispatch as ECGs over 6 weeks old on receipt cannot be reported.

   b. The encryption password and associated CD-R serial number is to be emailed to RAF ECGMS by DII Restricted email (AIR 38Gp-CAM-ECGMS (Group Mailbox)). RAF ECGMS will reply to this email to confirm disk arrival and disk disposal action. Once the RAF ECG reporting service has confirmed the receipt of

   c. the encrypted CD-R, delete the data off the SD card and if possible reformat it.

   d. RAF ECGMS will record receipt of the CD-R, using the serial number information. RAF ECGMS now becomes the AO for the item.

   e. Once used, the CD-R will be retained within RAF ECGMS or destroyed locally. The RAF ECGMS AO will record the details of the CD-R destruction along with the date of action.

DISPATCHING PAPER ECG COPIES TO THE RAF ECGMS

9. In the event of units being unable to encrypt CD-Rs, the original paper copy of an ECG may be sent to the address in paragraph 4. MTFs are to ensure that this sent via recorded delivery and double wrapped. A RAF Form 591 or email is to be sent to RAF ECGMS to confirm dispatch. RAF ECGMS will respond accordingly to confirm the arrival of the ECG. Paper copies of ECGs will be disposed off at RAF ECGMS, therefore units are to ensure that the original ECG is scanned into the patient’s DMICP record prior to dispatching.

REPORTING OF OCCUPATIONAL ECGs

10. The RAF ECGMS will report on occupational ECGs to the MTF submitting them. MTFs are to action the report as follows:

   a. The result is to be annotated onto DMICP and read coded as below:

      (1) ECG – Acceptable (TRIQQEC1)

      (2) ECG – Unacceptable (TRIQQEC2)

   b. If DMICP is not available, ECG reports are to be documented on a FMed 143 and stored in the patient’s FMed 4. The review date for the patient’s ECG recall is to be created or amended on DMICP using the read code ‘ECG – 32-2’.

STRESS ECGs FOR AIRCREW OVER 60

11. All aircrew aged 60 and over require a stress ECG (also known as an exercise tolerance test- ETT) on alternate years to identify those with an increased risk of sudden cardiac incapacitation. Aircrew aged 65 or over require an annual ETT. Aircrew should be referred for testing in advance of their aircrew PME to ensure results are available at the time of the medical. There is no need to ground or downgrade aircrew pending

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43 When cards become unusable, they must not discarded but advice sought from unit ITSO for secure disposal arrangements and annotation of disposal details on the ITSO’s RM register.

44 It is envisaged that most units will be able to send encrypted CD-Rs. Units unable to do so should include the reason why it has not been possible to do so.
results of the investigation, which should be completed in any case within one month of the PME. This policy includes aircrew operating under a CAA Class 1 waiver – this is an additional requirement over and above CAA regulations.

12. MOD (military and civilian) aircrew should be referred to the Clinical Aviation Medicine Service (CAMS) at RAF Henlow for stress ECGs. For contractors, CAMS will accept referrals for ETT, without charge only if resources permit. If more convenient, it is acceptable to source the investigation locally. If performed locally the full ETT report (including traces at each stage of the Bruce Protocol) are to be sent to CAMS for review.

13. A satisfactory result entails achieving a minimum of Bruce protocol stage 4 or equivalent. ETT carried out by non-service sources are acceptable if reported as normal by a consultant cardiologist. Reports from Technicians are not acceptable. Normal traces are still to be sent to CAMS for review and audit purposes.

14. Those unable to achieve a satisfactory result or experiencing problems during testing will be reviewed by a Service consultant physician with aviation medicine training at CAMS, RAF Henlow. They are to be awarded a JMES of A3 ‘Unfit solo pilot – must fly with pilot suitably qualified’ (MedLim 2000) pending investigation. A final JMES will be determined by the outcome of these investigations. Contracted aircrew are also to be advised of the same limitations.

15. Funding for ETTs is to be met by the medical budget for those entitled to full medical care (including primary health care, secondary health care and occupational medicine services). For all others, the cost is to be met by the individual’s employment organisation, not the medical budget. It is recommended that funding lines be established with the employing organisation before referring for investigation.

16. In order to ensure correct administration and documentation of this process, the following Read codes are to be used:
   a. ‘Referral for exercise ECG – 8HRA’. This is to be added as a diary entry to the individual’s medical record, for a date 2 months before the exercise ECG is required. It is also to be used when making the referral.
   b. ‘Exercise ECG normal – 32130’ to be used to record normal results.
   c. ‘Exercise ECG abnormal – 32131’ to be used to record abnormal results.

17. After age 65, pilots are not permitted to fly solo under FLY 2000 Reg 2135(3). FLY 2000 Reg 2135(3) – this does not require medical downgrading. However, due to the increasing risk of sudden cardiac incapacitation with age, aircrew aged over 65 are required to undergo ETT annually to assist in the assessment of their fitness for continued aircrew duties.

PERFORMING ECGs - NON-OCCUPATIONAL INDICATIONS

18. ECGs performed for non-occupational reasons (e.g. chest pain) are not to be sent to RAF ECGMS. The SMO is to arrange for suitable reporting locally.

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45 Aircrew not employed directly by MOD, but operating aircraft belonging to or on behalf of MOD.

46 The contractor is responsible for the costs of locally procured ETTs
LEAFLET 3-01 ANNEX D, APPENDIX 1: CREATING AN ENCRYPTED CD-R

Please see link to MOSS site:

http://cui5-uk.dilf.r.mil.uk/r/119/DACOSHealth/MedicalPolicy/AP1269PolicyDocuments/20140730-LEAFLET%203-01%20ANNEX%20D%20APPENDIX%201%20CREATING%20AN%20ENCRYPTED%20CD-R-U.doc
LEAFLET 3-02: ROUTINE MEDICAL EXAMINATIONS (OCCUPATIONAL HEALTH)

Sponsor: SO1 Med Pol(raf)

INTRODUCTION

1. Routine medical examinations are conducted for the following Occupational Health (OH) reasons:
   a. To confirm an individual’s JMES and continuing fitness for their regular duties.
   b. To ensure accuracy and completeness of health data.
   c. To offer regular and appropriate health and lifestyle counselling.

When attending for routine medical examination, patients are to be made aware that the assessment is being conducted for OH purposes and that the outcome, indicating the individual’s fitness or otherwise for the proposed duty, will normally be reported to the executive.

ADVANCE NOTIFICATION

2. It is the SMO’s responsibility to ensure that all personnel are provided with advance warning of the due date for medical examinations.

ROUTINE MEDICALS DUE WHILST DOWNGRADED

3. Personnel for whom routine medical falls during a period of temporary medical downgrading are still required to attend for a medical at the scheduled time, to ensure that normal health screening requirements are met, and that no new conditions have arisen which may delay upgrading subsequent. Where possible, this medical should be combined with a 6-monthly clinical review by the MO (AP1269A Lft 2-03)

GROUNDCREW MEDICAL EXAMINATIONS

4. Frequency. Groundcrew medical examinations (level 3 and 4) are to commence at the age of 30. The medical examination system is flexible; each individual is to undergo medical examination on a 5 yearly basis until the age of 51. The majority of examinations will be medical screenings (level 3). A full medical examination (level 4) is to be conducted for each individual once between the ages of 37 and 41 and once between the ages of 47 and 51. Where an individual undergoes a medical examination for a specific purpose (for example sports diving, arduous activities) a further medical examination will not be required for 5 years. After the age of 51 a medical screening (level 3) is to be conducted at age 52 and every two years thereafter. For ease of reference, ground personnel medical examinations are therefore conducted as detailed below and at Lft 3-02 Annex A:
   a. Those aged between 30 and 36 – Level 3.
   b. Those aged between 37 and 41 – Level 4.
   c. Those aged between 42 and 46 – Level 3.
   d. Those aged between 47 and 51 – Level 4.
   e. Those aged 52 and over – Level 3.

NB. The initial medical examination at age 30 may be waived where the individual has undergone a medical examination (level 3 or 4) in the preceding 4 years. In line with the policy above, the next medical examination is to be carried out 5 years after the previous examination.

5. Recall System. All individuals aged between 37 and 41 or 47 and 51 at the time the medical examination is due, are to undergo a level 4 examination. A recall system is to be in place to ensure that all individuals receive the appropriate medical examination. A specimen patient recall letter is contained at Lft 3-02 Annex B.
6. Where an individual requires a medical screening for a specific purpose (for example, extension to a non-pensionable engagement) but is aged between 37 and 41 or 47 and 51 a level 4 examination is to be conducted thereby eliminating the requirement to conduct a second medical examination at a later date.

AIRCrew, AND CONTROLLER (ATC / FC ETC) MEDICAL EXAMINATIONS

7. Periodic Medical Examinations (PMEs) for Aircrew and controllers become due on the anniversary of the previous PME. In order to maintain currency of medical fitness for flying and aircraft control duties, the PME must be completed no later than the last day of the month in which the examination is due.

8. Where the PME falls due in a period of deployment / detachment to a location where full medical services and the FMed 4 are not available, the MO responsible for the provision of medical care at the individual’s normal duty location is to carry out the PME prior to departure.

9. It is the responsibility of each individual to maintain the currency of their JMES, and for aircrew the flying authoriser is to ensure that they are fit to perform their flying duties. In addition, each aircrew annual medical examination is to be recorded in the Aircrew Logbook in accordance with Lflt 3-01.

10. Some aircrew and controllers employed by MOD are not registered within the military medical system for provision of primary care. This includes, but is not limited to, different types of Reserve and RAuxAF crew, Civil Servants, civilian contractors and VGS instructors who employed either to fly or control MOD owned/leased aircraft operationally, for testing or for training. Some of them will actually be employed by civilian companies and, therefore, may have a civilian aviation medical examiner (AME).

11. These personnel need to be assessed fit to fly, or control, aircraft on behalf of MOD and should be registered within DMICP. The initial assessment will be performed by R&S DOM (Recruiting and Selection Department of Occupational Medicine) at RAF Cranwell, who will award them an MES. CFMO will subsequently nominate a military medical centre, usually in or nearby their airfield, in which their annual fitness assessment to operate will be assessed by a MAME. In occasions, especially for some Defence Contractor Flying Organizations, a civilian AME may be appointed MAME for this purpose by the CFMO iaw MAA RA 2351(1).

12. At the annual fitness assessment, there may not be a need for a full (physical) PME in cases of individuals with an accepted civilian medical certificate. A waiver is possible, on production of a valid EASA civilian medical certificate, iaw Lflt 4-02 para 15. All, requiring or not a full physical examination, will still need to present a:

   a) SoH, Statement of Health, found at Annex Lflt 3-02 Annex B, to be completed by the individual on the day of assessment, and a

   b) MAR, Medical Attendant Report, found at Lflt 3-02 Annex C, to be completed and posted to the MAME by the patient’s normal civilian GP no earlier than 2 months. It must be available on the day, without which the assessment cannot be completed. All documents are to be scanned onto DMICP.

13. On occasions, the individual will only need to book an administrative slot rather than a complete PME session with prelims, to be agreed at unit level during each encounter. However, like for their regular counterparts, the same routine tests (iaw Lflt 3-01) will be performed if indicated: helmet or IECD check, audiogram, bloods tests, 6 monthly ECG (in those aged 50 and above) or enhanced cardiac screening (for those aged 60 and above). This will also afford a chance to discuss health issues.

14. Annual assessments are valid for 12 months to the end of the month in which the (physical) PME was undertaken; if no PME was conducted, i.e. a waiver was provided, then for a period of 12 months from the date of issue of their Class 1 / 3 EASA medical certificate.

15. The new MES, date of expiry and any limitations will be recorded in the notes as well as in their log book, or equivalent. A template is available at Annex D. This can be used to format adhesive labels (8 per sheet of A4) for later insertion in the log book.

16. In addition, all aircrew flying in aircraft with a parachute must undertake 2 yearly synthetic parachute training iaw MAA RA 2130(3). MAMEs are to ensure that the individual’s fitness to undertake this training is also documented on the day.
ANNUAL AIRCREW MEDICAL WAIVERS

17. **Aircrew.** Annual Service medical examinations may be waived for aircrew flying non-ejection seat aircraft as detailed at Lflt 4-02 paragraph 15.

18. **Ground Personnel:**

   a. **Routine Medical Examinations.** With the exception of ground personnel in ATC or FC appointments or those permanently employed on parachuting duties, a medical inspection (level 2) may be substituted for a routine medical examination (level 4) provided that all of the following conditions are met:

      (1) A Formal Medical Board or level 4 medical examination has been conducted in the preceding 12 months.

      (2) There has been no change in the patient’s condition since the last full medical examination.

      (3) The individual holds a permanent JMES no lower than A4 L2 M4 E2.

   b. **Release Medical Examinations.** Release medical examinations may be waived in the following circumstances:

      (1) When an individual leaves the Service for non-medical reasons, within 6 months of attestation (see Lflt 3-01, Annex B for further details).

      (2) When an individual is released from the Service as a result of a Formal Medical Board recommending medical discharge or awarding a permanent JMES incompatible with future service the following regulations apply:

         i  Where the individual is released within 6 months of the Medical Board, no further examination is required.

         ii Where the individual is released 6-12 months after the board a Confirmation of JMES (level 1) assessment is to be undertaken.

      NB. Where the individual is released over 12 months after the Medical Board, a full Release Medical Examination (level 4) is required.

**Career Break:**

19. Prior to commencing and on return from a Career Break (CB) an individual’s medical fitness must be assessed and recorded. If the serviceperson holds a lowered JMES this will not preclude them from taking a CB unless it is because of a condition that is likely to lead to consideration being given to their future employment by a Medical Board. (JSP 760, Chapter 18, Annex A, Paragraph 18A.001, subparagraph e refers). On return to work, the individual must have a medical examination to ensure they are fit to return to full duties, or where necessary given an appropriate JMES. Individuals are to have a level 2 Medical prior to commencing the career break. This is to highlight any current medical issues and to confirm the JMES. On return from the CB, individuals are to have a level 3 medical to confirm that their medical needs have not altered, and that the JMES remains appropriate.
### LEAFLET 3-02 ANNEX A: SCHEDULE OF ROUTINE MEDICAL EXAMINATIONS

<table>
<thead>
<tr>
<th>Group</th>
<th>Level and Frequency of Medical Assessment Required</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1 / 2</td>
</tr>
<tr>
<td>Aircrew</td>
<td>GD (Air) inc reserve &amp; RAuxAF aircrew</td>
</tr>
<tr>
<td>Civil servants employed as aircrew</td>
<td></td>
</tr>
<tr>
<td>Contractor’s pilots flying in MOD owned or leased aircraft</td>
<td></td>
</tr>
<tr>
<td>DHFS aircrew</td>
<td></td>
</tr>
<tr>
<td>Mission crew</td>
<td></td>
</tr>
<tr>
<td><strong>Operational Support Controllers</strong></td>
<td></td>
</tr>
<tr>
<td>WOs &amp; SNCOs in TG9 and TG12 on Aircraft control duties.</td>
<td>Annual</td>
</tr>
<tr>
<td><strong>Operational Support OSMs - WOs &amp; SNCOs</strong></td>
<td></td>
</tr>
<tr>
<td>Those aged between: 30 and 36 – Level 3. 37 and 41 – Level 4. 42 and 46 – Level 3. 47 and 51 – Level 4. Where an individual requires a level 3 examination for a specific purpose, but is aged between 37 and 41 or 47 and 51 the level 3 is to be replaced by a level 4 examination at the ages of 52, 54, 56, 58 etc</td>
<td>N/A</td>
</tr>
<tr>
<td>University Air Squadron</td>
<td>Annual47</td>
</tr>
<tr>
<td>Flying branch bursars holding a JMES of A1L1M1E1.</td>
<td></td>
</tr>
<tr>
<td><strong>AEF Staff Pilots</strong></td>
<td></td>
</tr>
<tr>
<td>Annual</td>
<td>See Lflt 3-01 paragraph 9b</td>
</tr>
<tr>
<td><strong>Gliding Instructors</strong></td>
<td></td>
</tr>
<tr>
<td>Annual</td>
<td>See Lflt 3-01 paragraph 11</td>
</tr>
<tr>
<td><strong>Flight Medical Officers</strong></td>
<td></td>
</tr>
<tr>
<td>Annual</td>
<td>See Lflt 3-01 paragraph 11</td>
</tr>
<tr>
<td><strong>Air Stewards and Personnel Employed in Aeromedical Evacuation Duties (See Appendix 1)</strong></td>
<td>Annual</td>
</tr>
<tr>
<td><strong>PJIs and Personnel Permanently Employed on Parachute Jump Duties</strong></td>
<td>Annual Cat 1: See Lflts 3-03 Annexes C and E</td>
</tr>
</tbody>
</table>

---

47 An annual Level 4 medical examination is required to exercise the privileges of an A1L1M1E1 JMES. However, if the medical lapses, the bursar will still be able to fly the Tutor aircraft on the UAS under the DVLA Group 2 exemption – see AP 1269A, Lft 4-02.

Page: 84
Publication date: 01/08/16
<table>
<thead>
<tr>
<th>Group</th>
<th>Level and Frequency of Medical Assessment Required</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1 / 2</td>
</tr>
<tr>
<td>All Other Ground Branch/Trade Personnel</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>All Personnel - On Posting</td>
<td>N/A</td>
</tr>
<tr>
<td>(new unit to offer a lifestyle health check in order to update the DMICP)</td>
<td></td>
</tr>
</tbody>
</table>
LEAFLET 3-02 ANNEX A, APPENDIX 1: MEDICAL EXAMINATIONS FOR AIR STEWARDS AND PERSONNEL EMPLOYED IN AEROMEDICAL EVACUATION DUTIES

INTRODUCTION

1. Air Stewards form part of the constituted crew of the aircraft and are responsible for passenger safety during flight. Their JMES is to be assessed in relation to the PULHEEMS standard detailed at Lflt 4-04 Annex S. Personnel employed on aeromedical evacuation duties are responsible for the medical management and safety of their patients during flight, but are not responsible for the safety of other passengers. Their JMES is to be assessed in relation to the PULHEEMS standard at Lflt 4-04 Annex O.

2. Medical fitness for air stewards and personnel employed in aeromedical evacuation duties is to be confirmed annually by a medical screening (level 3). Full medical examinations are not required.

PRE-EMPLOYMENT

3. The pre-employment medical is to take the form of a medical screening as defined at Lflt 3-01. The aim of the examination is to exclude any condition which may carry other than a normal risk of:

   a. Loss of consciousness.
   b. Sudden disorientation.
   c. Loss of mental or emotional control.
   d. Incapacitation if exposed to smoke, fumes, dusts or pollens.

Examining MOs should also consider the effect of extremes of stature and of obesity on the ability of the individual to perform the intended duties. If there is doubt as to the individual’s fitness, advice is to be sought from CFMO (RAF).

4. The minimum acceptable JMES for air steward or aeromedical evacuation duties is A4 L2 M4 E2. A MO discovering any condition preventing employment in such duties is to arrange a review of the individual’s JMES.

CONTINUATION

5. Fitness for continuation in flying duties is to be confirmed by a medical screening (level 3) as defined at Lflt 3-01. Confirmation is required annually for:

   a. Air stewards in continuous employment on flying duties.
   b. Air stewards who are held at up to 3 days readiness to be employed in flying duties.
   c. Qualified aeromedical evacuation personnel who are continuously employed in a formed aeromedical evacuation unit.
   d. Personnel who fill FNO, Q-FN, Q-FNA or Q-GEAM annotated posts overseas.
   e. Trained aeromedical evacuation personnel who are:

      (1) Serving in designated aeromedical flying posts.
      (2) Held at up to 3 days readiness to be employed in aeromedical evacuation duties.
      (3) Personnel held at more than 3 days readiness to be employed as air stewards or in aeromedical evacuation duties require confirmation of fitness when brought to less than 4 days readiness or called for such duties.
6. A MO who considers that an individual is permanently unfit to continue in flying duties is to refer the patient for appropriate clinical advice. The individual is to be referred to the relevant ROMD if assessment of occupational fitness is required and beyond the ability of the MO. Where necessary the JMES is to be changed appropriately. Advice on fitness for work in the aviation environment may also be sought from CFMO (RAF).
LEAFLET 3-02 ANNEX B: STATEMENT OF HEALTH BY AIRCREW / CONTROLLERS
NOT UNDER ROUTINE SERVICE MEDICAL CARE

1. Subject Details:

<table>
<thead>
<tr>
<th>Surname:</th>
<th>Forenames:</th>
<th>Service/Civilian No (if applicable):</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rank/Grade</td>
<td>Date of Birth:</td>
<td>Sex: Male / Female</td>
</tr>
<tr>
<td>Permanent Address:</td>
<td>Postal Address (if different):</td>
<td>Service / Contractor:</td>
</tr>
<tr>
<td>Country:</td>
<td>Country:</td>
<td>Last Medical Examination:</td>
</tr>
<tr>
<td>Telephone No:</td>
<td>Telephone No:</td>
<td>Date: Place:</td>
</tr>
<tr>
<td>Current A/C Type:</td>
<td>Crew position:</td>
<td>Flight time hours since last medical:</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Alcohol – state average weekly intake:</th>
<th>Do you smoke tobacco?</th>
<th>Yes</th>
<th>No</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>If yes state type and amount:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>If stopped state date:</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Do you currently use any medication, either prescribed by your GP or brought over the counter: Yes | No

If yes please state drug, dose, date started and why:

2. General and Medical History in the past 12 months:

If you have had any of the following in the last 12 months please tick YES or NO as indicated after each question. Elaborate on YES answers in the remarks section.

<table>
<thead>
<tr>
<th>MEDICAL HISTORY</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eye trouble or operations</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spectacles and or contact lenses</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spectacles/contact lens change since last PME</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kidney stone or blood in urine</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nose, throat or speech disorder</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hay fever or other allergy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Deafness or ear disorder</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Motion sickness requiring medication</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Head injury or concussion</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frequent or severe headaches</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unconsciousness for any reason</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dizziness or fainting spells</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Neurological: stroke, epilepsy, seizure, paralysis</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A positive HIV test</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sexually transmitted disease</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stomach, liver or intestinal trouble</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anaemia, sickle cell trait or other blood disorders</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diabetes, hormone disorder</td>
<td></td>
<td></td>
</tr>
<tr>
<td>High or low blood pressure</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heart or vascular trouble</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asthma or other lung disease</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Malaria or other tropical disease</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Psychological or psychiatric trouble of any sort</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attempted suicide</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alcohol, drug or substance abuse</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Any other illness or injury</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Visit to medical practitioner since last examination</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Admission to hospital</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Refusal of flying licence</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Refusal of life insurance</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Award of pension or compensation for injury or illness</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FEMALES ONLY:</td>
<td>Gynaecological or menstrual problems</td>
<td>Are you pregnant?</td>
</tr>
</tbody>
</table>
## Family History

<table>
<thead>
<tr>
<th>Condition</th>
<th>Inherited Disorders</th>
<th>Asthma</th>
<th>Allergy, eczema</th>
<th>Mental Illness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heart Disease</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tuberculosis</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diabetes</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High blood pressure</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High cholesterol Level</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Epilepsy</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asthma</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allergy, eczema</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Epilepsy</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Surname:  

### Forenames:  

### Service/Civilian No (if applicable):  

### Remarks: (if there has been no change to a previously reported condition, please state so)  

### Declaration:  

- I hereby declare that I have carefully considered the statements made above and that to the best of my knowledge they are complete and correct.  

- I have not withheld any relevant information or made any misleading statement. **(False, incomplete or misleading statements may result in withdrawal of flying privileges)**  

- I give my consent for any medical practitioner who has attended me to release information concerning my health to the MOD medical authorities.  

- I am aware that I am responsible for reporting any new medical condition that could affect my fitness to fly in accordance with RA 2135(2).  

<table>
<thead>
<tr>
<th>Date</th>
<th>Signature of Applicant</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>
LEAFLET 3-02 ANNEX C: AIRCREW / CONTROLLER MEDICAL ATTENDANT’S REPORT

<table>
<thead>
<tr>
<th>Surname:</th>
<th>Forenames:</th>
<th>Date of Birth:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Address:</th>
<th>Service No (if current/previous):</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Applicant’s Unit:

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

I consent to the release of this medical report and extract of my medical records to the MOD medical authorities. I do / do not wish to see the report before it is sent. (Delete as applicable)

Signed ___________ Date ___________

INFORMATION FOR MEDICAL PRACTITIONER

Your patient is currently engaged in a flying or an aircraft controlling role with the MOD as a member of the Reserves, Royal Auxiliary Air Force, as a civilian (including via a contractor) or as a volunteer. The MOD has a responsibility to ensure that he/she is fully fit for this role, but is only able to provide Occupational Health related care, including routine medicals, to ensure continued fitness for service. This means that any treatment received from non Service sources may not be notified, even where it may affect fitness for duty.

This Medical Attendant’s Report (MAR), with questionnaire overleaf, is for Service medical use only. It is accompanied by ‘Notes on the Access to Medical Reports Act’ and is designed to provide information to enable a full assessment of your patients fitness for their MOD role, which may include flying with children. It will be assessed by a doctor with training in aviation medicine.

Consent from your patient is above. Please complete the MAR from your patient’s medical records (computer print outs as used for insurance purposes are not acceptable) and either post it to your patient’s military medical unit or pass on to him/her in a sealed envelope for delivery. It must reach the military medical unit within 60 days of receipt.

A standard fee of £45 is payable plus VAT, if so registered. Due to financial constraints imposed upon it, MOD cannot approve sums in excess of this. To claim payment, please complete Sections 1 and 2 of the accompanying HR Form 382(A) and return to the address at Section 6 for processing and payment. Do not return the MAR together with the HR Form 382(A) as payment is handled by a non-medical department.

For clinical queries only, the Command Flight Medical Officer may be contacted at the below address.

When completing this form, please pay special attention to the following:
- Any condition which may lead to sudden incapacitation eg cardiac or neurological.
- Any condition which may impair judgment or reaction times eg psychiatric or neurological.
- Any condition which may lead to subtle incapacitation.
- Any condition affecting vision, speech, balance or hearing.
- Any condition which may be affected by changes in pressure eg respiratory or sinus.
- Any condition which may impair mobility.
- Any use of drugs whether prescribed, self administered, herbal, alternative remedies or illegal.

Completed MARs are to be sent to the patient’s military medical centre and payment forms sent to the military unit for processing and payment.

For clinical queries only, advice may be obtained from:
Command Flight Medical Officer
Centre of Aviation Medicine
RAF Henlow
Hitchin
Bedfordshire, SG16 6DN
Email: AIR38Gp-CAM-CFMOSO1@mod.uk
### QUESTIONS

<table>
<thead>
<tr>
<th></th>
<th>Please circle</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Do you hold your patient’s NHS medical records?</td>
<td>Yes</td>
</tr>
<tr>
<td>2</td>
<td>Has your patient consulted you or a colleague in the past 15 months?</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>If yes, please give details below</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Has your patient attended / is due to attend a hospital OPD, or have they been treated by a health professional other than above in the past 15 months?</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>If yes, please give details below</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Has any medication been prescribed on a regular or intermittent basis in the past 15 months?</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>If yes, please list medication and dose below</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Does your patient have any long standing condition which could in your opinion impair flight safety?</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>If yes, please give details below</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Does your patient have any other long standing condition?</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>If yes, please give details below</td>
<td></td>
</tr>
</tbody>
</table>

### ADDITIONAL COMMENTS

(please continue on a separate sheet if necessary). Copies of relevant hospital letters and/or GP consultations would be helpful. Your assistance is much appreciated.

Have you been asked to amend this report? Yes | No

If Yes to the above, by whom and why?

Has this report subsequently been amended? Yes | No

### Doctor’s Name:

GMC Number:

Address:

Telephone Number:

Fax Number:

Signature: Date:

### Patient’s Surname: Forenames: Date Of Birth:
NOTES FOR CONSENT TO RELEASE INFORMATION - MEDICAL ATTENDANT’S REPORT

Information in this Medical Attendant’s Report that you have been given to pass on to your doctor, will be released to the MOD medical authorities. You have certain rights under the Access to Medical Reports Act 1988 regarding this MAR. Under the terms of the above Act:

1. If you give your consent, you have the right to see information about your medical history before it is supplied to the MOD. Please note that if you refuse consent to release medical information, it may result in your medical fitness for controlling or flying in MOD controlled or operated aircraft being withdrawn.

2. You will have 21 days from requesting the report in which to ask your doctor to let you see the MAR.

3. Your doctor will tell you if you cannot see any part of the report for medical reasons.

4. If you are given access to your report, your doctor will not send it to the MOD until you give your consent. However, your MOD Medical Officer must receive the report within 60 days of it being requested.

5. If you regard any information in the medical report to be incorrect or misleading you can ask in writing for it to be amended. If your doctor does not accept that the information is incorrect or misleading, they are not required to make any amendment. However, in these cases, your doctor will invite you to prepare a written statement on the disputed information which will be attached to the questionnaire when it is sent to the MOD.

6. Subject to the provisions of the Act, you have the right to see your medical questionnaire for up to 6 months after it has been sent to the MOD. In these situations, if your doctor gives you a copy of the medical questionnaire, at your request, they may charge you a reasonable fee to cover the cost of supplying it.

FOR COMPLETION BY APPLICANT (IN BLOCK CAPITALS AND BLACK INK)

May the MOD approach your doctor/dentist for medical information? Yes No

If you wish to have access to the information on the medical questionnaire under the Access to Medical Reports Act 1988 before it is supplied to the MOD by your medical practitioner, tick the appropriate box.

No – I do not wish to have access

Yes – I wish to have access

Give the name and address of your doctor:

I hereby give my consent for the release of information by my medical practitioner regarding my past medical history to the MOD medical authorities. This includes consent to any subsequent communication with my medical practitioner and / or hospital specialists to expand or clarify issues that may arise from the questionnaire. I understand that this requirement is solely to determine suitability for aircrew / controller duties in MOD owned, controlled or operated aircraft. The consent is given for a period of 12 months from the date this form is signed.

Surname: Fornames: Date of Birth:

Address: Signature and date:
1. For the formatting of adhesive labels (8 labels per A4 sheet)

<table>
<thead>
<tr>
<th>Rank</th>
<th>Name</th>
<th>DoB</th>
<th>JMES</th>
<th>Expiry Date</th>
<th>Medical Officer</th>
<th>Signature</th>
<th>Limitations</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>JAMES</td>
<td>End of:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>A</td>
<td>M L E</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>MFH</td>
<td>MLD</td>
<td>MND</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1
2
3
4
INTRODUCTION

1 This leaflet describes the occasions on which special medical assessments are conducted in order to confirm an individual’s fitness for specified duties.

2 The occasions detailed at Lft 3-03 Annex A require special medical assessments as described. Guidance notes on specific types of medical examination are contained at Annexes B to K as detailed below:

   a. Medical Controls in Service Boxing  Lft 3-03 Annex B.
   b. Medical Requirements - Passenger Flying  Lft 3-03 Annex C.
   c. Sports Diving  Lft 3-03 Annex D.
   d. Medical Requirements – Parachuting  Lft 3-03 Annex E.
   e. Medical Requirements – Gliding  Lft 3-03 Annex F.
   f. Medical Requirements – Call out from the Reserve and Recall for Permanent Service  Lft 3-03 Annex G.
   g. Individuals Accused of Drunkenness  Lft 3-03 Annex H.
   h. The Management of Aircrew and others Following an Aircraft Accident or Incident  Lft 3-03 Annex I.
   i. Fitness for Service - British Forces Falkland Islands  Lft 3-03 Annex J.
   j. Fitness for Short Term Air Supply System (STASS) Wet Drill Training  Lft 3-03 Annex K.
   k. Medical Requirements – Practical Hypoxia Training and Positive Pressure Breathing  Lft 3-03 Annex L.
   l. Guidance to Unit Medical Officers on the Physical Requirements of Command & Leadership Tasks at Airmen’s Command Squadron  Lft 3-03 Annex M.
   m. Loss of Consciousness (G-LOC) in Aircrew  Lft 3-03 Annex N.
   n. Medical Requirements – High G training  Lft 3-03 Annex O.

3 There are other occasions when a MO will be required to conduct medical examinations of patients, whether in a capacity as occupational physician or general practitioner. On such occasions, MOs are to use their professional judgement to ensure that the examination is sufficiently comprehensive. Where fitness for a particular duty is in doubt, specialist advice is available through the Regional Occupational Medicine Departments (ROMDs).
**LEAFLET 3-03 ANNEX A: SCHEDULE OF SPECIAL MEDICAL ASSESSMENTS (NON-INDUSTRIAL)**

<table>
<thead>
<tr>
<th>OCCASION</th>
<th>LEVEL</th>
<th>NOTES FOR GUIDANCE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. Entry to the Service</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. Applicants to enlist or commission in the RA - after successful completion of initial AFCO interview.</td>
<td>4</td>
<td>Normally completed by a civilian doctor on behalf of the authorised medical contractor. Attention is to be paid to the required trade fitness standards (see AP3391 Trade and Branch selection sheets). Medical completed on FMed 1 by nearest Service medical centre only when the applicant resides overseas and with authorisation of R&amp;SDOM. Medical staff at RAF Halton, R&amp;SDOM and RAF Honington to check the FMed 1 prior to attestation.</td>
</tr>
<tr>
<td>b. Recruits - on arrival at the Recruit Training School.</td>
<td>4</td>
<td>The MO is to:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Check validity of the initial medical examination.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Ensure that any change in the candidate’s condition since initial medical examination is recorded.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Assign the recruit a JMES.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Action DMICP using the following Read Code: ‘Entry Medical’ - ‘TRISEN1’.</td>
</tr>
<tr>
<td>c. Applicants enlisting in the Reserve Air Forces (RAFR and RAuxAF)(^{48})</td>
<td>3/4</td>
<td>Examination of ground candidates including those for commissioning are usually carried out by the authorised medical contractor on behalf of the Reserve unit or by the parent RAF medical centre as detailed in AP 3392 Vol. 7 Lfft 901. If an individual has had their Service discharge medical within 12 months then a level 3 medical screening is to be carried out, providing there has been no change in the candidate’s condition. Individuals who have spent any time under the care of a non-Service doctor between leaving the Service and prior to their entry as a Reservist are to complete the Statement of Health detailed at Lfft 3-04, Annex P. The entry standards for Reserves are identical to those for the Regulars as detailed in Lfft 4-01. Cases where fitness is in doubt are to be referred to the R&amp;SDOM RAFC Cranwell. Aircrew and controller candidates are to undergo a Medical Board at R&amp;SDOM. Action DMICP using the following Read Code: ‘Entry Medical’ - ‘TRISEN1’.</td>
</tr>
</tbody>
</table>

\(^{48}\) Definitions of the RAuxAF and RAFR are detailed in AP3392, Vol. 7, Lfft 101.
2. Release from the Service

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<table>
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</thead>
<tbody>
<tr>
<td>a. On leaving the active list of the RAF and upon completion of service in the Reserve Air Forces(^{49}):</td>
<td></td>
<td>Comprehensive and accurate completion of the FMed 1 is essential as the findings may affect commutation of pension or future disability claims. It is important to set an appropriate JMES as there are instances when the individual may elect for further Reserve service.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>A person may leave the Service with a temporary JMES provided they are not suffering from a major disability which is likely to be permanent (see Lift 2-01, paragraph 12). An individual may not be discharged or invalided from the Service whilst holding a non-effective JMES (see Lift 2-01, paragraph 12).</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Action DMICP using the following Read Code: ‘Release Medical’ - ‘TRISRE4’.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>If condition has changed between the release examination and clearing, but the JMES remains valid, the original FMed 1 is to be annotated to record the change.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Release medical examinations may be waived in accordance with the regulations detailed at Lift 3-02.</td>
</tr>
<tr>
<td></td>
<td>(1) Five months before leaving the Service (or as soon as notified if within 5 months of discharge).</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>(2) When clearing from the final unit.</td>
<td>1</td>
</tr>
<tr>
<td>b. Ex-regular Service personnel called out from the RAF Reserve(^{50}) or recalled for permanent Service, require a release medical examination on completion of their period of service.</td>
<td></td>
<td>Comprehensive and accurate completion of the FMed 1 is essential as the findings may affect future disability claims.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>A person may leave the Service with a temporary JMES provided they are not suffering from a major disability which is likely to be permanent. Where a person suffers from a condition which could give grounds for invaliding, the case should be discussed with the President of the RAF MB to determine whether a medical board should be held at short notice.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Action DMICP using the following Read Code: ‘Release Medical’ - ‘TRISRE4’.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>The requirement for a release medical examination within 6 months of attestation maybe waived providing that a level 1 assessment is conducted, followed by a consultation with a MO in order to confirm both physical and mental wellbeing prior to release.</td>
</tr>
<tr>
<td></td>
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<td></td>
</tr>
<tr>
<td>c. Reservist Acceptance into Service</td>
<td></td>
<td>Prior to mobilisation a reservist must have a level 4 medical. This should be conducted on the first day of reporting for Acceptance into Service. A Reservist cannot be accepted into Permanent Service without medical clearance</td>
</tr>
<tr>
<td>d. Demobilisation of Reservists.</td>
<td></td>
<td>Following a period of mobilisation, reservists must have a level 4 medical at the earliest opportunity preferably within 5 days of return. Failure to undertake this will result in the individual having to remain on the active list thus causing administrative and financial issues. This medical examination MUST include Audiometry.</td>
</tr>
</tbody>
</table>

\(^{49}\) Excluding members of the Royal Air Force Reserve of Officers (RAFResO) or the Royal Air Force Reserve of Airmen (RAFResA) who have transferred to the RAF ResO/RAFResA only as a result of their previous regular service.

\(^{50}\) A full definition of the RAF Reserve is detailed in AP3392, Vol. 7, Lift 102.
<table>
<thead>
<tr>
<th>3. Change in Terms of Service</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>a. Change of branch/trade.</strong></td>
</tr>
<tr>
<td>Aim to exclude conditions that render an individual unfit for the new branch/trade. Entry fitness standards are detailed at Lft 4-02, Lft 4-03 and Lft 4-04. If fitness is in doubt the SMO is to discuss the case with the President of the Medical Board (PMB).</td>
</tr>
<tr>
<td>A medical board is required:</td>
</tr>
<tr>
<td>- Before appointment to a flying or controlling branch or trade.</td>
</tr>
<tr>
<td>- Before appointment to a flying bursary.</td>
</tr>
<tr>
<td>- If a decision on fitness cannot be reached</td>
</tr>
</tbody>
</table>

| **b. Fitness to appear before a medical board (R&SDOM) or an authorised medical contractor medical for cadetship, commission or aircrew duties, including the commissioning of WOs by the ‘Fast Track’ route.** | 1 |
| A level one medical screen is required to filter out those with a Temporary JMES or Permanent JMES lower than A4 L1 M1 E1. Medical staff are to complete the required information on the applicant’s F7153B. Advice on the suitability of candidates with a lower PJMES is to be sought from the R&S DOM. Advice on the application of the entry standard to WOs commissioning by the Fast Track route is to be sought from the R&SDOM. |
| Action DMICP using the following Read Code: |
| ‘Fitness to appear before Medical Board’ – ‘TRIQQME1’. |

| **c. Re-engagement beyond current terms of service (airmen):** | 4 |
| (1) Initial appointment to a pensionable engagement. |
| (2) Non-pensionable, or extension of pensionable engagement. |
| For pensionable engagements particular attention is to be paid to reviewing the medical history to identify possible long-term health problems which may render an individual unfit. |
| (1) Action DMICP using the following Read Code: ‘Re Engagement’ - ‘TRISRE3’. |
| (2) Action DMICP using the following Read Code: ‘Extension - Service Medical’ - ‘TRISEX2’. |
| NB. In accordance with AP3392, Vol. 2, Lft 560, the requirement for a medical examination is waived for Sergeants and Chief Technicians transferring to Length of Service 30 (LOS30) who will only gain 1 year’s additional service and hold a JMES not below A4 L2 M4 E2. |

| **d. Re-engagement of members of the Reserve Air Forces (RAFR and RAuxAF) beyond current terms of service.** | 3 |
| The type of medical assessment required is dependant on age as detailed below: |
| Those aged between: |
| 16 and 36 |
| 37 and 41 |
| 42 and 46 |
| 47 and 51 |
| Those aged between 52-60 |
| NB. Re-engagement medical examinations will be required at least 5 yearly. |
| Action DMICP using the following Read Code: |
| ‘Re Engagement’ - ‘TRISRE3’. |

| **e. Change of commission from SSC to PC.** | 4 |
| Particular attention is to be paid to reviewing the medical history to identify possible long term health problems which may render an individual unfit. |

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51 Definitions of the RAuxAF and RAFR are detailed in AP3392, Vol. 7, Lft 101.
Page: 97
Publication date: 01/08/16
### f. SAC/JNCOs in TG 9 selected for Controller Conversion Training.

<table>
<thead>
<tr>
<th>Action DMICP using the following Read Code: 'Extension of commission to PC' – 'TRIQQME2'.</th>
</tr>
</thead>
</table>

A base line ECG is to be performed (See Lflt 3-01, paragraph 9) to confirm fitness for controlling duties.

### 4. Special

#### a. Prior to service overseas including being placed on Deployment Warning Role.

<table>
<thead>
<tr>
<th>Action DMICP using the following Read Code: 'Medical Screening – PWR' – 'TRIQQME12'.</th>
</tr>
</thead>
</table>

The medical must be performed within 14 days of the individual receiving their DWR notification, in accord with AP3392 Vol. 2 Lflt 1511, Annex E. However, the responsibility to book the medical lies with the individual.

Ensure immunizations are in date for the indicated area and check the requirement for anti-malarial briefing and chemoprophylaxis.

Unfit if under surveillance for tuberculosis.

Defence/Safety spectacles and respirator lenses to be issued if required.

Issue sufficient medication, if necessary, to cover the period of detachment, or arrange to do this nearer the date of embarkation.

If unfit arrange treatment, review, temporary downgrading or permanent board as appropriate.

Check diary entries to ensure there are no imminent or outstanding actions.

Fitness for Service-British Forces Falkland Islands-See Annex J.

#### b. Parachuting duties - before appointment to.

<table>
<thead>
<tr>
<th>Action DMICP using the following Read Code: 'Parachuting medical exam' - '6935'.</th>
</tr>
</thead>
</table>

Cat 1 (frequent) - see Lflt 3-03, Annex C.

See Lflt 3-03 Annex E.

#### c. Arduous training:

<table>
<thead>
<tr>
<th>Action DMICP using the following Read Codes as appropriate: 'Arduous Training' – 'TRIQQME3'. 'Mountain Rescue duties' – 'TRIQQME9'.</th>
</tr>
</thead>
</table>

- Pre-selection - SAS and other special forces.
- Fire fighter training.
- Mountain Rescue.
- Military Proficiency Course (Army).

Above average physical fitness required.

Complete course fitness certificate on joining instructions prior to acceptance.

See AP3392 Vol. 2 Lflt 1552 for further detail.

Action DMICP using the following Read Codes as appropriate: ‘Arduous Training’ – ‘TRIQQME3’.

#### d. Adventurous Training.

<table>
<thead>
<tr>
<th>As detailed by Command PEd, in accordance with AP 3342 – Management of Physical Education in the Royal Air Force.</th>
</tr>
</thead>
</table>

52 The level of medical assessment required is to be determined by a risk assessment resulting from the administration order for the adventurous training to be undertaken.
Medical suitability is to be assessed in accordance with JSP 950 Lft 1-2-12 ‘Assessment of medical suitability to attend courses and training’.

e. STASS Wet Drill Training. 1/2

Screening Questionnaire is included in MAA Regulatory Article 2130 Annex D See also Annex K.

f. Long Service Advance of Pay (LSAP). 1

In order to confirm that the individual is fit to serve to the end of their present engagement.

g. Command Management Training, Trade Management Training and Further Training. 1/2

Level 1 or 2 are required depending upon the course. A Medical Risk Assessment by Medical Officers is to be carried out for personnel nominated for Airman Command School with a lowered JMES. Guidance is provided at Annex M and is to be read in conjunction with AP3376 Vol. 1, Chap 1, Annex A. A Level 2 medical is required for courses that involve study overseas and/or exceed 3 months duration.

h. Survive Evade Resist Extract (SERE) training

<table>
<thead>
<tr>
<th>Course Type</th>
<th>Level</th>
<th>Minimum JMES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environmental Courses (Desert, Winter, Jungle)</td>
<td>3</td>
<td>A4 L2 M4 E2 with no ongoing musculo-skeletal problems.</td>
</tr>
<tr>
<td>Level C (including Practical Resistance Training)</td>
<td>2</td>
<td>A4 L2 M4 E2 with no ongoing musculo-skeletal or mental health (incl. claustrophobia) problems.</td>
</tr>
<tr>
<td>SERE Basic Land Survival</td>
<td>2</td>
<td>A4 L2 M4 E2 with no ongoing musculo-skeletal problems.</td>
</tr>
<tr>
<td>All other SERE Courses</td>
<td>1/2</td>
<td>Screening medicals if applicable in accordance with Course Joining Instruction self-declaration.</td>
</tr>
</tbody>
</table>

Defence SERE Training Organisation (DSTO) Joining Instructions

i. US - Aircrew Flying Course

UK Aircrew with a valid aircrew medical standard and fit for worldwide flying duties are exempt: Chest X Ray, HIV and Tuberculosis screen in accordance with USP004187-08 dated 27 Mar 2008 (correspondence is available through WO Med Pol & Pub).

5. Medico-Legal

a. There is no longer a requirement for an individual undergoing trial by Court Martial to have a medical examination prior to the commencement of the trial unless requested by the defence.

b. Service personnel on committal to, or transfer between, detention facilities.

Detention facilities include detention rooms, Service and civil prisons, detention barracks and corrective training centres. If committed to a civil prison, the examination is to be recorded on a FMED 1 and retained in the FMED 4 (this can also be scanned into the integrated Health Record (iHR) on DMICP) pending notification of discharge from the Service.

Action DMICP using the following Read Code: ‘Fitness for detention’ – ‘TRIQQME4’.

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53 A FMED 566 is to be issued confirming there is no current medical needs or restrictions that require addressing prior to them proceeding on the course.

d. Individuals accused of drunkenness & - & See Lft 3-03 Annex H.  

e. Claims Commission. & 4 & Detailed instructions are issued with the request for examination.  

### 6. Aviation Medicine

| a. Passenger flying. | 4 | See Lft 3-03 Annex C.  
Action DMICP using the following Read Codes:  
‘Passenger Flying Cat 1’ – ‘TRIQME6’.  
‘Passenger Flying Cat 2’ – ‘TRIQME7’.  
‘Passenger Flying Cat 3’ – ‘TRIQME8’.  

| b. Post aircraft accident/incident. | 4 | See Lft 3-03 Annex I.  
Action DMICP using the following Read Code:  
‘Post aircraft accident/incident’ – ‘TRIQME5’.  

| c. AMW courses involving decompression: | 1/2 | The ears must be free of impacted wax and able to demonstrate patent eustachian tubes. Ground personnel must see MO to confirm fitness iaw Lft 3-03 Annex L, and must attend with the completed medical form at Appendix 1 to that leaflet  
Action DMICP using the following Read Code:  
‘Fitness to undergo decompression’ – ‘TRIQME15’.  
Individuals who are below the minimum JMES are to be assessed by a MO to confirm fitness for decompression.  

### 7. Sports

| a. Boxing. | 2/4 | See Lft 3-03 Annex B for schedule and information on pre-fight confirmation of fitness.  
Action DMICP using the following Read Code:  
‘Boxing medical examination’ - ‘6931’.  

| b. Sports diving. | 4 | See Lft 3-03 Annex D.  
Action DMICP using the following Read Code:  
‘Diving medical examination’ - ‘6933’.  

| c. Gliding. | - | See Lft 3-03 Annex F.  
Action DMICP using the following Read Code:  
‘Gliding Medical Examination’ - ‘6934’.  

| d. Sports Parachutists: | 2 | Regulations apply to personnel undertaking Joint Service Adventurous Training (JSAT) Courses, involving 12 parachute descents or personnel performing ‘one-off’ parachute descents, including practise descents into water. See Lft 3-03 Annex E for full details.  
The examination is to be appropriately targeted by a MO in order to determine fitness.  
Action DMICP using the following Read Code:  
‘Parachuting medical exam’ - ‘6935’.  

### 8. Reserve Forces
<p>| | | |</p>
<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td><strong>a. Call out from the RAF Reserve</strong>(^5) and recall for Permanent Service.</td>
<td>4</td>
<td>See Lft 3-03 Annex G.</td>
</tr>
<tr>
<td><strong>b. Members of the RAuxAF(^5) called up for Permanent Service.</strong></td>
<td>2</td>
<td>To ensure that the individual’s JMES is appropriate.</td>
</tr>
</tbody>
</table>

### 9. Civilian - Medical Examination Of

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<table>
<thead>
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</thead>
<tbody>
<tr>
<td><strong>a. Civil Service.</strong></td>
<td>As required</td>
<td>Unit MOs are responsible for providing occupational health services to MOD employed civilians at unit level. This includes pre-employment assessment where an Occupational Health nurse is established and statutory medical assessments plus accident and emergency cover. Advice to management on sickness absence and invalidity is obtained by Civ Pers staff through the external contracted provider.</td>
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</table>
| **b. Flights in Service aircraft.** | 4 | Action DMICP using the following Read Code as appropriate:  
‘Passenger Flying Cat 1’ – ‘TRIQQME6’.  
‘Passenger Flying Cat 2’ – ‘TRIQQME7’.  
‘Passenger Flying Cat 3’ – ‘TRIQQME8’. |

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<tbody>
<tr>
<td><strong>c. Prior to attending RAF CAM for aviation medicine instruction.</strong></td>
<td>4</td>
<td>Aim to exclude personnel with conditions likely to be aggravated by pressure changes and hypoxia.</td>
</tr>
</tbody>
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<tbody>
<tr>
<td><strong>d. Children in Service schools overseas.</strong></td>
<td>-</td>
<td>At Service schools overseas the responsibility for undertaking the examination of school children rests with the child’s GP, which may be the MO of the parenting unit.</td>
</tr>
</tbody>
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<tbody>
<tr>
<td><strong>e. Fitness to proceed to the Falkland Islands.</strong></td>
<td></td>
<td>MOs must be aware of the limited medical resources available in the South Atlantic (See Lft 3-03 Annex J).</td>
</tr>
</tbody>
</table>

### 10. Military - Post Pregnancy

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<thead>
<tr>
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</thead>
<tbody>
<tr>
<td><strong>a. Upon return to work following maternity leave</strong></td>
<td>-</td>
<td>Following maternity leave, the servicewoman is required to attend the medical centre as close to her return to work date as possible. She is to have an assessment by a Medical Officer / CMP to confirm that she is fit to return to work. The Medical Officer / CMP is to issue a FMed 566 to this effect. The FMed 566 must also stipulate that the servicewoman is exempt the RAF Fitness Test for a period of 6 months. The servicewoman is to be instructed to hand the FMed 566 to her line manager and also present it to the Station PED staff.</td>
</tr>
</tbody>
</table>

---
\(^5\) Definitions of the RAuxAF and RAFR are detailed in AP3392, Vol. 7, Lft 101.
INTRODUCTION

1. All Service boxing is to be governed in accordance with the Amateur Boxing Association (ABA) of England, Ltd National Medical Scheme together with the policy laid down in this leaflet. Amateur boxing is an official Service sport and, given the potential for injury, demands the fullest measure of medical control and surveillance. Whatever the views of individual MOs, it is their duty to ensure that those who take part are afforded the protection they deserve.

FURTHER READING

2. All MOs who conduct pre-bout, routine or tournament medical examinations are to be familiar with and adhere to the rules and regulations contained in this leaflet. In addition it is essential that MOs have access to and are familiar with:

   a. The booklet 'Medical Aspects of Amateur Boxing' by The Medical Commission of the ABA of England Ltd, 5th Ed 2006. This is available in electronic format on the Head of RAF Medical Services intranet site. Boxing organisers should ensure the provision of this book for their doctors and medical assistants.

   b. AP1269 Lflt 6-02, contains information on medical cover during tournaments.

MEDICAL EXAMINATIONS

3. Under the RAF Boxing Association (RAFBA) Medical Scheme, RAF boxers are to undergo a medical examination conducted by a MO or CMP as detailed below:

   a. On initial issue of the RAFBA Medical Record Card, on entry into boxing a full medical examination (level 4) is to be conducted. At this stage it is necessary to examine whether there are any pressures that may influence the boxer's voluntary participation in the sport.

   b. Pre-bout Confirmation of Continuing Fitness. Within 24 hours prior to the boxer leaving their unit to partake in a boxing tournament, before taking part in a bout and before every bout thereafter, the boxer must pass a medical inspection (level 2). The inspections are to be sufficient to ascertain that:

      (1) The boxer is competing on a voluntary basis and that this has not been eroded by loyalty or pressure of competition. This is to be confirmed at a consultation with a MO.

      (2) The boxer is not suffering from the following:

         i. Significant cuts, bruises and abrasions (especially of the hands and face).

         ii. Injuries sustained in training.

         iii. Vulnerable skin conditions.

         iv. Acute illness.

      Boxers with such conditions are to be eliminated from the bout.

   c. A routine full medical examination (level 4):

      (1) At not less than 5 yearly intervals at age 20, 25 and 30.

      (2) Annually after the age of 30, with compulsory retirement at 35 years of age.

NB. The Combined Services Boxing Board recommend annual medical examinations for all those currently in active training for boxing.
4. Additionally, it is recommended that an ophthalmic practitioner examines the eyes of a boxer on initial entry into boxing and at 3 yearly intervals thereafter.

DOCUMENTATION

5. Full documentation of a RAF boxer’s career, including injuries, is recorded in the booklet F Boxing 162. Additionally, all medical examinations and inspections are to be recorded on the DMICP and in the patient’s FMed 4 (for non DMICP users) in accordance with Lft 3-01 and AP1269 Lft 5-05, Annex Q.

ISSUE OF RAFBA MEDICAL RECORD CARD

7. A boxer must produce a valid Medical Record Card (ME3) on every occasion they present for a bout for competition which must be endorsed by the MO. The MO is to establish fitness by reviewing the boxer’s medical history and by carrying out a full clinical examination (level 4) unless one has been completed satisfactorily within the time scales dictated at paragraph 3.

8. The MO is to warn all boxers examined of the potential neurological risks associated with boxing by reading the warning at Appendix 1 which is to be signed by the boxer. A copy of the Appendix is to be retained in the individual’s medical record.

ENTRY STANDARDS

9. The general requirements and guidelines as detailed in the ABA Medical scheme (pages 27 and 44 of the ABA ‘Medical Aspects of Amateur Boxing’ booklet) and as prescribed in the form ME1, are to be complied with. Additionally Service boxers must meet the standards dictated below:

   a. **Ophthalmic.**

      (1) **Visual Acuity.** The normal acceptable uncorrected visual acuity is to be no worse than 6/12 in the better eye and no worse than 6/24 in the worse eye. Individuals who do not meet these standards are not considered fit for Service boxing.

      (2) **Refractive Corrective Surgery.** Individuals who have had photorefractive keratectomy (PRK) or Laser In-situ Keratomileusis (LASIK) may be acceptable, but opinion is to be sought from a Service consultant ophthalmologist. Individuals who have undertaken refractive corrective surgery and whose pre-surgery correction was greater than +/−6 dioptres, or following surgery unaided visual acuity (i.e. uncorrected by spectacles or contact lenses) is worse than 6/12 in either eye are not acceptable. Radial keratotomy (RK) and Astigmatic Keratotomy (AK) are unacceptable whatever the pre or post-surgical refractive defect.

      (3) **Ophthalmic Conditions:**

         i. Individuals who have a history of or suffer from the following are to be excluded from Service boxing:

            ii. Keratoconus, even if treated successfully.

            iii. Monocular vision.

         iv. Amblyopia, even if meeting the above visual acuity standards.

         v. All retinal injury or disease (for example, retinal lattice degeneration).

         vi. Corneal dystrophy.

         vii. Optic neuritis.

         viii. Coagulation defects including the use of anticoagulants.

   NB. It should be noted that there is an increased risk following hyphaema and/or retrobulbar haemorrhage.
The following individuals are to be referred for an ophthalmic opinion regarding their suitability for boxing:

i. Those with a family history of retinal disease.

ii. Those with non-insulin dependent forms of diabetes.

b. **Neurological History.** In addition to the requirements given by the ABA, any individual who has a history indicative of a significant head injury on three separate occasions, whether being knocked out due to a blow to the head i.e. KO(H) or not, and for whatever cause, is considered unfit for Service boxing.

**NEUROLOGICAL CATEGORIES OF CONCERN**

10. There are a number of boxing categories as described by the ABA, (pages 54-55 of the ABA ‘Medical Aspects of Amateur Boxing’ booklet) likely to give concern with regard to neurological sequelae. These categories are detailed below:

a. RSC(H) – Referee Stopped Contest due to ‘sufficient’ blows to head.

b. KO(H) – Knock out due to blows to the head; This is sub-classified into:
   
   (1) Class 1 – Immediate recovery.
   
   (2) Class 2 – Complete recovery within 2 minutes.
   
   (3) Class 3 – Complete recovery delayed for more than 2 minutes or longer.

**MANAGEMENT OF HEAD INJURIES CAUSED BY BOXING**

11. Where a boxer has been subject to any of categories detailed at paragraph 9, the bout medical officer is to carry out a physical examination of the boxer before deciding on the disposal of the individual:

a. Those individuals with KO(H) class 3, and/or any KO(H) or RSC(H) where there is continuing concussion or amnesia of greater than 2 minutes duration, are to be escorted to the nearest hospital Accident and Emergency (A&E) department for examination and observation. The individual’s unit medical centre is to be notified.

b. In cases of minor head injury the boxer may be allowed home (having been given a head injury card) providing that they are accompanied by a responsible person. The boxer is to be advised to:
   
   (1) Rest and abstain from alcohol.
   
   (2) Report to their unit MO (for a neurological examination) within 24 hours.
   
   (3) Report to their unit MO immediately, should symptoms such as headache, giddiness, nausea or vomiting develop.

12. **Minimum Lay Off Periods Following Head Injuries.** After a boxer has sustained a KO(H) or RSC(H), they are to be banned from taking part in competitive boxing or sparring for:

a. A minimum period of 28 days in the first instance.

b. 84 days, if this is the second occurrence within a period of three months.

c. One year, if this is the third episode within a twelve month period.

These exclusion periods are counted from the most recent occurrence. Class 2 and 3 KO(H) may require longer exclusion periods depending on the circumstances. Further detail is contained at paragraph 9b.

13. **Clinical Care.** To ensure equitable clinical provision for all Service boxers the following courses of action are deemed necessary in addition to the recommendations given by the ABA:
a. **Immediate Term:**

(1) An individual who has suffered a head injury is to be subject to the normal clinical practices outlined above (i.e. referral to A&E). Symptomatic acute head injuries are best investigated using CT scan (< 72 hrs post injury) or MRI scan (= or >72 hrs post injury).

(2) An individual who has continuing, or resurgent symptoms or neurological signs following release from hospital, without having undergone the above investigation, is to be considered for immediate referral to a neuro-surgical and/or radiology department in order that these investigations may take place.

b. **Medium Term.** All Service boxers who have sustained a significant episode of head injury, from whatever cause, are to undergo the following before they are allowed to return to boxing:

(1) A clinical examination by their unit MO. Should the MO find evidence of persistent abnormal neurological signs suggestive of brain damage, the boxer is to be referred directly to a Service Consultant Neurologist.

(2) Referral to a psychologist at the RAF Centre of Aviation Medicine (CAM) or the Institute of Naval Medicine (INM) for psychometric testing.

(3) Referral for a MRI scan.

(4) Those with any significant clinical anxiety or abnormality on testing suggestive of a degree of cerebral dysfunction are to be referred to a Service Consultant Neurologist for opinion.

Following the above investigations the boxer’s MO is to decide whether or not the boxer is fit to resume boxing and, if so, when.

c. **Long Term.** Should the boxer’s MO suspect persistent neurological symptoms or signs (i.e. development of chronic traumatic encephalopathy) they are to investigate using MRI or isotope brain scan (with functional MRI being preferable, if available), together with psychometric testing. These investigations are to be managed by the patient’s MO in liaison with the respective subject matter experts (i.e. radiology and psychology) with direct referral to the consultant neurologist where appropriate.

14. Moreover it is recommended that those who have sustained 3 significant episodes of head injury, from whatever cause, be banned from further boxing and automatically subject to the investigative protocol at paragraph 11c.

NB. Significant head injury is defined as a class three KO(H) and/or post-traumatic amnesia and/or concussion without KO lasting 5 minutes or greater.
LEAFLET 3-03 ANNEX B, APPENDIX 1: MEDICAL WARNING TO BOXERS

All contestants are to read and sign as having understood the following warning whenever they are medically examined before boxing:

Service medical and sporting authorities have decided that you are to be informed that medical research on boxers has shown that continuing with the sport may cause damage to the eye and impairment of brain function. Whilst the degree of impairment will vary according to the circumstances of each individual boxer, in general, the more bouts you fight the worse the damage is likely to be. Please confirm that you understand this by signing and dating the declaration below which will be kept in your personal medical record FMed 4 (DMICP enabled units are to scan this into the patient’s iHR).

DECLARATION OF UNDERSTANDING

<table>
<thead>
<tr>
<th>Name:</th>
<th>Rank:</th>
<th>Service Number:</th>
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I understand the content of the above warning and wish to continue boxing of my own free will.

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LEAFLET 3-03 ANNEX C: MEDICAL REQUIREMENTS - PASSENGER FLYING

INTRODUCTION

1. A passenger is defined as any persons, including troops, not directly concerned with the operation of the aircraft or its systems\textsuperscript{56}. Flights in RAF aircraft are divided into three categories depending on actual or simulated flight conditions as detailed below:

   a. **Category 1.** Cabin altitude exceeding 18,000 ft; and/or rates of ascent/descent greater than 10,000 ft/min; and/or acceleration forces exceeding +4.5g or -1g.

   b. **Category 2.** All flights in ejection seat aircraft but of lesser severity than Category 1 flights. Due to the enhanced protection afforded by its AEA, Category 2 limits for Typhoon are extended to include altitudes of up to 20,000ft with no greater than 15 mins above 18,000ft, and acceleration forces not exceeding +7g or -1g.

   c. **Category 3.** Flight conditions less severe than Category 2 and flights in normal passenger carrying aircraft, helicopters, primary training aircraft, and in such aircraft as ISTAR platforms, Hercules and tankers.

   This policy should be read in conjunction with RA 2340 - Safety Responsibilities for Passengers on Military Aircraft.

   A passenger who undertakes no more than one flight in a four month period is classed as undertaking an ‘occasional’ flight whereas passengers who exceed this frequency are classed as undertaking ‘frequent’ flights. However, in the case of Service personnel flying as passengers to undertake an operational task, the series of flights required to complete the task may be considered a single ‘occasional’ flight. Such personnel undertaking more than one operational task of this nature in a four month period are considered to be undertaking ‘frequent’ flying.

MEDICAL EXAMINATION

2. Examinations are required to:

   a. Assess medical fitness for the flight environment.

   b. Assess anthropometric fitness for the aircraft used. (See Lft 4-05).

3. In addition to the medical examination, passengers are to receive appropriate aviation medicine instruction. Current aircrew holding a valid aircrew JMES may fly as passengers without additional medical examination subject to anthropometric clearance as required. Consideration must be given to the relevance of their aviation medicine knowledge to their intended flight\textsuperscript{57}. The medical assessment and level of aviation medicine training required of all other passengers in RAF aircraft is related to the category and frequency of flight as detailed below:

\textsuperscript{56} MAA02 – Military Aviation Authority Master Glossary

\textsuperscript{57} RA 2340(1) para 43.
<table>
<thead>
<tr>
<th>Medical Examination and Anthropometry</th>
<th>Aviation Medicine Instruction</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cat 1 - Occasional</strong> (Service)</td>
<td>At unit level.</td>
</tr>
<tr>
<td><strong>Cat 1 - Occasional</strong> (Civilian)</td>
<td>At RAF MB or R&amp;SDOM Medical Board</td>
</tr>
<tr>
<td><strong>Cat 1 - Frequent</strong></td>
<td>Initially at RAF MB or R&amp;SDOM Medical Board and thereafter annually at unit level.</td>
</tr>
<tr>
<td></td>
<td>The Medical Board require results of the following examinations to be received with the referral: ECG, Spirometry and Serology.</td>
</tr>
<tr>
<td><strong>Cat 2 - Occasional</strong></td>
<td>At unit level.</td>
</tr>
<tr>
<td><strong>Cat 2 - Frequent</strong></td>
<td>At unit level annually whilst continuing to fly regularly.</td>
</tr>
<tr>
<td><strong>Cat 3 - Frequent</strong> (Service and Civilian)</td>
<td>Medical examination is not normally required unless the passenger’s fitness is in doubt.</td>
</tr>
<tr>
<td><strong>Cat 3 – Occasional</strong> (Service and Civilian)</td>
<td>Medical examination is not normally required unless the passenger’s fitness is in doubt.</td>
</tr>
</tbody>
</table>

**SCOPE OF MEDICAL EXAMINATION**

4. **Responsibilities of the Examining MO.** At unit level, fitness for passenger flying is to be assessed by a MAME, who is to certify that the passenger is medically fit, meets the anthropometric requirements of the aircraft concerned and has received appropriate aviation medicine instruction. If the examining MO is familiar with the aircraft in which flight is to occur then they are to take account of the intended flight conditions. If not (eg when a flight is undertaken at a different unit to the passenger’s parent unit) then aviation medicine instruction is to be given by an appropriately-experienced MAME at the pre-flight check. In particular, great care is to be exercised when assessing elderly candidates. It is impossible to give a finite age beyond which an individual is unfit to undertake a Category 1 or 2 passenger flight; however cerebrovascular, coronary and orthopaedic fitness must be considered, as must the increased incidence of osteoporosis in post-menopausal females. If the MO has any doubts, they are to engage with the flying executive and/or seek advice from CFMO(raf) (or CA AvMed (RN/Army)). To avoid damaging good public relations, SMOs are to warn the station executive of problems that may occur when flying civilian passengers.

NB. Before flight, the flying executive completes a Passenger Briefing Form for all passengers that do not hold a current military medical certificate for flight (civilians and downgraded military personnel). This form includes a self-declaration of medical fitness to fly. If fitness is in doubt then, wherever possible, prior to Category 3 flights, a synopsis of the individual’s medical history is to be requested from the individual’s General Practitioner (GP). In every case the MAME is to give the relevant DDH the best possible medical risk assessment given the available information. In cases where the individual is employed by a civilian contractor, the MOD will not bear the cost of such a report.

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Publication date: 01/08/16
5. **Unit Level Examination.**

   a. A passenger who requires a medical examination in accordance with paragraph 3 is to be medically examined as near to the time of the flight as possible, but not more than four weeks before. Ideally, the examination and the pre-flight confirmation of fitness (see paragraphs 9-10) should be done together, however it is acceptable for the MAME of a passenger’s parent unit (or a unit geographically convenient for a civilian) to undertake the basic examination. They should apply the basic principles of aviation medicine and pre-flight briefing even if they are not familiar with the proposed aircraft type. In this case, further bespoke aviation medicine instruction is the responsibility of the MAME confirming pre-flight fitness.

   b. In all cases the examination is to include consideration of past medical history (PMH), particularly where no medical documents are available. The MAME is to record the PMH on the proforma at Appendix 1 which is to be retained in the patient’s iHR (Service personnel) or archived in the examining medical centre for 5 years (civilians). In the event of any abnormal findings during the examination a report is to be sent, with the patient’s consent (see AP1269, Lflt 4-01) to the patient’s GP.

6. **Anthropometry.** Anthropometry is to be recorded for all Category 1 and 2 passengers in accordance with Lflt 4-05 para 9. Attention is drawn to the need for a cockpit assessment or measurement on a calibrated rig if within 30 mm of the maximum buttock-knee length. In cases of doubt, or when outside of any limit, the passenger is to be assessed as unfit. Furthermore, the flying executive is to be notified if a passenger falls outside the indicative nude weight limit for the aircraft’s ejection seat. Final responsibility for ensuring the passenger falls within the ejection seat boarding weight limits lies with the flying executive.

**AVIATION MEDICINE INSTRUCTION**

7. **RAF CAM.** Aviation medicine instruction at RAF CAM is to be in accordance with the Passenger Course syllabus and is to include elementary instruction on hypoxia and the use of oxygen equipment. In addition, passengers whose Category 1 flight will include flight above 40,000 ft are to receive ground-based practical instruction in pressure breathing and an experience of hypoxia with training covering decompression. This additional training is not required by Category 2 – frequent passengers.

8. **Unit Level.** Passengers undertaking an occasional flight will normally have a very limited understanding of the flight environment. Consequently, their aviation medicine instruction is to be directed towards the practical aspects of the flight and is to be easily understood. Instruction is to focus on safety and enjoyment, and must include the following:

   a. The need for communication with the pilot.

   b. The cause and prevention of air sickness.

   c. The effects of pressure change and ways of overcoming the associated problems. In particular the effect on ears, sinuses and gut should be discussed.

   d. Hypoxia and hyperventilation.

   e. The implications of pre-flight diet, alcohol and medication.

   f. Practical aspects of aircrew equipment assemblies, such as G-trousers, protective clothing, helmet and oxygen system, which will be worn during flight.

   The method of instruction is at the discretion of the examining MAME; however, the issue of a written brief or the showing of a video is insufficient in themselves. No matter what method of instruction is employed, the examining MAME is to test the passenger’s understanding to ensure their level of knowledge is appropriate for safety.

**PRE-FLIGHT CHECK**

9. All passengers undertaking occasional Category 1 and 2 flights are to have their fitness confirmed and ears checked within the day prior to the flight. This check is to be conducted by a MAME at the unit where the flight is to take place irrespective of when and where the original examination took place. The certificate at
Appendix 2 is to be issued to the passenger indicating medical and anthropometric fitness suitably endorsed with any additional limitations if appropriate. Copies are to be held by the medical centre and the squadron. It is the MAME’s responsibility to notify a passenger’s medical fitness or unfitness; the decision to fly a passenger remains an executive responsibility.

10. If the initial medical was undertaken elsewhere, the MAME at the unit where the flight is to take place is also responsible for aviation medicine instruction bespoke to the proposed aircraft type and flight envelope.

11. Non-aircrew physiological research subjects are to have their fitness confirmed before every flight. The certificate of fitness is to be filed with a record of all experimental flights made and retained for at least 40 years after ceasing experimental flying.
LEAFLET 3-03 ANNEX C, APPENDIX 1: MEDICAL EXAMINATION FOR CATEGORY 1, 2 AND 3 FLIGHTS

1. Personal Details.

Surname:  Forenames:  Date of Birth:  
Service No:  Rank:  Trade/Occupation:  

2. Flying Experience. Please indicate the approximate number of flying hours you have had in each aircraft type.

<table>
<thead>
<tr>
<th>Aircraft Type</th>
<th>Flying Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fast jet</td>
<td></td>
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<tr>
<td>Light ac</td>
<td></td>
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<tr>
<td>Glider</td>
<td></td>
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<tr>
<td>Helicopter</td>
<td></td>
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<tr>
<td>Airliner</td>
<td></td>
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</tbody>
</table>

3. Medical History. If you are currently undergoing medical treatment or investigation please inform the Medical Officer. In particular, do you or have you ever suffered from, undergone, had treatment for or used:

<table>
<thead>
<tr>
<th>Condition</th>
<th>Yes/No</th>
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<tbody>
<tr>
<td>Chest or lung disease?</td>
<td></td>
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<tr>
<td>Asthma or recurrent cough?</td>
<td></td>
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<tr>
<td>Undue breathlessness?</td>
<td></td>
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<tr>
<td>Chest pains?</td>
<td></td>
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<tr>
<td>Chest surgery?</td>
<td></td>
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<tr>
<td>Spinal, sciatica or back pain?</td>
<td></td>
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<tr>
<td>Indigestion or peptic ulcer?</td>
<td></td>
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<tr>
<td>Hernia or rupture?</td>
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<tr>
<td>Urinary disorder?</td>
<td></td>
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<tr>
<td>Any blood disorder?</td>
<td></td>
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<tr>
<td>Thrombosis or varicose veins?</td>
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<tr>
<td>Haemorrhoids?</td>
<td></td>
</tr>
<tr>
<td>Anxiety, depression or mental illness?</td>
<td></td>
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<tr>
<td>Headaches or migraine?</td>
<td></td>
</tr>
<tr>
<td>Epilepsy, blackouts, faints or fits?</td>
<td></td>
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<tr>
<td>Vertigo, dizziness or loss of balance?</td>
<td></td>
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<tr>
<td>Motion sickness?</td>
<td></td>
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<tr>
<td>Ear, nose or throat disorder?</td>
<td></td>
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<tr>
<td>Visual disorder?</td>
<td></td>
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<tr>
<td>Contact lenses?</td>
<td></td>
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<tr>
<td>Hearing disorder?</td>
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</tbody>
</table>

If you have answered Yes to any question then please briefly elaborate:

Please list any medications that you use:

If you suffer from hay fever, please mention it to the Medical Officer.
For women, if you are or think you may be pregnant please inform the Medical Officer.

Do you participate in sub aqua diving?  Yes/No
If yes, please give date of last dive:

4. Consent. To assist in making an assessment of my fitness to fly, I do/do not consent to a Medical Officer from the assessing unit accessing my electronic Health Record if accessible within the DMS system in advance of my medical.

5. Declaration. I confirm that I have no undeclared medical condition that may prejudice my safety in flight.

Signed  Name  Date
5. Medical Examination.
   a. Screening.

   Special senses
   Formal recording of VA and audiogram is not required
   Are there any specific concerns over eyesight or hearing likely to interfere with communication? Discuss concerns with pilot or DH

   b. Anthropometry - Aircraft
   Type:

<table>
<thead>
<tr>
<th></th>
<th>Max</th>
<th>Min</th>
</tr>
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<tbody>
<tr>
<td>Height</td>
<td>cm</td>
<td></td>
</tr>
<tr>
<td>Weight</td>
<td>kg</td>
<td></td>
</tr>
<tr>
<td>Sitting height</td>
<td>cm</td>
<td>cm</td>
</tr>
<tr>
<td>Buttock-knee</td>
<td>cm</td>
<td>cm</td>
</tr>
<tr>
<td>Buttock-heel</td>
<td>cm</td>
<td>cm</td>
</tr>
<tr>
<td>Functional Reach</td>
<td>cm</td>
<td>cm</td>
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</tbody>
</table>

   c. Physical Examination.

<table>
<thead>
<tr>
<th>Respiratory system</th>
<th>Normal/Abnormal</th>
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<tbody>
<tr>
<td>Heart Sounds</td>
<td>Normal/Abnormal</td>
</tr>
<tr>
<td>Spine</td>
<td>Normal/Abnormal</td>
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</tbody>
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<thead>
<tr>
<th>Ears</th>
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<tbody>
<tr>
<td>Tympanic membranes</td>
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<tr>
<td>Eustachian tubes</td>
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<tr>
<td>Right</td>
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<tr>
<td>Left</td>
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<td>Normal/Abnormal</td>
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<tr>
<td>Patent/Non-Patent</td>
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<tr>
<td>Normal/Abnormal</td>
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<tr>
<td>Patent/Non-Patent</td>
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   Medical Examination | Fit/Unfit |
   Anthropometry\(^{58}\) | Fit/Unfit |
   Av Med Brief        | Given/Not Given |
   Helmet Check        | Satisfactory/Unsatisfactory/Not Completed |

   Signature
   Date

   Name
   Rank

   7. Pre-flight Check.

   Examination | Fit/Unfit |
   FMed 566 Issued? | Yes/No |
   Helmet Check    | Satisfactory/Unsatisfactory |

   Signature
   Date

   Name
   Rank

---

\(^{58}\) Assess as temporarily unfit if within 30 mm of max buttock-knee pending cockpit assessment or re-measurement on a calibrated rig (R&SDOM or RAF CAM) as per Lf4t 4-05 Para 9.
LEAFLET 3-03 ANNEX C, APPENDIX 2: CATEGORY 2 FLIGHT MEDICAL CERTIFICATE

Number: 
Rank: 

Name: 

The above named has been medically examined for a Cat 2 (ejection seat ac) flight and has been passed for the following aircraft as follows:

Aircraft: 
FIT / UNFIT

Fitness is subject to confirmation on the day of the flight, and to meeting boarding weight limits.

The restrictions for Cat 2 flying, actual or simulated, are:

1. Cabin altitude less than 18,000 ft. (Typhoon - less than 20,000 ft with no longer than 15 mins above 18,000 ft)
2. Rate of ascent/descent not exceeding 10,000 ft/min.
3. Acceleration forces not exceeding +4.5 Gz and -1 Gz. (Typhoon - not exceeding +7 Gz and -1 Gz)

There ARE (detailed below) ARE NO further aircraft limitations dictated by the passenger’s medical condition.

Medical Pre-flight check 
(if flight later than 24 hours after medical)

Signature 
Signature

Name 
Name

Rank 
Rank

Date 
Date

Unit Stamp 
Unit Stamp

---

60 Insert type of aircraft for which anthropometry has been validated. This will normally only be one aircraft type for each Cat 2 medical.
61 Law 20080516 – New Typhoon Cat 2 G limits – U. These limits apply to Typhoon only.

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Publication date: 01/08/16
LEAFLET 3-03 ANNEX D: SUB-AQUA DIVING

Sponsor SO1 Med Pol (Last reviewed: Feb 16)

INTRODUCTION

1. The underwater environment is hostile and circumstances may arise in which considerable physical exertion is required in order to ensure survival. The environment makes no distinction between those who dive for pleasure and those who dive for employment. The medical standards in this Annex apply to the following personnel:
   a. Service personnel who participate in Service AT sub-aqua diving.
   b. Service personnel employed as Service sub-aqua divers.

REGULATIONS

2. The medical standards for all personnel involved in Service sub-aqua diving (including civilians supporting Service sub-aqua diving) are described in BRd2806(5) – Joint Service Sub-Aqua Diving Regulations. This directs that medical examinations are to be conducted iaw Chapter 12 of BRd1750A – The Handbook of Naval Medical Standards.
LEAFLET 3-03 ANNEX E: MEDICAL REQUIREMENTS - PARACHUTING

INTRODUCTION

1. **Military Parachutists.** Military personnel may be employed in duties requiring planned parachute descents (excluding aircrew using parachutes in emergencies). The medical requirements for these personnel are as follows:

   a. **PTIs and PEdOs selected to be Parachute Jump Instructors.** Personnel selected for PJI duties are to undergo a full medical examination (level 4) before acceptance and annually thereafter whilst they continue to jump. In addition, all parachutists and dispatchers operating above 10,000 feet are required to attend Aviation Medicine Wing at RAF CAM before operating at this altitude and every 5 years thereafter while still employed in this environment.

   b. **Personnel undertaking High Altitude jumps.** Personnel undertaking High Altitude High Opening (HAHO) or High Altitude Low Opening (HALO) jumps are to undergo a full medical examination (level 4) before acceptance and annually thereafter whilst they continue to jump. They are required to attend Aviation Medicine Wing at RAF CAM before commencing HAHO/HALO duties and every 5 years thereafter while still employed in this environment.

   c. **Other military parachutists.** All other military parachutists are deemed to be fit for parachute duties if they hold a JMES of A4 L2 M4 E2 or better.

2. **JSAT Students and ‘One Off’ Parachutists.** All personnel who volunteer for parachute training, or wish to make ‘one-off’ descents (including military tandem passenger descents and descents into water), are to undergo a medical assessment before acceptance. The type of assessment is dependant upon the Medical Employment Standard (JMES) held as detailed below:

   a. Personnel with a JMES of A4 L2 M4 E2 or better are to undergo a medical inspection (level 2) and measurement of height and weight.

   b. MOD civilians without a JMES and personnel with a JMES below A4 L2 M4 E2 are to be examined (level 4) by a MO to determine fitness.\(^\text{62}\)

3. **Sports Parachutists.** Sports parachuting is conducted under the auspices of the RAF Sports Parachute Association or other British Parachute Association (BPA) affiliated club. Personnel participating in sports parachuting must be in possession of the appropriate BPA Declaration of Fitness. When the individual is unable to sign the Declaration of Fitness because he/she has one of the listed medical conditions or because of age (>40 years), a doctor’s certificate is required. Guidance on completing the certificate is provided with the form. Further details are available from the BPA at www.bpa.org.uk.

PHYSICAL STANDARDS

4. The following standards apply to military parachuting:

   a. **Height.** The minimum height for PJIs is 157.5 cms; there is no upper height limit. There are no height restrictions for JSAT students or ‘one-off’ parachutists. Each student is assessed for harness fit by the jump instructor.

   b. **Weight.** For PJIs, body weight must be between 47 and 117 kgs. Weight limits for JSAT students and ‘one-off’ parachutists vary depending on the type of parachute being used. In all cases, manufacturers’ limits are to be complied with.

   c. **Colour Perception.** CP4 is acceptable for military parachutists.

MEDICAL STANDARDS

5. Parachutists require a reasonably high standard of physical fitness and must not be excessively overweight in relation to their sex age and height. Conditions that could result in blackouts, impaired consciousness or impaired concentration are incompatible with military parachute duties. The minimum

\(^{62}\) Examination results are to be recorded in accordance with Leaflet 3-01, paragraph 4
PULHEEMS profiles for PTIs and PEdOs are detailed at Lft 4-04, Annex J and Lft 4-03. The following conditions are usually incompatible with military parachuting:

a. ORL. Healed or repaired perforated tympanic membrane, chronic vestibular disease, eustachian tube dysfunction, chronic/recurrent sinusitis, and chronic/recurrent otitis media/externa.

b. Locomotor System. Poor functional results from old fractures or dislocations, recurrent sprains or dislocations, a history of spinal injury or significant back pain, a history of easily fractured bones, or significant osteoarthritis of weight bearing joints.

c. Respiratory System. Chronic respiratory conditions affecting functional capacity.

d. Abdomen. Hernias or unsound/stretched abdominal scars.

e. Neurological. Epilepsy (treated or otherwise) with the exception of febrile convulsions, and all other conditions affecting strength or co-ordination.

f. Endocrine. Diabetes mellitus, however controlled, and any other untreated endocrine disorder.

g. Mental Health - Significant psychiatric disorder or current alcohol/drug abuse. Conditions requiring use of medication with sedative or psychotropic side-effects are incompatible with parachuting.

h. Vision. Poor visual acuity (binocular vision worse than 6/12 after correction with spectacles or contact lenses) and functionally significant field defects. Monocular vision may be acceptable provided that the good eye has a full field and the candidate has adapted to the monocular vision. LASIK corneal refractive surgery may result in flap instability when exposed to wind blast and is therefore not acceptable for parachutists.

6. This list is not exhaustive and in cases where fitness is in doubt, the opinion of a Regional Occupational Medicine Consultant is to be sought. Some discretion in the application of these standards may be appropriate for experienced parachutists and tandem passengers.
INTRODUCTION

1. This leaflet covers recreational gliding and cadet glider training to solo standard. Medical examination of Service gliding instructors is detailed at Lflt 4-02.

RECREATIONAL GLIDING

2. Within the UK responsibility for the regulation and administration of gliding is delegated by the Civil Aviation Authority (CAA) to the British Gliding Association (BGA). Personnel wishing to participate in gliding are required to comply with BGA regulations, which adopt the National Private Pilots Licence (NPPL) as the medical standards for gliding in the UK. Full guidance on the NPPL is available from the CAA website, but the key points are as follows:

   a. The MO must have access to the individual’s medical records to undertake the certification.

   b. The certification is recorded on the CAA NPPL Medical Declaration, which also contains notes for the MO.

   c. No examination is required; rather, the MO is stating that the individual does not have a medical condition recorded in the medical records that would preclude either DVLA Group 2 (professional) or Group 1 (private) driving. Further guidance on the standards or specific conditions is available from:

      (1) DVLA “At a Glance”.

      (2) CAA NPPL Medical Declaration, “Notes for the General Practitioner”.

      (3) CAA NPPL Medical Information Sheets.

      (4) BGA “Guidance notes on the medical fitness required for Glider Pilots”.

   d. After certifying that the individual’s medical history does not preclude at least one of the DVLA driving standards, the MO is to enter the date that the next assessment is due in accordance with paragraph 6 of the ‘Notes for the General Practitioner’ Annex of the medical Declaration.

3. The CFMO is available to advise MOs as necessary.

CADETS SELECTED FOR GLIDER TRAINING TO SOLO STANDARD

4. Cadets selected for glider training are to be examined by their own general medical practitioner who should record his findings on Form 6424 - Medical Certificate of Fitness for Gliding. The medical standards for Air Cadets relates to DVLA Standards of Fitness to Drive. Group 1 (private driving) standards can be considered for solo flying or flying with another suitably qualified pilot. If there is any uncertainty then the advice of the CFMO (RAF) is to be sought; certain conditions, as listed in the guidance notes for the GPs, will always require discussion with the CFMO. Medical Fitness Standards for Air Cadet Gliding and Air Experience Flights, covering common medical conditions are detailed at Lflt 3-03 Annex F, Appendix 1.

WAIVERS

5. Glider pilots holding a current Joint Aviation Authority (JAA) medical certificate or military aircrew medical category are exempt from the requirement to provide additional certification.

OVERSEAS

6. Glider pilots overseas are required to comply with the regulations of the relevant responsible national authority. Most countries require a medical examination. The possession of at least a EASA Class 2 medical certificate is usually acceptable.
## LEAFLET 3-03 ANNEX F, APPENDIX 1: MEDICAL FITNESS STANDARDS FOR AIR CADET GLIDING AND AIR EXPERIENCE FLIGHTS

<table>
<thead>
<tr>
<th>Medical Condition</th>
<th>Fitness Standard</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Asthma</strong></td>
<td>Unstable severe asthma</td>
<td>Unfit</td>
</tr>
<tr>
<td></td>
<td>On regular prophylaxis, or</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Acute attack not requiring oral steroids or hospitalisation within past year, or</td>
<td>Fit Ghosted Solo Gliding + AEF</td>
</tr>
<tr>
<td></td>
<td>Acute attack requiring oral steroids or hospitalisation within past 5 years</td>
<td></td>
</tr>
<tr>
<td></td>
<td>All others with a past history</td>
<td>Fit Solo Gliding + AEF</td>
</tr>
<tr>
<td><strong>Migraine</strong></td>
<td>Mild (no visual or neurological disturbance) and infrequent (&lt;2 attacks per year)</td>
<td>Fit Solo Gliding + AEF</td>
</tr>
<tr>
<td></td>
<td>Others</td>
<td>Fit Ghosted Solo Gliding + AEF</td>
</tr>
<tr>
<td><strong>Epilepsy</strong></td>
<td>Last seizure within past 2 years</td>
<td>Unfit</td>
</tr>
<tr>
<td></td>
<td>Last seizure &gt; 2 years ago (on or off treatment)</td>
<td>Fit Ghosted Solo Gliding + AEF</td>
</tr>
<tr>
<td></td>
<td>Solitary seizure (with normal neurological follow-up including EEG) &gt;10 years ago,</td>
<td>Fit Solo Gliding + AEF</td>
</tr>
<tr>
<td></td>
<td>and febrile convulsions under 5 years of age</td>
<td></td>
</tr>
<tr>
<td><strong>Attention Deficit and Hyperactivity Disorder</strong></td>
<td>No treatment or symptoms in past 2 years</td>
<td>Fit Solo Gliding + AEF&lt;sup&gt;54&lt;/sup&gt;</td>
</tr>
<tr>
<td></td>
<td>All others</td>
<td>Fit Ghosted Solo Gliding + AEF&lt;sup&gt;2&lt;/sup&gt;</td>
</tr>
<tr>
<td><strong>Diabetes</strong></td>
<td>On Insulin – Poor control/unstable</td>
<td>Unfit</td>
</tr>
<tr>
<td></td>
<td>On Insulin - Good control/stable</td>
<td>Fit Ghosted Solo Gliding + AEF</td>
</tr>
<tr>
<td></td>
<td>Oral hypoglycaemic agents</td>
<td>Fit Ghosted Solo Gliding + AEF</td>
</tr>
<tr>
<td></td>
<td>Impaired glucose tolerance test</td>
<td>Fit Solo Gliding + AEF</td>
</tr>
<tr>
<td><strong>Murmurs</strong></td>
<td>'Innocent' murmurs</td>
<td>Fit Solo Gliding + AEF</td>
</tr>
<tr>
<td></td>
<td>Others:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Normal exercise tolerance and absence of symptoms</td>
<td>Fit Solo Gliding + AEF</td>
</tr>
<tr>
<td></td>
<td>Impaired exercise tolerance or otherwise symptomatic</td>
<td>Fit Ghosted Solo Gliding + AEF or Unfit</td>
</tr>
<tr>
<td></td>
<td>depending on degree of disability</td>
<td></td>
</tr>
<tr>
<td><strong>Vision (with correction if required)</strong></td>
<td>6/9 or better in each eye</td>
<td>Fit Solo Gliding + AEF</td>
</tr>
<tr>
<td></td>
<td>6/9 or better in best eye, worse than 6/9 in other eye</td>
<td>Fit Ghosted Solo Gliding + AEF</td>
</tr>
<tr>
<td></td>
<td>Worse than 6/9 in both eyes</td>
<td>Fit Air Experience as Passenger Only</td>
</tr>
</tbody>
</table>

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<sup>53</sup> Applicable to glider and AEF flying only (not valid for passenger flights in ejection seat aircraft).

<sup>54</sup> In all cases fitness will be dependent upon a satisfactory report from the cadet’s OC.
LEAFLET 3-03 ANNEX G: MEDICAL REQUIREMENTS – CALL OUT FROM THE RAF RESERVE AND RECALL FOR PERMANENT SERVICE

INTRODUCTION

1. All ex-regular service personnel who are called out from the RAF Reserve or recalled for permanent Service are to undergo an a full Medical examination (Level 4) conducted by a RAF MO or contracted CMP. The medical assessment is to be conducted as soon as possible after re-joining. However, for individuals who claim to have suffered a significant illness or disability since their last medical examination the assessment is to be completed within 3 working days. Individuals who have spent any time under the care of a non-Service doctor between leaving the Service and prior to their entry as a Reservist are to complete the Statement of Health detailed at Lflt 3-04 Annex P.

2. The fitness standards for the Reserve Air Forces and personnel subject to recall are the same as for their regular counterparts in the same branch/trade (see AP1269A Section 4).

3. Where an individual requires employment limitations which would normally be reflected in a ‘restricted’ JMES, the individual is to be considered unfit and made either temporarily unfit or permanently unfit for Service as below:

   a. A4 L2 M4 E2 or better – denotes an ‘unrestricted’ JMES and is ‘Fit service world-wide’.
   c. A6 L6 M6 E5/E6 (P) – denotes ‘Permanently unfit for service’.

DOCUMENTATION

4. The results of the medical examination are to be recorded on a FMed 1 which is to be disposed of in accordance with Lflt 3-01, Annex B. In addition, notification action of the individual’s JMES is taken using a Patient Advice Notice, which is to be disposed of as detailed below:

   a. No 1 – Manning Medical Casework (RAF).
   b. No 2 – The individual.
   c. No 3 – The CO of the Mobilization Centre.
   d. No 4 – Reserve Forces Management Cell, HQ Air Command.

5. Personnel Found Temporarily Unfit. A reservist who is found to be temporarily unfit is to be referred to his own GP. A copy of the referral letter is to be enclosed in the individual’s FMed 4. The date on which it is considered that he will be fit to present himself for re-assessment is to be recorded on the FMed 1 and Patient Advice Notice.

6. Personnel Found Permanently Unfit. If a reservist is found to be permanently unfit, the examination findings are to be recorded on FMed 1 and Form 1085. The Form 1085 is to be disposed of in accordance with QRs 607 (16) and Lflt 2-01 Annex B.

65 A full definition of the RAF Reserve is detailed in AP3392, Vol. 7, Lflt 102.
LEAFLET 3-03 ANNEX H: INDIVIDUALS ACCUSED OF DRUNKENNESS

INTRODUCTION

1. The aim of this Annex is to provide guidance to MOs who are asked to examine individuals accused of drunkenness.

2. **Definition.** The word ‘drunk’ is to be regarded as having the ordinary meaning attached to it in civil life. The fact that a person is unfit to be entrusted with air force duties by reason of over-indulgence in alcoholic liquor or a drug is not the sole factor in deciding whether he is drunk.

FURTHER READING

3. This Annex should be read in conjunction with Section 43 Air Force Act on drunkenness contained in the Manual of Air Force Law, QRs 1044, AP 3392, Vol. 4, Lfit 210 and JSP 469 (Service Code of Practice for Custody).

MEDICO LEGAL

4. **Onus of Proof.** The responsibility for providing evidence that the accused was drunk rests with the officer or NCO ordering the arrest. For this reason a MO should not be called in merely to express an opinion as to whether the accused is drunk, but should be called if the accused is suspected of being ill or asks to see a MO on grounds of sickness.

5. **Evidence.** In dealing with alleged drunkenness it is the responsibility of the CO or court-martial to determine whether the individual was in a fit state to do his duty. Although a MO who has examined the accused is not debarred from giving evidence as a witness on any of his incidental findings in this respect, he should not normally be called upon to do so.

ATTENDANCE BY MEDICAL OFFICER

6. The MO is required to attend individuals accused of drunkenness as follows:

   a. **Under the Influence of Drink.** Where a person appears to be under the influence of drink, the MO is only to attend and examine the patient as soon as possible where there are symptoms of illness or injury, which require medical treatment.

   b. **Unconscious or in a Drunken Stupor.** The person is to be examined by a MO as soon as possible. If the MO orders that the person is to be kept in medical care, the unit is to provide a guard for him. If the MO does not consider that the person should be kept in medical care, he should issue a medical certificate (in duplicate) to this effect, containing the following instructions:

      (1) The person is to be kept under observation and checked at intervals of no longer than 15 minutes, or any other interval deemed appropriate.

      (2) The person is to be wakened and spoken to every half-hr.

      If the person appears not to have fully recovered after 4 hours, the duty staff are to notify the MO, who will see the individual if he deems it necessary.

MEDICAL EXAMINATION

7. Where a MO is called to examine an officer or airman when there is also suspicion of drunkenness, he must decide to the best of his ability whether the condition of the individual can be accounted for wholly, or in part, by disease or injury. The individual may be suffering from some disease of which he is unaware, and serious results may follow if he is not kept under medical supervision. Furthermore, a plea of sickness, injury or nervous disturbance may be brought forward at an investigation or trial, and the MO may be asked whether such a condition was actually present when he examined the person. For these reasons, the MO should perform a comprehensive examination at once, whether the individual complains of any disability or not. He should take a detailed history of the case, observe every feature of the individual’s behaviour and
examine every system of the body. He should make complete notes at the time for his own use should he be
called upon to make a statement or to give evidence. If a MO is uncertain whether drinking may be masking
illness, he should, if possible, retain the patient under medical supervision. He should endeavour to answer
the following questions.

a. Is the individual's condition and behaviour normal?

b. Is the JMES appropriate?

c. If any abnormality is detected, to what degree can it be explained by consumption of alcohol,
disease and injury?

CONFIDENTIALITY

8. The examining MO is to be familiar with the notes on confidentiality and disclosure of information
contained in AP1269 Lflt 4-01.
LEAFLET 3-03 ANNEX I: THE MANAGEMENT OF AIRCREW AND OTHERS FOLLOWING AN AIRCRAFT ACCIDENT OR INCIDENT

INTRODUCTION

1. This leaflet addresses neurological, orthopaedic, ophthalmological and psychological considerations, and details mandatory administration and treatment for accidents and incidents occurring within the UK. The management detailed within this leaflet applies equally to Service aircrew and civilian test aircrew working for QinetiQ and the Defence Aviation Repair Agency (DARA). It is recognised that there may be circumstances overseas where it is not possible to implement this policy in full, for operational reasons. For example, aircrew may be involved in an accident when embarked in ships or when on an operational deployment where full diagnostic facilities are not available. In such circumstances the MO responsible for the medical care of the aircrew concerned is to make every effort to meet the requirements of this policy within the limits of reasonably available resources. However, in peacetime, the confirmation of fitness to fly without adequate investigation might be indefensible. In such circumstances repatriation should be considered.

FURTHER READING

2. This leaflet is to be read in conjunction with:
   a. AP 1269, Lfit 12-05, Management of Aircraft Accidents.
   b. AP1269 Lfit 12-06, Management of Aircraft Incidents.
   c. The Lfit ‘The Management of Aircrew Following Ejection from an Aircraft’ available from CFMO (RAF).
   d. AP 100V-10, Post Crash Management Procedures, Aircraft, General.

TERMINOLOGY

3. CFMO (RAF) is the responsible RAF medical authority when managing individuals following an aircraft accident or incident. The CFMO (RAF) will be referred to throughout this leaflet, however, if an incident involves individuals from other services, the authorities listed below will become the ‘responsible authority’:
   a. For the RN - CA AvMed(RN).
   b. For the Army - CA AvMed(Army).
   c. For the RAFMOD(PE), the single Service authority, listed above, of the Service responsible for the individual concerned. Where doubt exists contact DACOS Av Med.

4. The term ‘supervising MO’ means the MO tasked by the CFMO (RAF) to co-ordinate the clinical management of the casualty and to maintain liaison between the medical facility providing treatment and the service authorities.

SCOPE

5. It is clear when an individual has ejected or an aircraft has crashed; however, it may not be as clear when this policy should be implemented following an incident. For example, an incident such as an air-miss may be unremarkable in an engineering or physical sense, but may have a significant psychological effect upon individual crew members. Therefore, MOs are to exercise clinical judgement in deciding which incidents require application of this policy. Moreover, they are to maintain close liaison with the flying executive and other agencies, such as flight safety officers, to ensure that treatment is received by all who need it.

6. Throughout, this leaflet the term ‘accident’ also applies to incidents of medical significance. The policy will apply predominantly to aircrew; however, it is also to apply to passengers and non-aircrew members of crew, such as flight nurses and air stewards. Although this policy is concerned with the preceding categories of personnel, the MO must not forget the profound effect that an aircraft accident may
have on those involved on the periphery, such as rescue workers, witnesses and the relatives of those directly involved in the accident.

**CO-ORDINATION OF MANAGEMENT**

7. All individuals involved in an aircraft accident are to be medically examined as soon as possible after the accident in accordance with Lift 3-03, Annex A. The examining doctor can be a uniformed MO, a CMP, a General Practitioner or a hospital doctor. Contemporaneous notes are to be made detailing the patients' medical condition following the accident.

8. The CFMO (RAF) is to co-ordinate the management of individuals requiring medical intervention following an aircraft accident. In particular, he is to ensure that all aircrew have been assessed by the appropriate service consultants before returning to flying.

9. Where an aircraft accident occurs in the vicinity of the aircraft's home base, the SMO of the unit, or his deputy, is to assume responsibility for the care of those involved. The CFMO (RAF) is to be notified of the accident immediately. When an accident is remote from the home base of the aircraft, the CFMO (RAF) is either to nominate a MO to supervise care or to assume the role of supervising MO himself.

10. The supervising MO is to ensure that he is fully briefed on the case at all times and is to look after the interests of the patients and the Service. He is to be responsible for the day-to-day liaison on all medical matters between patients, civilian hospital medical and administrative staffs, service consultants and consultant advisers and the CFMO (RAF). He is also to notify the parent station or unit executive of the medical situation.

11. If it is necessary for an individual to see more than one service consultant, the supervising MO is to make arrangements for all appointments to be completed in one visit. Any difficulty in arranging appointments on the same day is to be discussed with CFMO (RAF).

**MANAGEMENT**

12. All aircrew and passengers are to undergo medical examination in accordance with Lift 3-03, Annex A, paragraph 6b, after an aircraft accident. A record is to be made of any injuries and psychological sequelae. Civilian passengers should be offered an examination prior to being advised to attend their own GP. Considerations in the management of head and spinal injury, ophthalmic injury and psychological and psychiatric conditions in personnel following an aircraft accident are found in Section 5 as detailed below:

   c. Psychiatric Considerations - Lift 5-12.

**FOLLOW-UP**

13. Prolonged follow-up of those involved in an aircraft accident may be necessary, particularly from a psychological standpoint. In the first instance this follow-up is the responsibility of the SMO who may seek further specialist advice if this is clinically indicated.

14. Following clearance by the appropriate specialists, all individuals are to be seen by their unit MO for an assessment of their fitness to return to work or flying. The MO is to satisfy himself that the individual is fully fit for all aspects of his job. Any doubts about fitness should be discussed with the CFMO (RAF) and appropriate specialists.

15. For the first year following return to work, individuals are to be reviewed at least six monthly to confirm continuing fitness. Thereafter, if review is necessary, aircrew can be monitored at their periodic medical examination. To prevent loss of surveillance on posting, the losing MO is to notify the gaining MO of individuals who have been involved in an aircraft accident.
<table>
<thead>
<tr>
<th>Subject name:</th>
<th>Date:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Service Number:</td>
<td>Time of detention:</td>
</tr>
<tr>
<td>Location:</td>
<td>Time Sample Taken:</td>
</tr>
<tr>
<td>Health Care Professional Name:</td>
<td>Site Taken From:</td>
</tr>
<tr>
<td>Persons in Attendance:</td>
<td>Time Sample Handed Over:</td>
</tr>
<tr>
<td>1.</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>Name of Officer / NCO sample handed to:</td>
</tr>
</tbody>
</table>

**Consent**

I……………………………………………………………………………………………………………………………………… consent to provide a sample of blood for analysis of the quantity of alcohol that it contains. This sample will be taken by a Health Care Professional using a syringe and needle. 

………………………………………………………………………………………………………………………………………..(Name of Health Care Professional) has explained the procedure to me and I understand that there is the possibility of prosecution depending on the result of the analysis.

Signed | Date
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>(Subject)</td>
<td></td>
</tr>
</tbody>
</table>

The reverse of this form is to be used for any additional notes the Healthcare professional may feel appropriate.

This form is to be archived by the Medical Centre responsible for the collection of the sample for a period of 2 years. The information **IS NOT** to be entered into the subject's Medical Record.
INTRODUCTION

1. In the South Atlantic theatre, medical resources are limited. It is important that efforts be made to exclude Service personnel who may, because of known pre-existing disease or injury, be exposed to risk of relapse where available diagnostic or treatment facilities are less than ideal. Specifically, the following are not available in theatre:

   b. All surgical specialties except general surgery.
   c. Obstetrics and gynaecology.
   d. Paediatrics (including special care baby unit).
   e. Psychiatry.
   f. Ophthalmology/optical services.
   g. Hearing aid, speech therapy or special educational facilities.
   h. Orthopaedic surgery.
   i. Rehabilitation for patients who have undergone surgery in the UK.66

SERVICE PERSONNEL

2. Medical Category. All RAF personnel detached/assigned to the South Atlantic must have a Medical Employment Standard (JMES) not lower than A4 L2 M4 E2. Exceptionally waivers of this policy may be authorized by Manning Medical Casework after conducting a risk assessment.

DEPANDANTS

3. Guidelines. MOs must be aware of the limited medical resources available in the South Atlantic and must exercise their clinical judgement in advising that families who are likely to require specialist medical care do not proceed to the Falkland Islands (FI). Further guidance can be found in Movements Support Services Division (MSSD) located at Abbey Wood, Bristol Form 34 - Notes for Examining Doctors. In addition, the MSSD will send a practice leaflet produced by SMO British Forces South Atlantic Islands (BFSAI) to all dependants proceeding to the Fish containing Form 13 which must be completed for each family member by their GP as medical certification of fitness. Advice may be sought from SO1 PHC(RAF).

PREGNANCY

4. Although normal pregnancies in the local FI population are managed by midwives and GPs, with emergency Caesarean Sections being performed by the surgeon, local resources are inadequate to cope with obstetric complications (50% of which will arise with little or no warning in seemingly healthy pregnancies) and with complications in the newborn. By virtue of their JMES (see paragraph 2 above), Servicewomen who are pregnant will neither deploy to, nor remain in, the FI (2007DIN02-005). Dependants proceeding to the Fish containing Form 13 which must be completed for each family member by their GP as medical certification of fitness. Advice may be sought from SO1 PHC(RAF).

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66 A limited physiotherapy service is available for injuries sustained in theatre.
LEAFLET 3-03 ANNEX K: FITNESS FOR SHORT TERM AIR SUPPLY SYSTEM (STASS) WET DRILL TRAINING

Introduction

1. Aircrew and other personnel who are required to undertake STASS wet drill training in the Dunker have a very small risk of suffering Cerebral Arterial Gas Embolism (CAGE). To minimise the risk of CAGE individuals undergoing training are issued with a questionnaire designed to screen out those at risk.

Questionnaire

2. The questionnaire is available at MAA Regulatory Article 2130, Annex D and requires no involvement from medical staff unless there is a positive response to any of the questions in Part B. Guidance for medical staff is given at Part C.

Medical Requirements

3. The medical requirements for the cardiovascular and respiratory systems for sports diving listed at Lfit 3-03 Annex D, are to be used as a guide. If in doubt about an individual’s fitness to undergo STASS wet drill training MOs are to seek Specialist advice from the Head of Undersea Medicine at the Institute of Naval Medicine (INM).

Limitations

4. Aircrew who are found to be unfit to undertake wet STASS training are to have the JMES amended to A3, with the restriction ‘Unfit wet STASS training’ or ‘Unfit helicopter underwater escape training’ These limitations enable the executive to identify affected aircrew and the duty holder to risk assess future deployability.
LEAFLET 3-03 ANNEX L: MEDICAL REQUIREMENTS – HYPOXIA TRAINING AND POSITIVE PRESSURE BREATHING

Background

1. Hypoxia and altitude related training and experience is provided in accordance with NATO STANAG 3114, but this is not confined solely to aircrew. Both military personnel in ground roles and civilian subjects are also exposed to such training. This Annex provides details of the evidence of medical fitness required for hypobaric and/or hypoxia exposure conducted at RAF CAM.

Training

2. Hypoxia training is delivered either by hypobaric chamber exposure or Scenario-Based Hypoxia Training (SBHT). Traditionally, aircrew and other eligible personnel underwent altitude and hypoxia training in a hypobaric chamber. Although this is still appropriate for ab initio aircrew candidates, refresher and other trainee groups undergo SBHT, in which subjects breathe a reduced-oxygen gas mix at ground level whilst operating a simple flight simulator or performing other flight relevant tasks. Fast jet aircrew are also required to experience positive pressure breathing either at ground level or as part of hypobaric training.

Risks

3. **SBHT.** The primary medical risks relevant to ground-level hypoxia exposure are pre-existing neurological or cardiorespiratory conditions. Some haematological disorders are also relevant e.g. anaemia, thalassaemias and sickle cell disease.

4. **Hypobaric chamber exposure.** In addition to the above risks, training in a hypobaric chamber also introduces significant pressure changes in a confined space. The past medical history is therefore additionally screened for:
   a. Disorders that may masquerade as, or predispose to, decompression sickness (e.g. migraine, vertigo, dizziness and bone and joint conditions);
   b. Psychiatric conditions;
   c. Conditions that may impair emergency escape (e.g. orthopaedic problems), and:
   d. Conditions vulnerable to gas expansion (e.g. ear, nose and throat disease or untreated herniae).

5. **Positive pressure breathing.** Positive pressure breathing at up to 30mmHg (55mmHg for Typhoon aircrew) introduces risks related to gas expansion within the lung and thorax, and ear nose and throat. It may also induce circulatory changes leading to potential vaso-vagal collapse.

Medical Requirements

6. **Aircrew.** In accordance with RA 2135(6), all aircrew in military aircraft undergo 5-yearly aviation medicine training. There is usually an initial hypobaric chamber experience; subsequent refresher training is then via SBHT. For these individuals,
   a. **JMES A1/A2 L2 M4 E2 or better.** A valid unrestricted aircrew JMES provides adequate evidence that the relevant medical standards for both SBHT and hypobaric chamber training have been met.
   b. **JMES below A1/A2 L2 M4 E2.** Downgraded aircrew are to be assessed by a MAME to confirm fitness for training, using Appendix 1 if appropriate. In such cases a targeted

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68 A Reduced Oxygen Breathing Device (ROBD) mixes nitrogen with breathing air to produce the sea level equivalent atmospheric oxygen contents for altitudes up to 25,000 feet.
69 When in operation the hypobaric chamber constitutes a confined space under the Confined Spaces Regulations 1997: http://www.hse.gov.uk/pubns/priced/101.pdf
70 http://www.maa.mod.uk/linkedfiles/regulation/fly2000seriesprint.pdf#page=48
medical examination may be necessary, as dictated by their occupational limitations or underlying clinical disorder. Their disposal will depend on the outcome of this assessment:

1. **Unfit.** There are likely to be significant occupational consequences for aircrew found unfit this training. All cases are to be discussed with the SS aeromedical authorities (CA AvMed, CFMO, occupational medicine department or medical board).

2. **Fit but condition may change.** If aircrew are found fit for training but this status may change in the future then the decision is to be recorded on their iHR. The individual concerned is to attend for training with either a completed Appendix 1 or FMed 566.

3. **Fit, stable clinical condition.** If their clinical condition is stable (or not clinically relevant to this training) and they are found fit then this fact should be documented in their aircrew logbook. This statement will then remain valid, subject to annual review at the aircrew PME, unless the JMES or clinical condition changes.

Cases can also be discussed with the Chief Instructor at RAF CAM.

7. **Military personnel – non-aircrew regular flyers.** Non-aircrew military personnel who regularly fly as part of their duties (eg ISTAR mission crew, Air Stewards, Air Dispatchers, PJL and aeromedical staff) are to be screened as follows:

   a. **SBHT.** All personnel in date for an annual level 3 or 4 medical examination holding an MES no lower than A4 L2 M4 E1 are considered fit for SBHT and positive pressure breathing without further screening. All others are managed as ‘other personnel’ below.

   b. **Hypobaric chamber exposure.** Personnel undergoing a chamber experience are to medically examined at unit level prior to attending RAF CAM, using Appendix 1 to this Lflt. If found fit, the individual concerned is to attend for training with the completed Appendix 1. Military personnel presenting with evidence of a current Service diving medical examination may use this in lieu of Appendix 1.

8. **Category 1 or 2 (frequent) flying.** Any personnel without an aircrew medical category (including non-aircrew military personnel and civilians) may undertake high performance military passenger flying. As defined in Annex C of this Lflt, they are sometimes required to undergo hypoxia training (usually via SBHT). Prior to attending RAF CAM for hypoxia training, all subjects are to be medically examined by a doctor with access to the medical record (usually their general practitioner), using Appendix 1 to this Lflt. If found fit the individual concerned is to attend for training with the completed Appendix 1. Exemptions to this are detailed in para 6b of this Annex.

9. **Other personnel.** There are occasions other than passenger flying when civilian or military personnel are required to undergo a hypobaric chamber or SBHT experience or training. Examples include civil servants, civilian contractors, medical and science researchers, volunteers taking part in hypobaric research, film crews and presenters or other selected subjects. These individuals may not be intending to fly in high performance aircraft and, therefore, would not be required to meet the medical standards contained in Para 7 of this Annex. They will, however, be required to meet minimum standards for a hypoxic and/or hypobaric experience. Accordingly, a doctor with access to the subject’s primary care record (usually their registered GP) should complete Appendix 1 to this Lflt, documenting any relevant medical history and examination findings. The individual is to attend RAF CAM with the completed Appendix 1.

---

---
Duration

10. For all candidates, a series of SBHT or chamber runs undertaken within a 6-month period in order to complete a specific operational task are considered a single exposure for the purpose of medical screening.

11. The medical examination at Appendix 1 to this Lflt should usually be completed within 28 days of training; however, once complete the medical screening will be valid for 6 months, provided that the individual certifies that there have been no changes in their medical history since the initial examination. Immediately before undergoing hypobaric chamber training, all personnel will have a short medical inspection to confirm their fitness, at which the Medical Officer in Charge of the hypobaric chamber will review the completed Appendix 1 (or aircrew JMES as appropriate), and will assess the individual's ability to ‘clear’ their ears.

Limitations

12. In all cases where Appendix 1 to this Lflt is used (or Service Occupational Divers medical examination accepted in lieu), a maximum chamber altitude of 25,000 feet, including experience of rapid decompression and hypoxia, is permitted.

Appendix:

1. Medical fitness for hypoxia training and positive pressure breathing.
LEAFLET 3-03 ANNEX L, APPENDIX 1: MEDICAL FITNESS FOR HYPOXIA TRAINING AND POSITIVE PRESSURE BREATHING

The following medical questionnaire and examination (where required) is for use when individuals are to be exposed to hypobaric hypoxia in a hypobaric chamber, scenario-based hypoxia training (SBHT) at ground level, and/or positive pressure breathing training. The completing doctor is to have access to the subject’s primary care record.

1. **Personal Details (To be completed by the individual).**

<table>
<thead>
<tr>
<th>Surname:</th>
<th>Forenames:</th>
<th>Date of Birth:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Service / Staff No:</td>
<td>Rank / Title:</td>
<td>Branch:</td>
</tr>
</tbody>
</table>

2. **Medical History (To be completed by the individual).** Have you ever had any of the medical problems listed below? You should only undergo hypobaric training / SBHT if you are fit and well. If you are currently undergoing medical treatment, investigations or have recently suffered an injury, please inform the medical / nursing officer.

<table>
<thead>
<tr>
<th>Medical History</th>
<th>Yes / No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chest or lung disease</td>
<td>Yes / No</td>
</tr>
<tr>
<td>Asthma, wheeze or recurrent cough</td>
<td>Yes / No</td>
</tr>
<tr>
<td>Pneumothorax (collapsed lung)</td>
<td>Yes / No</td>
</tr>
<tr>
<td>Heart disease</td>
<td>Yes / No</td>
</tr>
<tr>
<td>Chest surgery</td>
<td>Yes / No</td>
</tr>
<tr>
<td>Any blood disorder (e.g. anaemia)</td>
<td>Yes / No</td>
</tr>
<tr>
<td>Ear, nose, sinus or throat problem</td>
<td>Yes / No</td>
</tr>
<tr>
<td>Hay fever</td>
<td>Yes / No</td>
</tr>
<tr>
<td>Any other medical problems</td>
<td>Yes / No</td>
</tr>
</tbody>
</table>

* Conditions that may mimic decompression illness

<table>
<thead>
<tr>
<th>Females Only</th>
</tr>
</thead>
<tbody>
<tr>
<td>Are you, or is there a possibility you may be pregnant?</td>
</tr>
</tbody>
</table>

3. **Additional Information (To be completed by the doctor).** Please elaborate briefly on any positive answers above and provide further information where any discrepancies exist between the answers and the individual’s medical record.

4. **Medication (To be completed by the individual or doctor).** Please list all current medications:
5. **JMES (To be completed by the doctor).** For military personnel, please ensure that the JMES is provided either from JPA or from the individual’s DMICP record.

<table>
<thead>
<tr>
<th>Current Joint Medical Employment Standard (JMES):</th>
<th>A</th>
<th>L</th>
<th>M</th>
<th>E</th>
</tr>
</thead>
</table>

6. **Medical Examination (To be completed by the doctor).** Only required for non-aircrew or aircrew with a JMES of A3L2 or below.

- **Pulse rate**
- **Blood Pressure**

<table>
<thead>
<tr>
<th>Cardiovascular system</th>
<th>Normal / abnormal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Respiratory system</td>
<td>Normal / abnormal</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Neurological system</th>
<th>Normal / abnormal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abdomen</td>
<td>Normal / abnormal</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ears</th>
<th>Visualised</th>
<th>Left</th>
<th>Right</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes / No</td>
<td>Yes / No</td>
<td>Yes / No</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Tympanic membranes</th>
<th>Normal appearance and mobile</th>
<th>Yes / No</th>
<th>Yes / No</th>
</tr>
</thead>
</table>

Please document any other examination as clinically or occupationally required, e.g. in response to an existing medical problem or positive answers in the medical history:

7. **Certification.** I have reviewed the medical record and examined the individual as documented above.

Signature: __________________________ Date: __________________________

Name: ___________________________ Rank / Title: __________________________ Position: __________________________

________________________________________________________________________________________

8. **Pre-Training Declaration (to be completed by the individual on the day of training).**

I confirm that my medical history has not changed since the medical examination above (if undertaken).

I have / have not participated in diving (including SCUBA/sub aqua and STASS) within the last 72 hours (delete as applicable).

I consent / do not consent to medical examination prior to or after hypoxia training (delete as applicable).

I consent / do not consent to the medical officer reviewing my electronic health record if necessary to confirm my fitness to undergo hypoxia training (delete as applicable).

**Hypobaric chamber training only**
I understand that audio/video recordings will be retained for safety purposes such as incident investigation.
I consent / do not consent to the use of my audio/video recording for training purposes (delete as applicable).
I understand that I must remain at RAF CAM for up to 2 hours following hypobaric training (medical officer to advise).

Signature:       Date:       Name:       Rank / Title:       Surname:  Forenames:  Date of Birth:

10. **Pre-training review** *(to be completed by RAF CAM medical staff immediately prior to training).*

For hypobaric training only:

<table>
<thead>
<tr>
<th>Ears</th>
<th>Left</th>
<th>Right</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tympanic membranes</td>
<td>Visualised</td>
<td>Yes / No</td>
</tr>
<tr>
<td>Normal appearance and mobile</td>
<td></td>
<td>Yes / No</td>
</tr>
</tbody>
</table>

Confirmation of medical fitness to participate in training:

<table>
<thead>
<tr>
<th>SBHT / Hypobaric chamber / positive pressure breathing*</th>
<th>FIT</th>
<th>UNFIT</th>
</tr>
</thead>
<tbody>
<tr>
<td>If unfit, reason:</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* delete as applicable

Signature:       Date:       Name:       Rank / Title:
LEAFLET 3-03 ANNEX M: GUIDANCE TO UNIT MEDICAL OFFICERS ON THE PHYSICAL REQUIREMENTS OF COMMAND & LEADERSHIP TASKS AT AIRMEN’S COMMAND SQUADRON

1. The Junior Management & Leadership Course (JMLC) and Intermediate Management & Leadership Course (IMLC) provided by ACS require students to successfully complete an assessed leadership exercise. All exercises take place in the outdoor environment and are conducted in syndicates of up to 8 personnel. A description of the typical physical requirements of the Command & Leadership Tasks (CLT) and other Teambuilding activity is provided below in order to assist Unit Medical Officers in determining whether an individual is sufficiently fit to undertake the training.

JUNIOR / INTERMEDIATE MANAGEMENT & LEADERSHIP COURSE

2. Teambuilding. Students are encouraged to participate in low ropes activity. Good core stability and strength are the most important physical fitness requirements.

3. CLT. All CLT take place throughout the year on the Outside Training Area with students typically spending between 4 days (JMLC) and 2 days (IMLC) taking part in leadership exercises that last up to 80 minutes duration per task. During this time students will be expected as a minimum to walk briskly on uneven ground and as a syndicate carry any equipment needed to complete each task whilst wearing CS95 or PCS, helmet and gloves and carrying any Personal Protective Equipment. Most exercises require some students to carry and lift pine poles, across distances of between 5 and 30 metres. ACS uses pine poles of the following lengths/weights:

   a. 6m pole- Approximately 78 Kg in weight – 4 person lift.
   b. 4.25m pole - Approximately 42 Kg in weight – 3 person lift.

4. Medically Downgraded Personnel. To assist the requirement for training newly promoted personnel, the Management and Leadership Courses can be adjusted to accommodate individuals who are medically downgraded. The importance of understanding individual abilities and limitations in the workplace is covered in theory lessons, and leaders are assessed on how they manage these during practical elements of the course. If necessary, heavy lifting can be delegated to other team members, and running substituted for a brisk walk which is sufficient to complete all leads within the allocated time. The ability to walk briskly over uneven ground is the most important physical requirement.

ADVANCED MANAGEMENT & LEADERSHIP COURSE

5. Outdoor Activities. No leadership tasks are carried out but there is experiential learning that takes place through low rope and high rope activities. Good core stability and strength are the most important physical fitness requirements.

6. Physical Requirements. All activities have a “challenge by choice” ethos so no students are forced to go beyond their comfort zones. Upper body strength, good core stability and balance are the most important physical elements required.

WARRANT OFFICERS STUDY PERIOD & NON COMMISSIONED AIRCREW COURSES

7. Outside Activities. No leadership tasks are carried out.

8. Physical Requirements. There is no physical activity on NCACMT1 and 2. The organised physical training spinning session conducted out of hours on the WOSP course is optional and is “challenge by choice” with respect to the intensity level.
INTRODUCTION

1. G-LOC occurs when cerebral perfusion is interrupted by exposure to +Gz acceleration. Career prevalence of G-LOC in the RAF is around 20%, and it occurs most commonly in training aircraft due to lack of pilot experience (and lack of anti-G suit in the Tucano). G-LOC should be considered a normal physiological reaction to excessive +Gz acceleration, and in general is not indicative of a medical condition. The role of the MO is generally one of support and education, as below.

CAUSES

2. G-LOC is associated with:
   a. High peak +G\textsubscript{Z} acceleration.
   b. Rapid application of +Gz acceleration (high G onset rate).
   c. Unexpected application of +G\textsubscript{Z} (e.g. non-handling aircrew).
   d. Preceding –G\textsubscript{Z} exposure.
   e. Aircraft without G protection.
   f. Inexperience with poor or absent anti-G straining manoeuvre (AGSM).
   g. Dehydration.
   h. Fatigue.
   i. Concurrent ill health (and / or its treatment, including OTC medication).
   j. Reduced blood glucose concentration or missed meal.
   k. Hyperventilation and hypoxia.
   l. Raised body temperature.

RESPONSIBILITIES OF THE MO

3. In cases where an aircrew member presents having suffered from G-LOC, the MO is to determine the circumstances leading to the episode of G-LOC in accordance with Annex A to this Lflt. Open reporting of G-LOC incidents by aircrew members (e.g. via DASOR) is to be encouraged. G tolerance and cognitive performance may be reduced for a considerable period following G-LOC: following such an incident aircrew should be advised not to fly for the remainder of the day and until a satisfactory night’s sleep has been gained. Advice and guidance relating to the factors listed in paragraph 2 above should be given.

4. If an aircrew member is unable to tolerate levels of +Gz acceleration typically expected of someone at his or her stage of training, or G-LOC is recurrent, then a full history, examination and an ECG will usually be sufficient to exclude an underlying cardiovascular disorder. If this is not possible, or doubt remains, then the individual should be referred to CAMS. The case should be discussed with CFMO and (when investigation is complete) referral to the RAF CA AvMed is advised. This will facilitate specialist investigation and retraining, including centrifuge, RAF CAM AvMed flight assessment and AGSM revision as required. Under these circumstances, to minimise the risk of further G-LOC, aircrew are to be temporarily restricted to a G range of -1 to +4G\textsubscript{Z}.
LEAFLET 3-03 ANNEX O: MEDICAL REQUIREMENTS – HIGH G TRAINING (HUMAN CENTRIFUGE)

Background

1. High G training is conducted in accordance with NATO STANAG 3827, but this is not confined solely to aircrew. Both military personnel in ground roles and civilian subjects may also be exposed to such training. This Annex provides details of the evidence of medical fitness required for high G training and high G experience conducted by RAF CAM.

Training

2. High G training is conducted using a human centrifuge (the only UK facility is operated by QinetiQ at Farnborough). The level of G employed, and the protective equipment use will vary depending on the specific aircraft platform for which the training is being provided. Typically most aircrew will be required to demonstrate competence at +7Gz, and Typhoon aircrew will be required to achieve +9Gz. Others (including medical officers) will receive training relevant to their stage of training and role, usually not exceeding +4.5Gz.

Risks

3. The primary medical risks relevant to high G exposure are pre-existing cardio-respiratory and musculo-skeletal conditions (especially the cervical, lumbar and thoracic spine). Performance of the anti-G straining manoeuvre is physically demanding and requires a good level of physical fitness. The use of positive pressure breathing for G protection may exacerbate certain pulmonary conditions, and ear, nose and throat diseases. The circular motion of the centrifuge and the action of the force environment on the middle ear may exacerbate balance related disorders. Although G-Induced Loss of Consciousness is a recognised possible outcome of high G exposure, it is not usually associated with long term sequelae. However, additional risks may be present under these conditions in individuals with epilepsy or other neurological disorders.

Medical Requirements

4. Aircrew. In accordance with RA 2135(7), all aircrew in military fast jet aircraft undergo 5-yearly centrifuge based high G training. For these individuals:

   a. JMES A1/A2 L2 M4 E2 or better. A valid unrestricted aircrew JMES provides adequate evidence that the relevant medical standards for high G training have been met.

   b. JMES below A1/A2 L2 M4 E2. Downgraded aircrew are to be assessed by a MAME to confirm fitness for training, using Appendix 1 if appropriate. In such cases a targeted medical examination may be necessary, as dictated by their occupational limitations or underlying clinical disorder. Their disposal will depend on the outcome of this assessment:

      (1) Unfit. There are likely to be significant occupational consequences for aircrew found unfit this training. All cases are to be discussed with the sS aeromedical authorities (CA AvMed, CFMO, occupational medicine department or medical board).

      (2) Fit but condition may change. If aircrew are found fit for training but this status may change in the future then the decision is to be recorded on their iHR. The individual concerned is to attend for training with either a completed Appendix 1 or FMed 566.

      (3) Fit, stable clinical condition. If their clinical condition is stable (or not clinically relevant to this training) and they are found fit then this fact should be documented in their aircrew logbook. This statement will then remains valid, subject to annual review at the aircrew PME, unless the JMES or clinical condition changes.

Cases can also be discussed with the Chief Instructor at RAF CAM.

5. Category 1 (frequent) flying. Any personnel without an aircrew medical category (including non-aircrew military personnel and civilians) may undertake high performance military passenger flying. Personnel who have been passed fit for Category 1 frequent flying, as defined in Annex C of this Lflt, will be considered...
as fit for high G training. The individual is to attend with evidence of the completed Category 1 (frequent) flying medical.

6. **Other personnel.** There are occasions when other military personnel or civilians are required to undergo high G experience or training. Examples include medical personnel, civil servants, civilian contractors, medical and science researchers, volunteers taking part in research, film crews and presenters or other selected subjects. These individuals may not be intending to fly in high performance aircraft and, therefore, would not be required to meet the medical standards contained in Para 5 of this Annex. They will, however, be required to meet minimum standards for high G exposure:

   a. **Centrifuge experience up to and including +4.5Gz.** For centrifuge experience up to and including exposure to +4.5Gz, a copy of the medical screening questionnaire at Appendix 2 should be completed by each participant and reviewed by the supervising medical officer at the time of training.

   b. **Centrifuge training up to and including +9Gz.** A doctor with access to the subject’s primary care record (usually their MO or registered GP) should complete Appendix 1 to this Lftt, documenting any relevant medical history and examination findings. The individual is to attend RAF CAM with the completed Appendix 1.

**Duration**

7. For all candidates, a series of centrifuge runs undertaken within a 6-month period in order to complete a specific operational task are considered a single exposure for the purpose of medical screening.

8. The medical examination at Appendix 1 to this Lftt should usually be completed within 28 days of training; however, once complete the medical screening will be valid for 6 months, provided that the individual certifies that there have been no changes in their medical history since the initial examination. Immediately before undergoing high G exposure, individuals without a valid unrestricted aircrew JMES will be asked to reconfirm their fitness, and the Medical Officer in Charge of the centrifuge training will review the completed Appendix 1. For those individuals undergoing centrifuge experience up to +4.5Gz, the medical screening at Appendix 2 will be valid for the day of centrifuge experience only.

**Limitations**

9. The medical requirements herein provide evidence of medical fitness for exposure at up to and including +9Gz on a human centrifuge under the direction of RAF CAM personnel.

**Appendices:**

1. Medical examination for high G training (human centrifuge).
2. Medical screening for high G experience (human centrifuge).
LEAFLET 3-03 ANNEX O, APPENDIX 1: MEDICAL EXAMINATION FOR HIGH G TRAINING
(HUMAN CENTRIFUGE)

The following medical questionnaire and examination is for use when individuals are to be exposed to high G (up to +9Gz) on a human centrifuge. The completing doctor is to have access to the subject’s primary care record.

1. **Personal Details** *(To be completed by the individual)*.

<table>
<thead>
<tr>
<th>Surname:</th>
<th>Forenames:</th>
<th>Date of Birth:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Service / Staff No:</td>
<td>Rank / Title:</td>
<td>Branch:</td>
</tr>
</tbody>
</table>

2. **Medical History** *(To be completed by the individual)*. Have you ever had any of the medical problems listed below? You should only undergo centrifuge training if you are fit and well. If you are currently undergoing medical treatment, investigations or have recently suffered an injury, please inform the medical officer.

<table>
<thead>
<tr>
<th>Medical Problem</th>
<th>Yes / No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chest or lung disease</td>
<td>Yes / No</td>
</tr>
<tr>
<td>Asthma, wheeze or recurrent cough</td>
<td>Yes / No</td>
</tr>
<tr>
<td>Pneumothorax (collapsed lung)</td>
<td>Yes / No</td>
</tr>
<tr>
<td>Heart disease</td>
<td>Yes / No</td>
</tr>
<tr>
<td>Chest surgery</td>
<td>Yes / No</td>
</tr>
<tr>
<td>Any blood disorder (e.g. anaemia)</td>
<td>Yes / No</td>
</tr>
<tr>
<td>Hernia</td>
<td>Yes / No</td>
</tr>
<tr>
<td>Any other medical problems</td>
<td>Yes / No</td>
</tr>
</tbody>
</table>

**Females Only**

Are you, or is there a possibility you may be pregnant? Yes / No

3. **Additional Information** *(To be completed by the doctor)*. Please elaborate briefly on any positive answers above and provide further information where any discrepancies exist between the answers and the individual’s medical record.

4. **Medication** *(To be completed by the individual or doctor)*. Please list all current medications:

5. **JMES** *(To be completed by the doctor)*. For military personnel, please ensure that the JMES is provided either from JPA or from the individual’s DMICP record.

| Current Joint Medical Employment Standard (JMES): | A | L | M | E |

6. **Medical Examination** *(To be completed by the doctor)*. Only required for non-aircrew or aircrew with a JMES of A3L2 or below.
<table>
<thead>
<tr>
<th>Pulserate</th>
<th>Blood pressure</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Cardiovascular system</th>
<th>Normal / abnormal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Respiratory system</td>
<td>Normal / abnormal</td>
</tr>
<tr>
<td>Musculo-skeletal system</td>
<td>Normal / abnormal</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Neurological system</th>
<th>Normal / abnormal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abdomen (inc hernial orifices)</td>
<td>Normal / abnormal</td>
</tr>
</tbody>
</table>

Please document any other examination as clinically or occupationally required, e.g. in response to an existing medical problem or positive answers in the medical history:

7. **ECG (To be completed by the doctor)**

<table>
<thead>
<tr>
<th>12 Lead ECG (machine reported result)</th>
<th>Normal / abnormal / further investigation required</th>
</tr>
</thead>
</table>

8. **Certification.** I have reviewed the medical record and examined the individual as documented above.

Signature:       
Date:          
Name:     
Rank/Title:        
Position:            

9. **Pre-training declaration (To be completed by the individual on the day of training).** I confirm that my medical history has not changed since the medical examination above.

I understand that audio/video recordings will be retained for safety purposes such as incident investigation.

I consent / do not consent to the use of my audio/video recording for training purposes (delete as applicable).

Signed:

Name:       
Date:          

10. **Pre-Centrifuge review (To be completed by RAF CAM medical staff).**

<table>
<thead>
<tr>
<th>Medical fitness for high G centrifuge exposure (up to +9Gz)</th>
<th>FIT</th>
<th>UNFIT</th>
</tr>
</thead>
</table>

Signature:       
Date:          
Name:     
Rank/Title:        

LEAFLET 3-03 ANNEX O, APPENDIX 2: MEDICAL SCREENING FOR CENTRIFUGE EXPERIENCE (HUMAN CENTRIFUGE)

The following medical self declaration questionnaire is for use when individuals are to be exposed to increased G (up to +4.5Gz) on a human centrifuge.

1. **Personal Details**

<table>
<thead>
<tr>
<th>Surname:</th>
<th>Forenames:</th>
<th>Date of Birth:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Service / Staff No:</td>
<td>Rank / Title:</td>
<td>Branch:</td>
</tr>
<tr>
<td>JMES (if known)</td>
<td>A</td>
<td>L</td>
</tr>
</tbody>
</table>

2. **Medical History** *(To be completed by the individual).* Have you ever had any of the medical problems listed below? You should only undergo centrifuge training if you are fit and well. If you are currently undergoing medical treatment, investigations or have recently suffered an injury, please inform the medical officer.

<table>
<thead>
<tr>
<th>Medical Condition</th>
<th>Yes / No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chest or lung disease</td>
<td>Yes / No</td>
</tr>
<tr>
<td>Asthma, wheeze or recurrent cough</td>
<td>Yes / No</td>
</tr>
<tr>
<td>Pneumothorax (collapsed lung)</td>
<td>Yes / No</td>
</tr>
<tr>
<td>Heart disease</td>
<td>Yes / No</td>
</tr>
<tr>
<td>Chest surgery</td>
<td>Yes / No</td>
</tr>
<tr>
<td>Any blood disorder (e.g. anaemia)</td>
<td>Yes / No</td>
</tr>
<tr>
<td>Hernia</td>
<td>Yes / No</td>
</tr>
<tr>
<td>Any other medical problems</td>
<td>Yes / No</td>
</tr>
<tr>
<td>Females Only</td>
<td></td>
</tr>
<tr>
<td>Are you, or is there a possibility you may be pregnant?</td>
<td>Yes / No</td>
</tr>
</tbody>
</table>

3. **Additional Information.** Please elaborate briefly on any positive answers above.

4. **Medication.** Please list any current medications:

5. **Pre-training declaration** *(To be completed by the individual on the day of training).* I confirm that my medical history has not changed since the medical declaration above.
I understand that audio/video recordings will be retained for safety purposes such as incident investigation.

I consent / do not consent to the use of my audio/video recording for training purposes (delete as applicable).

Signed:

Name:       Date:

6. **Pre-Centrifuge review** *(To be completed by RAF CAM medical staff)*.

<table>
<thead>
<tr>
<th>Medical fitness for high G centrifuge exposure (up to +4.5Gz)</th>
<th>FIT</th>
<th>UNFIT</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Signature:               Date:

Name:                       Rank/Title
LEAFLET 3-04: SPECIAL MEDICAL ASSESSMENTS (INDUSTRIAL)

Sponsor: SO1 Casework (RAF)

INTRODUCTION

1. Health and occupation are intimately connected as each has an effect on the other. Although classic occupational diseases are becoming increasingly rare as working environments continue to improve, occupation is still a major potential determinant of health. Within the RAF, problems associated with heavy industry are unlikely to be encountered. However, most units have a mixture of light engineering, stores, paint shops and electronic workshops, all of which may have health risks associated with them. Furthermore, noise constitutes a major health hazard on the majority of RAF stations.

2. It is the policy of the Secretary of State for Defence that the MOD will comply with the Health and Safety at Work Act (HSWA) 1974 or the Health and Safety at Work (Northern Ireland) Order 1978, subordinate legislation and other relevant statutory provisions. Overseas, the MOD is to apply UK standards where reasonably practicable and, in addition, comply with the relevant host nations’ standards. Factory Inspectors will normally visit by appointment, but have a right of access to all areas including sensitive operational areas (subject to the appropriate security clearance).

INDUSTRIAL MEDICAL EXAMINATIONS

3. In order to comply with Health and Safety (H&S) legislation, personnel at risk from specified industrial hazards require additional medical examinations. These are conducted in order to exclude personnel with certain medical conditions from exposures that would potentially place the individual or others at increased risk, or to detect early adverse effects following exposure to the industrial hazard. The occasions on which industrial medical examinations are required, the type of examination that is necessary and guidance on important disqualifying medical conditions are detailed at Annexes A to P as detailed below:

   a. Industrial Hazards - Metals (Beryllium, Cadmium, Lead and Chromates/Chrome Oxide) Lflt 3-04 Annex A.
   b. Industrial Hazards – Asbestos Lflt 3-04 Annex B.
   c. Industrial Hazards - CS Gas Lflt 3-04 Annex C.
   d. Industrial Hazards – Respiratory Sensitisers (Isocyanates, Rosin-based solder flux fume, wood dust and miscellaneous chemicals/substances) Lflt 3-04 Annex D.
   e. Industrial Hazards – Noise Lflt 3-04 Annex E.
   f. Industrial Hazards – Hand Arm Vibration Lflt 3-04 Annex F.
   g. Industrial Hazards - Ionising Radiation Lflt 3-04 Annex G.
   h. Industrial Hazards - Non-Ionising Radiation Lflt 3-04 Annex H.
   i. Industrial Hazards – Laser Lflt 3-04 Annex I.
   j. Industrial Hazards - Pressure Testing Aircraft Cabins Lflt 3-04 Annex J.
   k. Industrial Hazards - Confined Spaces Lflt 3-04 Annex K.
   l. Industrial Hazards - Vocational Driving Lflt 3-04 Annex L.
   m. Industrial Hazards - Medical Supervision of Food Handlers Lflt 3-04 Annex M.
   n. Industrial Hazards - Sewerage Workers Lflt 3-04 Annex N.
   o. Pressure Chamber Duties – RAF Centre of Aviation Medicine Lflt 3-04 Annex O.
OCCUPATIONAL HEALTH CARE FOR CIVILIANS

4. The MOD has a duty to ensure that those civilians working on MOD premises in environments with known health hazards are receiving an appropriate level of Occupational Health (OH) care. Where deficiencies in the provision of care are identified by Service medical staff, these are to be notified to the unit Health and Safety Adviser (HSA). Civilians working on RAF units fall into one of 2 categories:

a. Contractors’ Staffs.

b. MOD employed civilians.

5. Contractors’ Staffs. Contractors’ staff either work on specific projects or are employed by a company that provides support services to the Unit, such as catering, administration or engineering. There is no legal duty to provide any medical service for contractor's staff, but there is a moral and ethical duty to provide:

a. Emergency care as detailed in AP1269 Lft 6-01.

b. Fitness to Fly medical examinations (in accordance with Lft 3-03 Annex C), for any employee of a civilian contractor, who is required to fly regularly in a RAF aircraft as part of their duty. See AP1269 Lft 9-04 for further details.

In addition, the Stn Cdr has a responsibility to ensure that all contractors adhere to relevant H&S legislation whilst on the Unit.

6. MOD Employed Civilians. As detailed in AP1269 Lft 6-01, MOD employed civilians are entitled to receive routine occupation health surveillance from the unit medical centre as required. Individual casework is handled by the external Occupational Health (OH) contract provider on behalf of the Civilian Occupational Medicine (Civ OM) Adviser, at Headquarters Surgeon General (HQ SG). Referral action is to go through the People Pay and Pensions Agency – People Services Centre (PPPA PSC). Further information can be found in 2008DIN01-177.

REPORTING OF OCCUPATIONAL DISEASE

7. Confirmation of diagnosis must be made the Regional Occupational Medicine Consultant (for Service personnel) or external OH provider (for MOD employed civilians) before an occupational disease is officially reported. JSP 375 Vol. 2 Lft 14 requires the MOD to report injuries, dangerous occurrences and specified occupational diseases (listed in Schedule 3 to HSE L73) to the Health and Safety Executive (HSE). The mechanism of reporting occupational diseases in the RAF is as follows:

a. The MO must submit a written report to the line manager of the individual concerned on a FMed 566.

b. The line manager is then responsible for completing a F7454 and forwarding it to the Station Health and Safety Advisor (SHSA).

c. The SHSA will enter onto the Incident Reporting Database and, if reportable under RIDDOR, will complete a F2508A and submit to the Incident Contact Centre (ICC) who then notify the relevant enforcing authority (in the case of the MOD, this is the HSE).

SPECIALIST RESOURCES

8. Sources of specialist OH advice are given, where relevant, in several of the Annexes to this leaflet. For more general OH advice, and for help with specific problems concerning Servicemen, the following personnel are able to help:
a. SO1 Casework (RAF), for OH technical issues.
b. SO1 Med Pol (RAF), for medical policy issues.
c. CFMO (RAF), for aviation related occupational health issues.
d. Deputy OC Occupational and Environmental Medicine Wing (Dep OEM Wg) at the RAF Centre of Aviation Medicine (RAF CAM).
e. The Regional Occupational Medicine Consultants. Further detail is provided in AP1269 Lft 1-04.

The local office of the Employment Medical Advisory Service may be contacted on general occupational health matters (for example, provision of educational material) but should not be approached on specific cases without command approval.
LEAFLET 3-04 ANNEX A: INDUSTRIAL HAZARDS - METALS (BERYLLIUM, CADMIUM, LEAD AND CHROME OXIDE)

POPULATION AT RISK

1. Four metals of medical significance are in use within the RAF: beryllium; cadmium, lead and chrome oxide. Personnel working with these metals may be deemed at risk as detailed below:

   a. **Beryllium.** All personnel who handle beryllium or beryllium compounds may be at risk should significant exposure to these metals occur. Exposure is most likely to occur in processes that involve a risk of inhaling dust or fume, such as grinding, melting and handling powders and soluble salts. Further information on the uses and hazards of beryllium is contained in AP100B-10 (Data Sheet S.1802).

   b. **Cadmium.** Cadmium plated components and materials containing cadmium are widely used in the RAF. Tasks which may expose personnel to cadmium hazards include welding, braising and silver soldering involving the use of metals with cadmium content. Additionally, the disposal of nickel cadmium batteries, filing, grinding and drilling of cadmium plated metals, the dismantling and packaging of corroded cadmium plate and the removal of corrosion may all lead to cadmium exposure. Tradesmen whose normal work frequently exposes them to cadmium fume or cadmium dust are classified as cadmium workers. The MO should consult with OC Eng Wg when deciding which tradesmen should be so classified. Further information on the uses and hazards of cadmium is contained in AP100B-10 (Data Sheet S.1804).

   c. **Lead.** A potential hazard exists for all personnel who work on indoor ranges or are engaged in de-leading operations for any Service firing range. Where exposure to lead is significant, as defined in Regulation 2 (Control of Lead at Work Regulations 2002), personnel must undergo medical surveillance by either an Employment Medical Inspector or appointed doctor as stated in Regulation 2 (Control of Lead at Work Regulations 2002). Environmental health staff should undertake monitoring to confirm the exposure level. Further information on the control of lead pollution is contained in JSP 403, Chapter 30 and AP100B-10 (Data Sheet S.1805).

   d. **Chrome Oxide.** Personnel may occasionally be required to scatter chrome oxide onto spillages. The key detectable feature of excessive chrome exposure is the development of painless ulceration (or perforation) of the skin and nasal septum. The only screening required is regular inspection of the exposed skin and nasal septum. In keeping with civilian practice, this inspection can be conducted by a designated work-colleague and does not need to be undertaken by a medically trained individual. However, SMOs whose patients are exposed to chromium salts must be prepared to offer advice to line managers and are to seek advice from SO1 Casework (RAF) as appropriate.

FURTHER READING

2. Further information is available in the publications detailed below:

   a. AP 100B-10 – *Engineering Substances Hazardous to Health.*

   b. The Control of Lead at Work Regulations 2002.

   c. JSP 403 – *Handbook of Defence Land Ranges Safety.*

   d. HSE Guidance Note EH 13 Beryllium: health and safety precautions.

   e. HSE Guidance Note EH 1 Cadmium: health and safety precautions.

MEDICAL CONCERNS

3. All materials containing beryllium constitute a potential hazard. The most serious is associated with beryllium either in its sintered form or as surface corrosion on metal. The handling of solid beryllium components is safe, provided they are undamaged, clean and free from powder or corrosion. The major risk arises from inhalation of the dust or fume. Acute poisoning causes a chemical pneumonitis (with pulmonary
oedema in severe cases). Additionally, conjunctivitis and naso-pharyngitis may occur. Chronic poisoning produces a sarcoid like reaction with dry cough, retro-sternal pain, dyspnoea and weight loss. Granulomas may develop in the lung and other organs. Soluble beryllium salts (fluorides in particular) are primary irritants of the skin and respiratory sensitizers.

4. The acute effects of exposure to cadmium fumes are mainly those of metal fume fever. Immediate effects are irritation of the eyes, nose and throat and a metallic taste in the mouth. This is followed shortly after by cough, headache, dizziness, weakness, fever, rigors, dyspnoea and chest pain. These effects may ultimately lead to chemical pneumonitis. Chronic cadmium poisoning can occur following brief exposures to low concentrations of cadmium fume and dust over periods as short as one year. The main symptoms are non-specific and include gastrointestinal disturbance, anosmia, epistaxis, rhinorrhea and weight loss. The main target organs are the lungs and kidneys. Emphysema can be severe and is usually focal and nephrotoxicity is usually manifested as tubular damage with proteinuria, glycosuria and amino aciduria (further information is supplied in ‘Guidance Note EH 1, Cadmium: health and safety precautions’).

5. Inorganic lead may be absorbed into the body by inhalation or ingestion. It is harmful because it affects the bone marrow, central nervous system and peripheral motor nerves. The acute effects of lead poisoning are non-specific and include headaches, tiredness, abdominal pain, constipation and weight loss. Additionally, lead can cause a disturbance of haem synthesis by inhibiting enzymes in the haem system causing the haem molecule to combine with zinc in preference to iron to form zinc protoporphyrin, which is unable to carry oxygen. Inorganic lead compounds also have a direct toxic effect on motor nerves which interferes with normal conduction, leading to progressive motor neuropathy which may develop rapidly. Renal damage and encephalopathy can also occur (further information is supplied in ‘Hunter’s Diseases of Occupations’, ninth edition).

TYPE OF EXAMINATION REQUIRED

6. Medical examinations for designated beryllium and cadmium workers are to be undertaken by a MO or CMP as detailed in paragraph 7 below.

7. Medical examination for lead exposed personnel may only be undertaken by either an Employment Medical Inspector or a HSE appointed doctor. HSE appointment is made on a named doctor only basis. However, the Employment Medical Advisory Service (EMAS) is prepared to appoint MOD employed doctors who can show that they would undertake sufficient screening examinations per year to maintain clinical competence in assessing lead workers. Medical surveillance for personnel exposed to lead may be arranged through SO1 Casework (RAF) at RAF CAM.

FREQUENCY

8. Personnel exposed to inorganic-metal hazards are to be examined as follows:

a. Pre-employment:

(1) Beryllium and cadmium workers are to have a full medical examination including spirometry (level 4) before starting work with these metals. The examination is to include a chest x-ray unless there is a record of a normal chest x-ray in the past and no history of chest disease in the intervening period.

(2) Initial assessment for lead workers should ideally be carried out prior to commencement of work with lead but may be undertaken up to 14 days thereafter. The assessment should consist of consideration of the worker’s occupational record with particular reference to any earlier exposures to lead, a clinical assessment and measurement of haemoglobin, blood and urinary lead as a baseline for future measurements (as stated in Regulation 10 Control of lead at Work Regulations 2002). The individual should give written consent for disclosure of biological monitoring results to line management (see AP1269 Lft 4-01).

b. Periodic Medical Surveillance:

(1) Beryllium workers are to undergo a medical screening (level 3), spirometry and inspection of hands and forearms for skin lesions every 12 months. Specific questions regarding smoking habit, cough, breathlessness, skin symptoms, anorexia, weakness,
tiredness and joint pains should be asked. The screening should be undertaken by an occupational health trained nurse or MO.

(2) Cadmium workers are to undergo 6-monthly medical surveillance to include spirometry, urinalysis and weight check. Measurement of urinary and blood cadmium should be considered at 6 monthly intervals in personnel at a high risk from cadmium exposure (as stated in Guidance Note EH 1, Cadmium: health and safety precautions). This should be undertaken by an occupational health trained nurse or MO.

(3) The intervals between periodic medical assessment of lead workers is not to exceed 12 months. The appointed doctor may decide the frequency of carrying out periodic medical assessments so long as the worker's blood-lead concentration remains below the appropriate level. This assessment should consist of a measurement of blood-lead and a clinical assessment. Other relevant biological tests may be undertaken at the doctor’s discretion (as stated in Regulation 10 Control of Lead at Work Regulations 2002).

c. Final Medical Examination. When an individual ceases to work with any of the above mentioned metals, a final full medical examination (level 4) including spirometry is to be undertaken by a MO.

DISQUALIFYING CONDITIONS

9. Personnel with chest diseases are excluded from working with beryllium or cadmium. Personnel with anaemia are to be excluded from working with lead. In addition, personnel who have a previous history of working with inorganic metal may not start work with such substances until their previous exposure has been fully assessed.

10. At periodic medical examination, development of chest disease or renal impairment must lead to suspension of a cadmium worker. Similarly, development of chest disease or skin lesions must result in suspension of a beryllium worker. A level of blood-lead in excess of the statutory limits will automatically lead to suspension of a lead worker from further exposure. Women of reproductive capacity should not be exposed to the same level of inorganic lead as other workers, so their action and suspension levels are significantly lower (Regulation 2, Control of lead at Work 2002). A pregnant worker is to be removed from any work where exposure to lead is liable to be significant (as stated in Regulation 2 and 10, Control of Lead at Work Regulations 2002).

WAIVERS TO EXAMINATION

11. Personnel due to commence work with beryllium or cadmium may have their initial medical examination waived subject to appropriate questions being documented at any level 4 medical examination undertaken within the previous six months.

12. Should a routine medical examination fall due at a time close to a metal worker’s mandated periodic review the examinations may be combined.

DOCUMENTATION REQUIRED

13. Records of beryllium and cadmium medical examinations are to be recorded on a FMed 143A and disposed of in accordance with Lft 3-01 Annex B. DMICP forms produced by appropriate templates are permitted. For civilian workers, the examination record is to be retained in the individual’s Occupational Health Record, either within a sealed envelope in the personnel file, or in an independent medical record held within the medical centre. In the latter case medical records must be sealed in a suitable envelope and transferred to Civil Admin for incorporation in the personnel record when that individual ceases to be employed at the Unit. Records of these medical examinations are to be kept for 40 years (as stated in Guidance Notes EH 1, Cadmium, health and safety precautions and EH 13, Beryllium: health and safety precautions).

14. Records of lead medical examinations are to be kept in accordance with HSE Approved Code of practice for lead. In addition, a FMed 143A is to be raised detailing the results of the examination so that suitable records are held in a Service person’s FMed 4. Similar arrangements apply to civilian workers.

15. Fitness is to be notified to line management on a FMed 566.

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LEAFLET 3-04 ANNEX B: INDUSTRIAL HAZARDS - ASBESTOS

POPULATION AT RISK

1. At least 4700 people die of mesothelioma and asbestos related lung disease in the UK each year. The numbers of deaths are expected to rise as the onset of fatal disease occurs 15 to 60 years after first exposure. Asbestos was widely used as an insulating material from the 1950s to the mid 1990s and may be found in many RAF buildings. In addition, asbestos is found in brake linings and cloth insulation around exhaust systems of some ground equipment.

2. In its solid state the substance is safe, but it is hazardous when friable as dust may be inhaled. Personnel may be at risk if exposed to dust from crumbling asbestos lagging. It is difficult to accurately relate specific asbestos exposures to an increased risk of developing disease in the future. The degree of risk will depend on the total life time cumulative exposure, the type of asbestos involved and the time elapsed since the person was first exposed.

3. The RAF does not have licenced asbestos workers but accidental exposure from friable asbestos lagging is possible. Measurement of contamination levels must be made, with Environmental Health (EH) assistance, as soon as an exposure to asbestos is suspected. If an exposure is suspected, a MoD Form 960 is required to be completed (see JSP 375 for further information).

FURTHER READING

4. The publications detailed below give further information:
   c. Health and Safety Executive (HSE) website.

MEDICAL CONCERNS

5. There are no known acute health effects from exposure to asbestos unless high dust levels cause physical irritation. Chronic effects include fibrotic lung disease (asbestosis), pleural thickening and pleural plaques, pleural effusions, lung carcinoma (synergistic with smoking, relative risk increased approximately 23 times compared with non-smokers), and malignant mesothelioma. There are also associations with skin corns and cancers of the oropharynx, gastrointestinal tract and kidney, larynx and ovary.

MEDICAL SURVEILLANCE

6. Personnel employed by MoD do not require specific asbestos medical surveillance, provided that:
   a. Any exposure to asbestos is sporadic and of low intensity.
   b. It is clear from the risk assessment that the exposure of any employee to asbestos will not exceed the control limit as defined in current legislation.

7. Personnel who will be exposed to asbestos above the control limit are to undergo a pre-employment medical examination (level 4) or have proof of a full medical examination, to the same standard, within the previous 2 years. Periodic medical examinations are to be conducted thereafter by the HSE appointed doctor at intervals not exceeding 2 years for as long as the exposure continues.

8. Where it is suspected that an individual has been accidentally exposed to asbestos dust above the control limit an initial medical assessment should be conducted by a medical officer, a health record raised, the Station Health and Safety Advisor and EH Tech informed and the medical record annotated accordingly; to include date(s), duration, type of fibre and likely exposure levels (if known). No follow-up medical

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75 The Control of Asbestos Regulations 2006 s3(2).
examinations are required provided the cause of the asbestos exposure is rectified. Further information for the MO, line management and personnel can be found on the HSE website (see Further Reading).

9. Where, as a result of medical surveillance, a patient is found to have an identifiable disease or adverse health effect which is considered to be the result of exposure to asbestos at work, medical staff are to discuss the case with Environmental Health staff and SO1 Casework (RAF).

DISQUALIFYING CONDITIONS

10. Nil.

WAIVERS TO EXAMINATION

11. Nil.

DOCUMENTATION REQUIRED

12. If an employee is exposed to asbestos dust at a dose above the control limit, a health record is to be raised and maintained for at least 40 years. This health record - MOD Form 960 - is an executive document and is to be kept separate from the clinical record of the case. Clinical records of medical examinations are to be recorded on a FMed 143 and on the individuals DMICP clinical record using the Read code ‘COSHH: Asbestos’ – ‘TRISCO28’. Individuals are to be issued a dated FMed 566 stating that an examination has taken place. Health records and clinical notes are to be completed in accordance with HSE guidelines.

13. Where a FMed 4 is still used for Service personnel, records of exposed, or potentially exposed personnel are to be annotated in red with the word ‘ASBESTOS’ and details of the exposure are to be included on the FMed 133 on leaving the Service.
LEAFLET 3-04 ANNEX C: INDUSTRIAL HAZARDS - EXPOSURE TO CS GAS

POPULATION AT RISK

1. All personnel attending the Defence NBC school are usually exposed to CS gas. Personnel may also be exposed to CS gas during Common Core Skills (CCS) training.

FURTHER READING

2. Further information is available in the Department of Health (DoH) publication: Committees on Toxicity, Mutagenicity and Carcinogenicity of Chemicals in Food, Consumer Products and the Environment - Statement on 2-Chlorobenzyldiene Malonitrile (CS) and CS Spray-September 99.

MEDICAL CONCERNS

3. Under normal conditions CS ‘gas’ forms a cloud of microscopic particles with a low vapour pressure and poor solubility in water. The particles are potent sensory irritants becoming attached primarily to moist mucous membranes and moist skin. CS can aggravate respiratory, skin and eye conditions. Flying restrictions for aircrew exposed to CS gas are detailed in MRP FLY 2000 Series, RA 2135(8).39

TYPE OF EXAMINATION REQUIRED

4. A level 2 medical inspection is required prior to attending the Defence NBC school. A MO is to see all patients where doubt about fitness exists. Routine inspection of Service personnel prior to CCS training is not required.

FREQUENCY

5. Prior to attending the Defence NBC school.

DISQUALIFYING CONDITIONS

6. Previous adverse reaction to CS gas and pregnancy are absolute bars to CS gas exposure. Chest disease, paragraph-nasal sinus disease, eczema and allergic skin conditions, and acute inflammatory eye conditions are all relative contraindications to exposure to CS gas. Each case should be judged on its merits. Alternatives are available to test the function and fit of respirators during CCS training and NBC clothing, properly worn, gives adequate protection to the skin and respiratory tract. Personnel unfit CS gas exposure, irrespective of trade, are therefore graded L2, ‘Unfit exposure to CS gas’ (MedLim 1100). However, the conditions associated with the need for this limitation will usually require additional limitations, resulting in a lower JMES.

WAIVERS TO EXAMINATION

7. Nil

DOCUMENTATION REQUIRED

8. A record of the inspection is to be recorded in the patient’s electronic health record using the Read Code ‘Medical Inspection’ - ‘TRISME2’, with the type of inspection ‘Exposure to CS Gas’ annotated as free text. A FMed 566 is to be issued to the patient certifying fitness for exposure to CS Gas.
LEAFLET 3-04 ANNEX D: INDUSTRIAL HAZARDS – RESPIRATORY SENSITISERS
(ISOCYANATES, ROSIN-BASED SOLDER FLUX FUME, WOOD DUST AND
MISCELLANEOUS CHEMICALS / SUBSTANCES)

POPULATION AT RISK

1. A number of respiratory sensitisers of medical significance are in use within the RAF; Isocyanates, Rosin-based solder flux fume, Wood Dust and miscellaneous chemicals such as photographic developing chemicals and non-rosin based solder flux fume. Personnel working with these respiratory sensitisers may be deemed at risk as detailed below:

   a. **Isocyanates.** Isocyanates are used very widely in surface coatings, adhesives, sealants, polyurethane foams and printing inks. The greatest risk arises from exposure to airborne vapours released during mixing and curing of 2-pack paint systems. Painters and finishers regularly work with isocyanates and Safety Equipment (SE) fitters may be at risk if working with isocyanate based adhesives.

   b. **Rosin-based Solder Flux Fumes.** Rosin-based solder flux fumes are given off when manual soldering is undertaken. At temperatures above 200 degrees Centigrade, rosin-based fluxes begin to produce flames with resin acid particulate and other gaseous components. Between 250 and 400 degrees Centigrade, particulate levels can triple. Manual soldering with a hand-held iron poses the greatest risk of fume exposure because the operator’s breathing zone is directly located in the fume generation zone. Even those nearby or exposed to drifting or accumulating fume may be at risk. Therefore, Service personnel undertaking manual soldering are at risk of exposure from these fumes.

   c. **Wood Dust.** A number of activities are likely to produce high levels of wood dust; these include machining operations, sanding, bagging of dust from dust extraction systems, operations involving composite boards and cleaning activities (especially sweeping or using compressed airlines to blow dust off surfaces).

   d. **Miscellaneous.** All processes, which use or generate substances hazardous to health, must be assessed. The assessment will require the assessor to obtain the Material Safety Data Sheet (MSDS) for the chemicals/substances being used. The MSDS will advise if the chemical/substance presents a risk of occupational asthma or sensitisation. Further advice on the risks associated with a chemical/substance can be found in HSE Guidance Note EH 40/2005 (as amended). The risk assessment undertaken in accordance with the Control of Substances Hazardous to Health Regulations 2002 (as amended) should determine if the chemical/substance presents a risk of being a respiratory sensitiser and should determine the requirement of health surveillance as necessary. Miscellaneous chemicals/substances that present a potential risk of respiratory sensitisation include non-rosin based solder flux, photographic development chemicals and resins/glues.

FURTHER READING

2. The following publications give further information:

   a. Material Safety Data Sheets for chemicals/substances.

   b. Control of Substances Hazardous to Health Regulations 2002 (as amended).

   c. JSP 375, Vol. 2.

   d. Health and Safety Executive Guidance Notes:

      (1) EH 40/2005: Workplace Exposure Limits (as amended).

      (2) HSG 61: Health Surveillance at Work.

      (3) MS 25: Medical Aspects of Occupational Asthma.
3. Free isocyanate poses a hazard to health through skin, eye or respiratory irritation and may rarely precipitate a severe asthmatic attack. The substances are also powerful sensitizers which can lead to reactions following a subsequent exposure to very low concentrations. Isocyanate sensitisation is the commonest cause of occupational asthma in the UK. Severe overexposure can result in pulmonary oedema which may prove fatal.

4. Rosin-based solder flux fumes contain high levels of sensitising agents comprising of respirable particles. These particles are small enough to reach the deepest gas-exchange regions of the lung and are similar in size to cigarette smoke. When inhaled, the fume may act as a respiratory sensitizer, a severe irritant to the eyes and upper respiratory tract. This can lead to occupational asthma or may worsen existing conditions. On contact with the skin, this fume can also cause allergic dermatitis.

5. Inhalation of wood dust and skin contact wood and wood dust can cause a variety of ill-health effects. These include the following:

   a. Skin disorders – irritation and dermatitis.
   b. Respiratory disease – mucous membrane irritation, occupational asthma, allergic alveolitis and rhinitis.
   c. Nasal cancer.
   d. General ill-health effects – dizziness, drowsiness and abdominal pains.

TYPE OF EXAMINATION REQUIRED

6. For both Service and civilian personnel, a skin and detailed respiratory history (including completion of the occupational asthma screening questionnaire given at Lfft 3-04 Annex D Appendix 1) and interpretation of spirometry is required. For Servicemen the examination should include a review of their medical records. The initial examination is to be undertaken by an occupational health trained nurse or MO. However, subsequent assessments can be delegated to a nurse trained in spirometry. The nurse is to refer the following cases to the MO:

   a. Where a positive response is given in any part of the questionnaire.
   b. Where a deterioration is observed in spirometry.
   c. Any other cases at the nurse’s discretion.

FREQUENCY

7. Routine medical surveillance is to be conducted as detailed below:

   a. Pre-placement medical examination before first working with respiratory sensitizers.
   b. Sensitisation may occur early; therefore, new workers are to have spirometry conducted at 6 weeks and 12 weeks after commencing work with respiratory sensitizers. Thereafter, spirometry is to be repeated every 12 months. The occupational asthma screening questionnaire is to be completed at these times.
c. Annual review of medical history with special emphasis on respiratory symptoms for personnel who continue to be exposed to respiratory sensitisers.

8. Personnel with repeated short term absences secondary to respiratory illness are to be assessed by a MO before they recommence work with respiratory sensitisers.

DISQUALIFYING CONDITIONS

9. Individuals who have, or develop, asthma, bronchitis, pulmonary fibrosis or impaired lung function should not work with respiratory sensitisers pending physician referral, if necessary, and assessment of fitness for work by the appropriate ROMD (see AP1269 Lfit 1-04). If occupational asthma is suspected, the ROMD or supervising consultant physician will, if necessary, make a tertiary referral to the Occupational Medicine Clinic at the Royal Brompton National Heart and Lung Hospital. Personnel with dermatological problems aggravated by contact with isocyanates or rosin-based solder flux fume are to be assessed unfit for further exposure, pending ROMD assessment.

DOCUMENTATION REQUIRED

10. Details of medical surveillance, including positive responses to the questionnaire and the spirometry result are to be recorded on a FMed 143A (electronic or hard copy). Line management is to be informed of the individual’s fitness on a FMed 566. For entitled civilian workers, the examination is to be retained in the individual’s Occupational Health Record. If the record is not electronic then the examination is to be either within a sealed envelope in the personal file, or in an independent medical record held within the medical centre. If applicable, a copy should be sent to the individual's occupational health provider (for example ATOS Healthcare). Records of these medical examinations are to be kept for 40 years.
LEAFLET 3-04 ANNEX D, APPENDIX 1: OCCUPATIONAL ASTHMA MEDICAL QUESTIONNAIRE

Number:   Rank:   Name and Initials:

1. This screening questionnaire may be used for the detection of occupational asthma.

2. The questionnaire is designed to be sensitive rather than specific.

3. Any positive response should result in a referral to a Medical Officer.

4. The questions in Part A relate to asthma. The questions in Part B relate to eye, upper respiratory tract and skin irritation and sensitivity.

PART A

In the past 12 months or since your last medical assessment:

Have you had any episodes of wheeze or chest tightness? YES NO
Have you taken any treatment for your chest? YES NO
Have you woken from sleep with cough or chest tightness? YES NO
Have you had any episodes of breathlessness? YES NO
Have you had time off work with chest problems? YES NO
Have you experienced chest tightness or wheeze after exercise? YES NO
Have you experienced difficulty with breathing? YES NO

PART B

In the past 12 months or since your last medical assessment:

Have you experienced irritation or watering of the eyes? YES NO
Have you had soreness of the nose, lips or mouth? YES NO
Have you had itching or irritation of the skin? YES NO

Signature: Date:
LEAFLET 3-04 ANNEX E: INDUSTRIAL HAZARDS - NOISE

SUMMARY

1. This Annex details the health surveillance for Service personnel and civilians required for noise under the new Control of Noise at Work Regulations 2005, which came into force on 6 April 2006. These Regulations provide legislation to protect persons against risk to their health and safety arising from exposure to noise at work. They are similar to the noise at Work Regulations 1989, but noise action levels have been reduced by about 67% (5 dB), and a maximum permitted weekly noise exposure measured at the ear under any hearing protection used has been introduced. The identification, by risk assessment, of individuals requiring health surveillance is a line management task. This leaflet should be read along with SGPL 05/09 which provides guidance of the employment and deployment of personnel with reduced audiometry acuity.

TYPE OF EXAMINATION REQUIRED

2. Automated screening audiometry (over frequency ranges 0.5 kHz - 8 kHz) is to be conducted by medical centre staff, in accordance with JSP 6-4-2 and JSP 6-4-4. Otoscopy is to be conducted by an appropriately qualified and competent nurse or MO on all audiometry failures and a detailed noise exposure history taken (including social exposure). Specific actions (see JSP 6-4-2 and JSP 6-4-4), which may include referral for specialist ORL opinion, is mandatory for hearing loss when:

   a. It is associated with other symptoms (tinnitus, vertigo, earache, headache, facial pain etc).
   b. It is associated with pathological signs (nystagmus, cranial nerve lesions etc).
   c. It is unilateral. This is defined as greater than 40 dB difference between the summed hearing thresholds at 1, 2, 3 and 4 kHz between both ears or greater than 10 dB loss at two adjacent frequencies.
   d. Hearing falls below H2 for branches/trades requiring an entry hearing standard of H2H2.
   e. Hearing falls below H1 for branches/trades requiring an entry hearing standard of H1H1.
   f. Audiometric deterioration is rapid, irrespective of H grading. This is defined as a change of 30 dB or more in the sum of 3, 4 and 6 kHz within a 3 year period, or a change of more than 10 dB at 4 or 6 kHz since the last audiogram.
   g. Personnel are graded H3 or worse at their release medical examination, and have not previously been under review by a specialist in ORL.
   h. Either ear crosses the threshold from H1 to H2.
   i. First occurrence of H3 at any assessment.

ORL consultants should give clear advice on the requirement for on-going specialist review. The policy for deaf individuals is contained in Lflt 5-15, paragraphs 9-11.

FREQUENCY

3. Service personnel. Armed Forces service is generally considered as a noise hazardous environment, but average noise exposure is difficult to assess due to the variety of tasks undertaken in the Home Base, and on exercises and deployments. Therefore, routine audiometry is to be carried out on a 2 yearly basis.

4. Civilian personnel. For civilian personnel refer to JSP 6-4-4 paragraph 14.

5. This replaces the need for audiometric examination at FMS/PME unless it coincides with or is within 6 months of the individual’s 2 yearly/biennial examination. There is no change in the frequency for clinically indicated audiograms (see AP 1269, Lft 5-05, Annex S).

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76 Controlling noise at work. The Control of Noise at Work Regulations 2005. HSE Guidance in Regulations Appendix 5.
77 SGPL05/09
78 Controlling noise at work. The Control of Noise at Work Regulations 2005. HSE Guidance in Regulations Appendix 5.
79 SGPL05/09
Page: 155
Publication date: 01/08/16
DISQUALIFYING CONDITIONS

6. Personnel whose hearing deteriorates below H2 standards need not normally be disqualified from working in a noise-hazardous environment, but should be monitored annually by the MO. There is some evidence that personnel who become aware that their hearing is being damaged are more assiduous in adhering to the protection measures than their unaffected colleagues. Therefore, these personnel may be less likely to suffer further hearing damage. An individual is to be temporarily excluded from the noise hazard area if an unusually rapid deterioration in hearing standard is detected, pending clinical assessment by a Consultant in ORL.

DOCUMENTATION REQUIRED

7. Audiometry findings of Service personnel are to be recorded in accordance with AP1269 Lft 5-05, Annex S. For MOD civilians, the audiogram results should be kept in the individual’s occupational health record and with the patient’s consent, copied to the individual’s GP (see AP1269 Lft 4-01).

RECALL SYSTEM

8. Unless clinically indicated, all Service personnel are to undergo audiometric examination on a 2 yearly cycle. Until a universal process is available on DMICP local management solutions are to be introduced, whereby units are to initiate a robust system to ensure any Service person that has not undergone audiometric examination in the preceding 2 years is called forward appropriately. Thereafter, unless otherwise indicated, all RAF personnel are then to be recalled 2 yearly.
LEAFLET 3-04 ANNEX F: INDUSTRIAL HAZARDS – HAND ARM VIBRATION

POPULATION AT RISK

1. Hand-Arm Vibration Syndrome (HAVS) is caused by Hand Transmitted Vibration (HTV) through the use of power tools. The frequency range 2-5000 Hz is potentially damaging, with 5-20 Hz thought to pose the greatest risk, and (like noise exposure) the dose received is a function of both the amplitude of the vibration and the duration of tool use. The Health and Safety Executive (HSE) recommends medical surveillance when the exposure regularly exceeds the Exposure Action Value (EAV) (an 8-hr time-weighted average (A(8)) of 2.5 ms⁻²). However, vibration exposure is far harder to quantify than noise due to many variables that affect a worker's actual “dose” received. Any regular prolonged use of a high-vibration tool should be regarded as suspect, especially if it causes tingling or numbness in the user’s fingers after less than 20 minutes of continuous use. Identification of personnel requiring surveillance is a line management responsibility.

FURTHER READING

2. Further information is contained in the publications detailed below:
   b. HSE guidance on the Hand Arm Vibration website containing further information and useful patient leaflets (www.hse.gov.uk/vibration/hav/index.htm)
   c. JSP 375 Vol. 2 Lft 38: Control of Vibration at Work.
   d. JSP 950 Lft 6-4-3: Hand Arm Vibration Syndrome Health Surveillance.

MEDICAL CONCERNS

3. HAVS comprises:
   a. Vascular disorders causing blanching of the affected fingers (Raynaud’s phenomenon - see Lft 5-08). In severe cases hands may become cyanotic with skin changes leading to ulceration and gangrene.
   b. Neurological damage causing numbness and tingling in the affected fingers, reduced grip strength and dexterity, and reduced sensitivity to touch and temperature.
   c. Pain and stiffness in the hands, wrists, elbows and shoulders, reduced grip strength and carpal tunnel syndrome (although these are less well understood than the conditions at sub-paragraphs a and b).

4. Symptoms can begin some time after first exposure (range one month to 30 years) with vascular symptoms usually occurring first. Importantly, although HTV causes the vascular disorder it does not necessarily precipitate the symptoms; the main trigger is exposure to cold and so finger blanching need not occur during, or immediately after, tool use to be due to vibration. Vascular symptoms may improve with cessation of exposure but neurological changes are thought to be permanent.

5. Knowledge of the dose-response relationship between HTV and HAVS is incomplete and there appears to be significant individual variation in the vulnerability to HAVS. Restricting the exposure to less than the daily Exposure Limit Value (5 ms⁻² A(8)) does not guarantee that the cases of HAVS will not occur. Indeed, it has been estimated that exposure limited to 5 ms⁻² A(8) will still result in a 10% lifetime risk of developing serious sensori-neural symptoms. Therefore, medical surveillance is required to identify any affected individual before significant disability occurs.

6. The evidence to suggest smoking as a risk factor is inconclusive but smoking itself reduces circulation of blood to the fingers and is to be strongly discouraged in those exposed to HTV.

INITIAL ASSESSMENT
7. There is consensus among doctors that individuals with pre-existing damage to the nerves or blood supply to the hands should not be exposed to HTV.

   a. **Service Personnel.** Service personnel do not require screening prior to exposure to HTV as personnel at high risk of developing HAVS would be identified as part of the recruitment process.

    b. **MOD Employed Civilian Personnel.** MOD employed civilian personnel do not necessarily receive an extensive pre-employment medical assessment. Therefore, their line management is to ensure they complete a pre-exposure questionnaire (Lft 3-04 Annex F, Appendix 1). Completed questionnaires become ‘Protect – Medical’ and are to be forwarded to the Medical Officer for review, then filed in the individual’s Occupational Health Record. Individuals with no symptoms suggestive of HAVS, or other relevant medical history, are fit for HTV exposure. Individuals with possible symptoms of HAVS or pre-existing upper limb conditions are to be seen by the external civilian OH service provider for further assessment and a decision on their fitness to work with vibrating tools. Specialist referral may be required. Line managers are to be informed of any decision on fitness for exposure to HTV.

**ONGOING SURVEILLANCE**

8. Ongoing surveillance is required for all personnel likely to be regularly exposed to HTV above the EAV. A self administered screening questionnaire at Lft 3-04 Annex F, Appendix 2 is to be used by line management on a regular basis, normally annually. (Service personnel exposed to variable levels of HTV due to a variety of tasks undertaken at their home unit and on deployment may have less frequent screening at intervals if so determined by a specific risk assessment.) Completed questionnaires, both positive and negative, are to be sent to the Medical Centre for retention in the individual’s medical record; however, all personnel exposed to HTV are aware of the health hazards and the need to report any symptoms at once and not to wait until the next time screening is carried out. The Medical Centre should inform the line manager of the individual’s fitness (or unfitness) to work with vibrating tools, on an FMed 566.

9. Any Service individual giving a positive answer in the questionnaire is to be referred to their MO or Occupational Health Nurse, who is familiar with HAVS, for further assessment. Cases with a positive questionnaire response definitely not related to HAVS can continue working with routine surveillance and their line manager informed with an FMed 566. All remaining positive responses should be referred for an occupational medicine opinion; it may be necessary to temporarily restrict HTV exposure prior to assessment, line management should be informed using an FMed 566. Service personnel are to be referred to the appropriate Regional Occupational Medicine Consultant (ROMC). MOD employed civilians are to be referred, with patient consent, to the contracted external OH provider in accordance with AP1269 Lft 6-01, paragraph 17 and Lft 9-04, paragraph 13. In these cases MOs should not be involved of the ongoing case management of MOD employed civilians, and with consent the patient’s civilian GP should be informed of the referral and any investigations.

10. Regional Occupational Medicine Consultants assessing potential cases of HAVS should have completed a Faculty of Occupational Medicine recognised course for health surveillance of HAVS. Onward referral for standardised tests may be required. It is advisable to continue exposure to vibration if it is likely to result in progression to Stockholm 3V or 3SN. Therefore, individuals at Stage 2 may need to be made permanently unfit work involving vibration if progression to date has been rapid and exposure cannot be reduced. Ideally individuals at Stage 2 should have their vibration exposure restricted by moving to alternative duties. Personnel assessed as Stage 3 are unfit exposure to HTV.

**WAIVERS TO EXAMINATION**

11. **Nil.**

**DOCUMENTATION REQUIRED**

12. In order to identify individuals who are considered to be at risk the Read Code ‘U11P6’ – ‘{X}Exposure vibratn indus area’ is to be recorded as an ‘active problem’ on the DMICP. Health surveillance is to be recorded on the forms given at Appendices 1 and 2.

13. Once an individual has a diagnosis of HAVS confirmed by an Occupational Medicine Specialist then, with the consent of the individual, the line manager and the Station Health and Safety Officer should be
informed so that they can meet their obligations in accord with Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR) and take the appropriate reporting action through the MOD reporting system.

NOTIFICATION TO DACOS OCC MED

14. MOs and ROMDs are to notify DACOS Occ Med of all cases of HAVS.
**LEAFLET 3-04 ANNEX F, APPENDIX 1: HAND ARM VIBRATION PRE-EXPOSURE QUESTIONNAIRE**

<table>
<thead>
<tr>
<th>Question</th>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Have you ever worked with handheld vibrating tools, machines or hand-fed processes?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. If ‘YES’, year of first exposure?</td>
<td></td>
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<tr>
<td>When was the last time you used them?</td>
<td></td>
<td></td>
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<tr>
<td>3. Do you have tingling in your fingers lasting for more than 20 minutes after using vibrating equipment?</td>
<td></td>
<td></td>
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<tr>
<td>4. Do one or more of your fingers go numb for more than 20 minutes after using vibrating equipment?</td>
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<tr>
<td>5. Do you have tingling of your fingers at any other time?</td>
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<tr>
<td>6. Do you wake at night with pain, tingling or numbness in your hand or wrist?</td>
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<tr>
<td>7. Do your fingers turn white on exposure to the cold?</td>
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<tr>
<td>8. If ‘YES’ to 7, do you have difficulty re-warming them on leaving the cold?</td>
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<tr>
<td>9. Do your fingers go white at any other time?</td>
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<td></td>
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<tr>
<td>10. Do you have difficulty picking up small objects e.g. screws or buttons or difficulty opening tight jars?</td>
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<tr>
<td>11. Are you having any other problems with the muscles or joints of your hands or arms?</td>
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<tr>
<td>12. Have you ever had any neck, arm or hand injury or operation?</td>
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<td></td>
</tr>
<tr>
<td>13. Have you ever had any serious disease of joints, skin, nerves or blood vessels?</td>
<td></td>
<td></td>
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<tr>
<td>14. Are you on any long-term medication?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>If ‘YES’ to 12, 13 and/or 14 please give details:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15. Do you smoke?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>16. If an ex-smoker, when did you stop?</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Continue Overleaf
### Previous job history

- Please list all previous jobs you have had.

<table>
<thead>
<tr>
<th>Job title</th>
<th>Did it involve vibration?</th>
<th>YES</th>
<th>NO</th>
<th>From (Year)</th>
<th>To (Year)</th>
</tr>
</thead>
<tbody>
<tr>
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</tbody>
</table>

I confirm that the information given above and overleaf is accurate to the best of my ability.

Signed

Date

Name in block capitals

Grade

Unit and Place of Work

Trade/Occupation

Staff No.
Hand Arm Vibration Syndrome (HAVS) is a widespread industrial disease affecting many individuals. The most common form of HAVS is Vibration White Finger. If during your work you come into contact with hand held power tools or other sources of vibration, then you may develop the condition.

Self check by completing the following questionnaire (please circle the appropriate answer on the right to the question asked).

1. Have you ever suffered from your fingers going white and numb with exposure to cold?  
   | YES | NO |

2. Do you suffer from tingling in your hands?  
   | YES | NO |

3. Are you suffering from loss of grip strength in your hands and/or do you have pain in your wrist and arm?  
   | YES | NO |

4. Do you feel that the sensation of touch in any of your fingers isn’t what it used to be?  
   | YES | NO |

5. Is there a reduction in how you can do fiddly and fine tasks because your fingers don’t work like they used to?  
   | YES | NO |

Signature | Date
Name in block capitals | Service/Staff No
Unit and Place of Work | RN/Army/RAF/Civ

If you answered ‘Yes’ to any of the above questions please inform your line manager or other responsible person. You may be referred for a medical assessment – If you are referred for a medical assessment, please take this completed questionnaire with you to your appointment.

If you have not answered ‘Yes’ to any of the questions you are not required to take any further action than to make sure this form is sealed in a suitably labelled envelope (marked with your name, Service/Staff Number, date and ‘HAVS Screening Questionnaire’). It must be handed to your line manager to send to the Medical Centre for filing in your medical records.
LEAFLET 3-04 ANNEX F, APPENDIX 3: STOCKHOLM WORKSHOP CLASSIFICATION OF HAND-ARM VIBRATION SYNDROME

1. The Stockholm Workshop Scale is one method of classifying the severity of Hand-Arm Vibration Syndrome (HAVS) and is outlined below. Full details are outside the scope of this Appendix and further advice is available from SO1 OH (RAF) or a Regional Occupational Medicine Consultant. It is sub-divided into vascular and sensori-neural symptoms and the right and left hands are graded separately for each.

### VASCULAR COMPONENT

<table>
<thead>
<tr>
<th>Stage</th>
<th>Grade</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td></td>
<td>No attacks</td>
</tr>
<tr>
<td>1V</td>
<td>Mild</td>
<td>Occasional attacks affecting only the tips of one or more fingers</td>
</tr>
<tr>
<td>2V</td>
<td>Moderate</td>
<td>Occasional attacks affecting distal and middle (rarely also proximal) phalanges of one or more fingers</td>
</tr>
<tr>
<td>3V</td>
<td>Severe</td>
<td>Frequent attacks affecting all phalanges of most fingers</td>
</tr>
<tr>
<td>4V</td>
<td>Very Severe</td>
<td>As in Stage 3, but with trophic skin changes in the finger tips</td>
</tr>
</tbody>
</table>

### SENSORINEURAL COMPONENT

<table>
<thead>
<tr>
<th>Stage</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0SN</td>
<td>Exposed to vibration but no symptoms</td>
</tr>
<tr>
<td>1SN</td>
<td>Intermittent numbness, with or without tingling</td>
</tr>
<tr>
<td>2SN</td>
<td>Intermittent or persistent numbness, reduced sensory perception</td>
</tr>
<tr>
<td>3SN</td>
<td>Intermittent or persistent numbness, reduced tactile discrimination and/or manipulative dexterity</td>
</tr>
</tbody>
</table>
LEAFLET 3-04 ANNEX G: INDUSTRIAL HAZARDS - IONISING RADIATION

POPULATION AT RISK

1. This annex covers RAF Non-Destructive Testing (NDT) technicians, personnel working in the RAF radioactive waste packaging and storage facility, and other Class A radiation workers as defined in AP4687A, Vol. 2.

FURTHER READING

2. The publications detailed below give further information:
   b. JSP 375, Vol. 2.
   c. JSP 392 - (Instructions for Radiation Protection).

MEDICAL CONCERNS

3. Harmful effects of ionising radiations are divided into somatic and genetic effects. Stochastic (where the probability of adverse effect occurring, not its severity, is dose related,) and non-stochastic effects (dose related severity with a threshold of effect) are described. In addition, the biological activity of ionising radiation varies according its type (alpha, beta, gamma and X-rays); hence a quality factor is introduced to provide a comparative unit of effect. Dose equivalents are expressed in Sieverts (Sv), and the absorbed dose is expressed in Gray (Gy).

4. Acute exposures greater than 1 Gray may cause radiation sickness with target organs being blood forming cells, the intestinal mucosa and the brain. Occupational exposures generally involve small, chronic radiation doses. Chronic exposures incur cancer risk without the risk of acute radiation syndrome. Dose limits are contained in JSP 375, Vol. 2., Annex 4 A.

5. Ionising radiation is genotoxic. It leads to mutations and/or chromosomal structural aberrations. Increased aberrations have been found in lymphocytes of hospital workers exposed to low doses of X-rays.

REPORTING OF INJURIES, DISEASES AND DANGEROUS OCCURRENCES REGULATIONS (RIDDOR)

6. Regulation 5 of RIDDOR 1995 requires certain diseases to be reported to the Health and Safety Executive (HSE) by the employer. This regulation does not apply to members of the armed forces for death, injury or case of disease but does apply to all other radiation workers. The diseases as specified in part 1 of Schedule 3 of the regulations are reportable if they have resulted from work involving exposure to ionising radiation. Reportable conditions are detailed below:
   a. Inflammation, ulceration or malignant disease of the skin.
   b. Malignant disease of the bone.
   c. Blood dyscrasias.
   d. Cataract.

7. If a civilian radiation worker presents with any of the above conditions then the appointed doctor is to inform the Radiation Safety Officer (RSO), in writing, in order that the condition can be reported to the HSE.

TYPE OF EXAMINATION REQUIRED

8. Statutory examinations of Classified Radiation Workers may only be undertaken by HSE Appointed Doctors as dictated by the Ionising Radiation Regulations 1999. SMOs at designated RAF stations are
required to seek appointment by the HSE and to conduct Ionising Radiation medical examinations on RAF employees on a regional basis. The list of RAF Appointed Doctors is subject to change - SMOs are to liaise with SO1 Casework (RAF) if they are unclear as to where to refer their radiation workers.

**FREQUENCY**

9. **Pre-Employment Medical Examinations.** The following personnel have responsibilities for pre-employment medical examinations:

a. Radiation Safety Officer. The RSO is to forward the FMeds 291 A, 291 F and any dose records, to the radiation worker’s parenting medical centre, with a completed medical surveillance request proforma.

b. Practice Manager. The Practice Manager is to arrange an appointment for the radiation worker to be medically examined by the Appointed Doctor for the region. He is to ensure that the radiation worker attends with FMed 4, 5, 291 A, 291 F and any dose records. The radiation dose records are to be returned to the RSO after the examination and the record of the surveillance is to be recorded on the DMICP using Read Code ‘COSHH: Radiation Worker A Class’ – ‘TRISCO5’.

c. Appointed Doctor. The Appointed Doctor is to:

1. Complete the medical examination and make appropriate manuscript entries in the FMeds 291A and 291F.
2. Arrange for the Form Med 291 C to be completed in typescript, signed and distributed as detailed in paragraph 14.
3. Return the FMeds 4, 5 and 291 series to the parenting medical centre.
4. Maintain a record of examinations, and their results, for Employment Medical Advisory Service (EMAS) statistical purposes.

10. **Annual Health Review.** All classified radiation workers and NDT (Q-A-NDT) technicians are to have an annual health review by an Appointed Doctor. The following personnel have responsibilities for arranging and carrying out health reviews:

a. RSO. The RSO is to ascertain whether the radiation worker wishes to consult the Appointed Doctor during the health review, and is to complete the actions detailed at paragraph 8a.

b. Practice Manager. The Practice Manager is to carry out the actions detailed at paragraph 8b when a radiation worker has made a request to consult the Appointed Doctor at the health review. When the radiation worker does not wish to have a medical consultation, the individual’s medical records and up-to-date dose record are to be sent to the Appointed Doctor. After the health review has been completed, and the documentation returned, the FMeds 291A and 291F and the dose record are to be returned to the RSO.

c. Appointed Doctor. The Appointed Doctor is to:

1. Complete the health review. Should the Appointed Doctor wish to see the radiation worker, although the individual has declined the option of a medical consultation, the health review is to be delayed until arrangements are made for the individual to attend.
2. Make the appropriate manuscript entries on the FMeds 291A and 291 F.
3. Complete the documentation and carry out the actions as detailed in sub sub-paragraphs 8c (2), (3) and (4).

11. When an overexposure is suspected, the HSE Employment Medical Inspector and the Appointed Doctor for the region are to be notified immediately. In consultation these doctors, together with the Radiation Safety Advisor, will consider whether a medical investigation is necessary. A clinical examination is to take place, the nature of which will be determined by the Appointed Doctor.
DISQUALIFYING CONDITIONS

12. Previous over-exposure to ionising Radiations, unless advised otherwise by the Appointed Doctor, blood dyscrasias, chronic pulmonary disease and conditions which lead to blood loss would render a person unfit to work with ionising radiation.

13. Previous use of cytotoxic drugs should be noted, but is not a disqualifying factor. Pregnancy is not an absolute bar but annual permissible exposure is significantly reduced.

WAIVERS TO EXAMINATION


DOCUMENTATION REQUIRED

15. The following forms are used:
   a. *FMed 291A - Radiation History Envelope*. The FMed 291A is used to record statutory medical examinations and holds the quarterly dose record cards for each classified worker. The form is retained by the RSO as a unit record. The results of medical examinations certifying fitness are to be entered on the outside of the envelope by the Appointed Doctor. The RSO is to return the classified workers form to the Defence Radiological Protection Service (DRPS) when he is posted, discharged, dies or ceases to be employed on radiation duties.

   b. *FMed 291C - Radiation Medical Examination Form*. The FMed 291C is used to record the clinical findings of a radiation medical. Following typescript completion it is disposed of as detailed below:

   (1) One copy enclosed in the patient's FMed 4.

   (2) One copy sent to DRPS for inclusion in the master FMed 291.

   NB. A copy is not required by the Central Health Record Library (CHRL).

   (3) FMed 291F - MOD Health Register. The FMed 291F is the radiation fitness register which is to be maintained by the RSO.

16. Radiological records are to be retained for 50 years or until the patient has, or would have, reached the age of 75, whichever is the later.
LEAFLET 3-04 ANNEX H: INDUSTRIAL HAZARDS - ELECTROMAGNETIC RADIATION BELOW 300 GHZ

POPULATION AT RISK

1. Electromagnetic radiation below 300 GHz is non-ionising and includes radio frequency (RF) and microwave radiations. The National Radiological Protection Board (NRPB) has recommended the adoption in the UK of the guidelines of the International Commission on Non-Ionizing Radiation Protection (ICNIRP) for limiting exposure to electromagnetic fields (EMFs) between 0-300 GHz. These frequencies include EMFs produced by television and radio transmissions, by mobile telecommunications and by electricity supply and use. All personnel may potentially be exposed to non-ionising radiation, but provided the ICNIRP guidelines are followed, there should be no harm from the exposure. Examples of equipment that emit non-ionising radiation include:

   a. Radar, radio and microwave link transmitting equipment.
   b. Countermeasures transmitting equipment.
   c. RF Induction and dielectric heating equipment.
   d. Microwave ovens and diathermy equipment.
   e. Industrial and Laboratory equipment.

FURTHER READING

2. Further information is contained in the publications detailed below:

   b. Documents of the National Radiological Protection Board - Volume 15 No 2 – 2004 - Advice on limiting exposure to electromagnetic fields (0-300Ghz).

MEDICAL CONCERNS

3. The interaction of electromagnetic fields and radiation with the human body and the harmful effects they may have depend on frequency and the field strength. As frequency increases, the depth of penetration in the body decreases and the deposition of energy becomes more superficial. Electromagnetic fields and radiation have direct and indirect effects of acute exposure. Direct effects are those resulting from the interaction of electromagnetic fields or radiation with the human body, whereas indirect effects are those resulting from an interaction between electromagnetic fields or radiation, an external object such as a vehicle or other metallic structure, and the human body.

4. At frequencies above 100 kHz, the major biological effect is heating and tissue damage may occur if the body is unable to dissipate the thermal load. Due to its poor circulation, significant damage can occur to the lens of the eye following an overexposure without any sensation of heat being felt. When heating of the whole body occurs from induced radiofrequency currents, the increase in temperature is much more likely to occur in narrow parts of the body such as the wrists or ankles. Exposure to emissions from electromagnetic fields and radiations below 300 GHz may also result in electric shocks or burns from ungrounded metal objects.
5. Non-thermal biological effects have also been reported due to exposure to low levels of RF and microwave radiation although there is currently no evidence to suggest an adverse health effect. At present there is no consistent evidence that electromagnetic fields influence any of the accepted stages of cancer development.

6. There is no specific legislation to protect personnel from exposure to non-ionising radiations. Exposures should be kept as low as reasonably practicable, in line with the ICNIRP recommendations, as a duty of care under general health and safety law.

**TYPE OF EXAMINATION REQUIRED**

7. An ophthalmological examination is to be conducted by an ophthalmologist experienced in examining radiation exposed workers following any accidental exposure where it cannot be be categorically proven that exposure did not breach the investigation levels. The investigation levels are contained in guidance issued by the Chief Environment and Safety Officer (RAF) – CESO (RAF) at HQ Air Command. Further information can be found via the following link:

   CESO(RAF) RF BRANCH GUIDANCE REF/02/13

8. Interference with the normal operation of implanted electronic devices, such as cardiac pacemakers, and the localised heating of metallic implants, may occur below the investigation levels. Personnel with medical implants are to be assessed by a MO before working in an area that may be a hazard to them. Advice on acceptable electric and magnetic field levels for safe operation of pacemakers and the heating of metallic implants can be obtained from the Head of Radiation Medicine at the Institute of Naval Medicine.

**WAIVERS TO EXAMINATION**

9. There are no waivers for specialist ophthalmological examinations.

**DOCUMENTATION REQUIRED**

10. Ophthalmological findings are to be transcribed on to a FMed 7/15. Line management are to be advised of an individual’s fitness on a FMed 566.
LEAFLET 3-04 ANNEX I: INDUSTRIAL HAZARDS - LASER

POPULATION AT RISK

1. This Annex details the medical surveillance procedures required for all personnel working with Class 3 or Class 4 lasers such as target marking lasers. Personnel, including aircrew, who may have suffered from accidental laser exposure, are also to be investigated as outlined in this Annex, which is to be read in conjunction with Lflt 5-14, Annex E and Lflt 5-14 Annex E, Appendix 1.

FURTHER READING

2. Further information is contained in JSP 390 - Military Laser Safety.

MEDICAL CONCERNS

3. Laser radiation can cause skin burns and eye damage. In general, pulsed lasers produce more damage than continuous beam lasers but the degree of damage depends on the frequency and power of the laser. On the eye, UV lasers damage the cornea and visual spectrum/IR lasers, being focused by the lens, cause retinal damage. Visible laser light can cause glare at low power such as that produced by the sun and produce a lingering afterimage 'flashblindness'. Acute exposure may result in iritis with pain, miosis and photophobia.

4. Permanent damage to the cornea will result in loss of visual acuity through light scatter. Retinal damage causes permanent visual loss which may be highly significant if it affects the fovea.

TYPE OF EXAMINATION REQUIRED

5. An eye examination is not required unless there has been an actual or suspected eye exposure incident. When required the eye examination is to be undertaken by an Ophthalmologist or Optometrist. The examination is to include:

   a. Ocular and relevant general medical history
   b. Assessment of visual acuity for near and far, with and without correction if worn.
   c. Test of colour vision.
   d. Examination of the cornea with lens and slit lamp microscope.
   e. Examination of the fundi (under mydriasis).
   f. Assessment of retinal function using an Amsler grid.
   g. A single fundus photograph of the posterior pole. (Drawings may be substituted at the discretion of the examiner).
   h. Colour photographs and/or drawings of any abnormality of the eye, whether or not it is thought to be due to laser radiation.
   i. Fluorescent angiography when indicated.

FREQUENCY

6. A pre-employment medical examination is not required.

DISQUALIFYING CONDITIONS

7. Unless advised otherwise by a consultant ophthalmologist, personnel with pre-existing eye damage should not be employed on laser work. Monocular employees should not be selected to work with lasers.
WAIVERS TO EXAMINATION

8. Nil.

DOCUMENTATION REQUIRED

9. Medical referral details are to be recorded in the patient’s medical record. The ophthalmological findings are to be recorded on a FMed 7/15 and are to be enclosed in the FMed 4 for Service personnel and the Occupational Health record for civilians. The patient’s medical record is to be updated on the DMICP using the Read Code ‘COSHH: Radiation Laser’ – ‘TRISCO7’. The Radiation Safety Officer (RSO) and line manager are to be advised of a laser worker’s fitness for duty on a FMed 566.
LEAFLET 3-04 ANNEX J: INDUSTRIAL HAZARDS - PRESSURE TESTING AIRCRAFT CABINS

POPULATION AT RISK

1. This Annex covers personnel employed on pressure testing aircraft cabins (TG 1 and 2).

MEDICAL CONCERNS

2. Pressure changes can affect the ears, sinuses, lungs and alimentary tract. In particular, there is a potential danger of gas embolism during decompression of an individual with a gas-containing cystic cavity in the lung. Pneumothorax and otitic barotrauma are also possible. Those who have been exposed to above atmospheric pressure will have a temporary increase in susceptibility to decompression sickness akin to those who have been sub-aqua diving.

3. Pressure testing of aircraft cabins repeatedly exposes personnel to pressures of up to 1.5 Atm. Limiting cabin pressure testing to one exposure in 12 hours will reduce the risk of barotrauma and give an extremely low risk of decompression illness.

TYPE OF EXAMINATION REQUIRED

4. Review of the medical history and full clinical examination (level 4) is required to identify those disqualifying conditions detailed below. Civilian employees, whose medical records are unavailable, are to complete the health declaration at Annex P. If further information is required, the individual is to be invited and encouraged to sign a statement of consent to the disclosure of his medical condition from his civilian General Practitioner (GP), see AP 1269, Lfft 4-01 for further details. There is no requirement for chest radiography unless clinically indicated.

FREQUENCY

5. Following pre-employment medical examination, personnel who continue to be employed on pressure testing duties are to be examined at the following intervals:

a. Age under 50 - 5 yearly full clinical examination (level 4) by MO.

b. Age 50 and over - annual full clinical examination (level 4) by MO.

c. After periods of sickness absence - review by occupational health trained nurse or MO.

DISQUALIFYING CONDITIONS

6. Guidance on disqualifying conditions for personnel involved in pressure testing duties is the same as that which is applicable to sports divers as detailed at Lfft 3-03 Annex D. Personnel should be temporarily barred from these duties if they are pregnant, unable to clear their ears or are suffering from an acute catarrhal illness. In cases where fitness is in doubt, the advice of SO1 OH (RAF) or the appropriate ROMD is to be sought.

7. Individuals are not to:

a. Fly for 12 hours after cabin pressure testing in order to minimise the potential for decompression illness.

b. Undertake diving for 12 hours after exposure or until an appropriate surface interval has elapsed, if using other diving tables.

WAIVERS TO EXAMINATION
8. Within the period of validity above, medical examinations may be combined with other full clinical examinations conducted for other reasons provided that sufficient medical history is available to exclude the disqualifying conditions detailed at Lft 3-03 Annex D.

DOCUMENTATION REQUIRED

9. Medical examinations are to be recorded on a FMed 143 and a FMed 566 certifying fitness for duty is to be forwarded to the individual’s line manager. The patient’s medical record is to be updated on the DMICP using the Read code ‘COSHH: Cabin Pressure Testing’ – ’TRISCO8’. If found fit, the FMed 566 of personnel involved in pressure testing aircraft cabins is to be endorsed ‘Unfit flying for 12 hours following pressure testing duties’.
LEAFLET 3-04 ANNEX K: INDUSTRIAL HAZARDS - CONFINED SPACES

POPULATION AT RISK

1. This Annex covers Service and MOD civilian personnel working in confined spaces. For the purpose of this policy a confined space is defined as a place which is substantially enclosed (though not always entirely) with unfavourable natural ventilation, and where serious injury can occur from hazardous substances or conditions from within the space (closed tanks, large ducts, sewers, enclosed drains, unventilated rooms, pits, pipes, flues, vats, treatment baths, aircraft internal equipment bays, integral fuel tanks and enclosed storage facilities).

FURTHER READING

2. The publications detailed below give further information:
   a. ‘Is it Safe to Enter: Working in Confined Spaces’ - Simpson WF, IOSH 1993

MEDICAL CONCERNS

3. Confined spaces may contain hostile atmospheres with oxygen deficiency and toxic or explosive vapours. Air-line or personal breathing apparatus may need to be worn. Personnel entering confined spaces may also become entrapped if not physically fit and flexible.

4. Fuel tanks present specific additional health and safety problems because residual chemical contaminants such as organic lead and nitrobenzene may be present. These may produce a requirement for health or medical surveillance in addition to that which is detailed in this Annex.

TYPE OF EXAMINATION REQUIRED

5. Before starting work in confined spaces for the first time, personnel are to have a Level 4, full clinical examination by a MO to exclude the conditions listed in paragraph 7. Thereafter, routine medical surveillance is to be conducted as detailed at paragraph 6.

FREQUENCY

6. Following pre-employment assessment, medical surveillance is to be conducted on personnel who continue to be at risk as detailed below:
   a. An annual inspection (level 2), by an occupational health trained nurse or MO. Civilian personnel are to complete the health declaration at Lflt 3-04 Annex P. When fitness is in doubt the individual is to be reviewed by a MO.
   b. A full medical examination (level 4), by a MO every 5 years.
   c. A full medical examination (level 4) annually, by a MO for workers over 50 years of age.
   d. A medical inspection (level 2), by an occupational health trained nurse or MO on return from sickness absence or at the request of the individual or his line manager.

DISQUALIFYING CONDITIONS

7. The following conditions render an individual unfit to work in confined spaces:
   a. Central Nervous System. Psychiatric disturbance (other than uncomplicated reactive depression), claustrophobia, epilepsy or fainting attacks.
   b. Skin. Chronic or recurrent skin disease, particularly eczema or contact dermatitis.
c. **Respiratory System.** Asthma, severe hay fever or any respiratory conditions which prevent the safe use of respiratory protective equipment.

d. **Cardiovascular System.** Untreated hypertension (>160/100 mmHg) and hypotensive medication other than diuretics and beta-blockers.

e. **Musculo-skeletal System.** Limitation of movement of limbs or spine and amputations affecting mobility or ability to wear personal protective equipment.

f. **Anthropometry.** Obesity or excessively large frame that could restrict entry or egress from the confined space.

g. **Speech and Hearing.** Defects that could impair safety and communication.

h. **Endocrine System.** Diabetes mellitus requiring hypoglycaemia-inducing therapy.

i. **Genito-urinary System.** Proteinuria, haematuria and glycosuria must be investigated. Some potential exposures are nephrotoxic.

j. **Reproductive System.** Pregnancy.

**WAIVERS TO EXAMINATION**

8. Personnel who have had appropriate medical examinations for other purposes within a 6 month period are exempt further examination.

**DOCUMENTATION REQUIRED**

9. Medical inspections are to be recorded on the patient’s FMed 5 and on DMICP using the Read code ‘Medical Inspection’ – ‘TRISME2’. Medical examinations are to be recorded on a FMed 143A and on the DMICP using the Read code ‘Medical examination – Confined Spaces – ‘TRIQQME19’. Line managers are to be advised of an individual’s fitness to work in confined spaces on a FMed 566.

**FURTHER ADVICE**

10. Advice regarding work in confined spaces can be obtained from the Regional Occupational Medicine Departments.
LEAFLET 3-04 ANNEX L: INDUSTRIAL HAZARDS - VOCATIONAL DRIVING

POPULATION AT RISK

1. All MOD employees required to drive Large Goods Vehicles (LGV), Passenger Carrying Vehicles (PCV) or Lift Trucks (LT) as part of their employment.

FURTHER READING

2. This Annex is to be read in conjunction with the following publications:
   a. At a Glance - Guide to the current Medical Standards of Fitness to Drive [https://www.gov.uk/guidance/assessing-fitness-to-drive-a-guide-for-medical-professionals]
   b. HSG136: A guide to workplace transport safety 3rd Ed (Sept 2014), HSE.
   c. Surgeon General’s Policy Letter (SGPL) 12/03 dated 20 Aug 03.

MEDICAL CONCERNS

3. To protect the public, the Driver and Vehicle Licensing Agency (DVLA) have a statutory duty to refuse a Group 2 (LGV/PCV) licence to individuals who have a ‘relevant disability’ in accordance with the Road Traffic Act 1988. The MO is responsible for conducting the medical examination and completing the form D4. Although the MO might not have access to the applicant’s medical records it is an offence for the applicant to make a false declaration and it remains the duty of the licence holder or applicant to notify the DVLA of any relevant medical condition.

4. The DVLA does not licence LT drivers, but the Health & Safety Executive (HSE) recommends that these individuals are fitness for this duty [HSG136: A guide to workplace transport safety 3rd Ed (Sept 2014)]. The policy contained within this leaflet is relevant to anyone with responsibility for the safe operation of LTs including managers, supervisors and operators (drivers), although only drivers will need to achieve the standards.

TYPE OF EXAMINATION REQUIRED

5. For Group 2 medical examinations, an examination sufficient to complete form D4 is required, with further targeted examination if appropriate from the medical history. An equivalent medical examination is to be completed for LT operators and the form at Appendix 1 is to be completed, and signed by the applicant as a true health declaration.

FREQUENCY

6. Group 2 applicants require an initial medical, renewed 5-yearly from age 45 and annually from age 65.

7. The HSE recommends assessing LT drivers before employment in this duty and at regular intervals thereafter according to age. Routine LT examinations are to take place at age 40 years, then every five years until age 50, every three years to age 59 and every two years to age 65. Any LT driver continuing to work after the age of 65 is to be examined annually.

LINE MANAGEMENT RESPONSIBILITY

8. All managers and supervisors of LT drivers must ensure that:
   a. All their drivers understand and comply with the need to report the taking of any medication or any other adverse health issues (e.g. feeling unwell) before the start of each working day. Where a LT driver is taking medication (either prescribed or over-the-counter) that carries a warning that care should be taken when driving or operating machinery, a medical assessment is to take place to decide
if it is safe for the individual to continue LT driving while taking the medication. This form of
assessment may not require a medical examination and may be achievable by telephone.

b. LT drivers have a fitness review on return to work after any sickness absence where the
illness or injury (or associated treatment) may affect fitness to drive LTs safely and after any accident
or incident where there is reason to believe that the physical or mental health of the individual might
have been a causal factor. (If in doubt, the line manager should discuss the need for a return to work
assessment with an appropriate occupational health professional.)

DISQUALIFYING CONDITIONS

9. The medical standards for Group 2 licensing (At a Glance – A Guide for Medical Practitioners) are
issued by the Drivers Medical Unit (DVLA, Swansea, SA99 1TU) and MOs may seek advice on 01792
783686 or by e-mail (dmu.dvla@gtnet.gov.uk).

10. The HSE advises that LT operators require a reasonable degree of both physical and mental fitness
and intelligence. Drivers should be selected from staff who have shown themselves to be reliable and mature
in their attitude to work. If the LT is used on public roads, then the minimum ages in road traffic legislation
apply. Care should be taken to ensure suitable maturity when selecting young people as LT drivers. Whilst
the HSE recommends that a medical standard equivalent to Group 1 (ordinary driving) would be appropriate
in most circumstances, it qualifies this by stating that more stringent standards equivalent to Group 2 is
required for all safety critical LT operations, e.g. moving explosive or toxic substances or very heavy loads, or
working at night or under other difficult conditions (LT driving activities are to be assessed as ‘safety critical’
by local risk assessment by a ‘competent’ person). Therefore, MOs are to apply DVLA Group 2 standards to
initial LT applicants. Experienced operators developing a medical condition are to be assessed on a case by
case basis.

MEDICAL STANDARDS REQUIRED

11. The main areas to be considered are detailed below:

a. General mobility:

(1) People selected to be LT drivers are to be free from physical problems that may
pose a threat to their own health and safety or the safety of others. However, people with
disabilities need not necessarily be excluded from work as LT drivers, and each case should
be judged individually on its merits.

(2) LT drivers require normal agility and full movement of neck, trunk and limbs to
enable them to continuously observe the whole area where they are working. However, an
experienced driver who suffers some degree of disability may be able to adequately
compensate for the disability, possibly with some degree of retraining.

(3) Anthropometry should be appropriate to enable easy entry into and exit from the LT.
Where doubt exists, a work place assessment is to be carried out to ensure suitable
functional capability. Careful consideration should be given to fitness of LT drivers with a
Body Mass Index (BMI) greater than 33.

(4) In some cases, e.g. where some manual lifting and handling of loads is required, a
higher level of general mobility may be needed, but this assessment is related to the manual
handling part of the role and not the fitness required for LT driving.

b. Vision. For safe driving, a LT driver needs to have good judgement of space and distance.
This generally requires a reasonable level of vision in both eyes and a good field of vision. Similar
standards as those for driving a motor vehicle are suitable (a corrected vision of 6/9 in one eye and
6/12 in the other, with horizontal visual field of 120º). If corrective glasses/contact lenses are
required, they are to be worn at all times when driving a LT.

c. Hearing. The ability to hear instructions and warnings is important. However, it may be
possible in some cases to substitute visual signals (e.g. lights) for someone who has hearing
difficulties.
d. **Conditions which may cause sudden Impairment.** Poorly controlled medical conditions such as epilepsy, coronary artery disease, cardiac arrhythmias, insulin dependent diabetes and severe hypertension which carry a risk of sudden impairment of cognitive function including alertness, judgment, insight, memory and concentration debar the individual from LT driving. However, where the condition is well controlled, a risk assessment may show that LT driving is acceptable (compare with the normal DVLA driving requirements).

12. Further guidance on specific medical conditions can be found at Lflt 3-04 Annex L, Appendix 2.

**WAIVERS TO EXAMINATION**

13. Examination and completion of DVLA form D4 is required for all Group 2 medical examinations. However, should a Service LT applicant already hold a Group 2 licence, the MO may waive the LT medical (and issue the FMed 566) providing there has been no relevant change in the medical history.

NB. To comply with the HSE’s recommended frequency of examination; LT applicants aged 40-44 years would still require a medical examination even if they held a valid Group 2 licence.

14. For Service personnel, an equivalent medical assessment (e.g. level 2) performed within the appropriate time period for their age with no reported change in health status in the meantime may substitute for the LT driver medical examination.

**DOCUMENTATION REQUIRED**

15. For Group 2 licences, DVLA Form D4 is to be completed and an entry recorded on the patient’s FMed 5 or the civilian occupational health record as appropriate. The examination is to be recorded on the DMICP using Read Code ‘Heavy Goods Vehicle Exam’ - ‘6925’.

16. LT operator examinations are to be recorded on the form at Lflt 3-04 Annex L, Appendix 1 which is to be enclosed in the FMed 4 (a copy is not required by CHRL) or the civilian occupational health record. A FMed 566 is to be raised to notify line management of the outcome, stating the period of validity (see paragraph 5) and containing the phrase ‘Continued fitness for lift truck duties must be specifically reconfirmed by a medical officer following an accident, sickness absence of more than one month or after a shorter period if the illness could affect lift truck driving’. The examination is to be recorded on the DMICP using Read Code ‘Fork Lift Truck Medical’ – ‘TRISFO6’.

**FURTHER ADVICE**

17. Queries concerning MOD LT Drivers Medical Standards should be addressed to the Civilian Consultant in Occupational Medicine at Defence Medical Services Department (DMSD) in the first instance:
LEAFLET 3-04 ANNEX L, APPENDIX 1: INDUSTRIAL HAZARDS LIFT TRUCK DRIVER MEDICAL EXAMINATION FORM

<table>
<thead>
<tr>
<th>Service No/Staff No:</th>
<th>Rank/title/grade:</th>
<th>Surname:</th>
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<tr>
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<table>
<thead>
<tr>
<th>Forename(s):</th>
<th>Date of Birth:</th>
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<tr>
<th>Branch/Trade:</th>
<th>Station/Location:</th>
<th>Regt/Corps/Command:</th>
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</table>

Examined at: Date of Examination:  

Give details of any 'abnormal' answers in the Notes box overleaf

<table>
<thead>
<tr>
<th>Height(cm):</th>
<th>Weight (kg):</th>
<th>Alcohol (units/wk):</th>
</tr>
</thead>
<tbody>
<tr>
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</table>

**VISION**

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</thead>
<tbody>
<tr>
<td>R: /</td>
<td>R: /</td>
</tr>
<tr>
<td>L: /</td>
<td>L: /</td>
</tr>
</tbody>
</table>

Does the acuity meet the required standard\(^1\): Y/N  
Is there full binocular field of vision: Y/N  
Is there uncontrolled diplopia: Y/N  
Is there any other ophthalmic condition: Y/N

**NERVOUS SYSTEM**

Has the applicant had:

<table>
<thead>
<tr>
<th>Any form of epileptic attack:</th>
<th>Chronic or progressive neurological disorder:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Y/N</td>
<td>Y/N</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Blackout or impaired consciousness in the last 5 years:</th>
<th>Brain surgery:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Y/N</td>
<td>Y/N</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Stroke or TIA in the last 5 years:</th>
<th>Serious head injury:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Y/N</td>
<td>Y/N</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sudden disabling dizziness/vertigo within the last year with a liability to recur:</th>
<th>Brain tumour (benign or malignant, primary or secondary):</th>
</tr>
</thead>
<tbody>
<tr>
<td>Y/N</td>
<td>Y/N</td>
</tr>
</tbody>
</table>

Pathological sleep disorder: Y/N

**DIABETES MELLITUS**

Does the applicant have diabetes: Y/N

If 'yes', how is it controlled:\(^2\):

- Insulin ☐  
- Oral hypoglycaemics ☐  
- Diet alone ☐

If IDD, is regular blood glucose self-monitoring being performed? Y/N

**PSYCHIATRIC ILLNESS**

Has the applicant had:

<table>
<thead>
<tr>
<th>Psychotic illness in the last 3 years:</th>
<th>Any alcohol abuse in the last 3 years:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Y/N</td>
<td>Y/N</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Other significant psychiatric disorder in the last 6 months:</th>
<th>Any drug abuse in the last 3 years:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Y/N</td>
<td>Y/N</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Is there any evidence of dementia or cognitive impairment:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Y/N</td>
<td></td>
</tr>
</tbody>
</table>

**GENERAL**

Has the applicant a current spine or limb disability that could impair control of the LT: Y/N

Is there a history of Ca that could metastasise cerebrally: Y/N

Is the applicant profoundly deaf (worse than H2)\(^3\): Y/N

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Publication date: 01/08/16
# CARDIAC

Has the applicant a history of:

<table>
<thead>
<tr>
<th>Condition</th>
<th>Y/N</th>
<th>Condition</th>
<th>Y/N</th>
</tr>
</thead>
<tbody>
<tr>
<td>MI:</td>
<td></td>
<td>Arrhythmia in the last 5 years:</td>
<td>Y/N</td>
</tr>
<tr>
<td>CABG:</td>
<td></td>
<td>Aortic aneurysm:</td>
<td>Y/N</td>
</tr>
<tr>
<td>Angioplasty or other coronary artery procedure:</td>
<td></td>
<td>Hypertension requiring treatment:</td>
<td>Y/N</td>
</tr>
<tr>
<td>Angina</td>
<td>Y/N</td>
<td>Current BP: / mmHg</td>
<td></td>
</tr>
<tr>
<td>Heart failure:</td>
<td></td>
<td>Valvular heart disease:</td>
<td>Y/N</td>
</tr>
<tr>
<td>Abnormal ECG:</td>
<td></td>
<td>Cardiomyopathy:</td>
<td>Y/N</td>
</tr>
<tr>
<td>Exercise ECG or angiogram:</td>
<td>Y/N</td>
<td>Congenital heart disease:</td>
<td>Y/N</td>
</tr>
</tbody>
</table>

Notes:

---

**Applicant’s Declaration**

I declare that I have checked the details I have given on this questionnaire and to the best of my knowledge they are correct.

Signature:  
Date:  

---

**RESULT**

<table>
<thead>
<tr>
<th>Fit LT driving</th>
<th>Unfit LT driving</th>
<th>Refer for further advice</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Signature:  

Name:  
Rank/Grade/Role:  
Date:  

---
ABUSE OF ALCOHOL AND/OR DRUGS

1. Lift Truck (LT) driving should not be performed by anyone under the influence of alcohol or drugs that may impair attention or driving skills. Substance abuse frequently co-exists with other psychiatric conditions, particularly with certain personality disorders. Depressed, anxious or psychotic patients may self-medicate with prescribed or non-prescribed substances. Substance abuse disorders should always be considered in the evaluation of depression, anxiety or psychosis. Individuals with co-existent psychiatric conditions must also be treated for those conditions. Individuals with documented substance abuse must be treated through the appropriate substance abuse programme and carefully assessed before return to LT driving is sanctioned. This would normally require evidence of freedom from dependence for at least one year. (NB. A competent local risk assessment may identify that consideration needs to be given to random drug and alcohol testing.)

ARRHYTHMIAS

2. Arrhythmias that may distract the operator’s attention or render him liable to sudden impairment are not compatible with LT driving. LT driving may resume when satisfactory control of symptoms is achieved, provided that cardiac function is also satisfactory.

DIABETES MELLITUS

3. Diabetes, if not well controlled, can cause sudden or gradual impairment of alertness, judgement, the senses or motor function. Hypoglycaemic episodes and hypoglycaemia unawareness are of particular concern. A severe hypoglycaemic episode is defined as one that results in an impairment of alertness, judgement, the senses and/or motor function, a loss of consciousness or one requiring outside assistance.

4. The major concern for the person with diabetes and the employer is hypoglycaemia with the associated decrease in mental and physical functioning. In terms of general health, the modern aggressive approach to prevention, detection and treatment of vascular complications has considerably reduced the impact of diabetes on the affected individual. It has become a valid argument that the person with diabetes who follows a programme of regular exercise, a proper diet, correct use of medications and regular physician reviews, can be considered at less risk than the employee who may smoke, be overweight, not exercise and not receive regular assessment for the vascular risk factors such as hypertension, hyperlipidaemia or even diabetes.

5. Individuals with diabetes who drive LTs must be monitored closely (see paragraph 7). They must report any changes in the treatment of their diabetes to their line manager and occupational health physician. This includes changes in the type and dose of their medication and a change in the number of insulin injections. They must also report any severe hypoglycaemic episode. All employees with diabetes are to be assessed individually with respect to their suitability for LT driving.

6. The employment of an individual with diabetes as a LT driver is to be guided by three considerations:
   a. The diabetes history (e.g., type of diabetes, presence of complications, adherence to treatment protocols, reaction to treatment).
   b. The method of treatment of the diabetes (e.g., diet, oral anti-hyperglycaemic agents and insulin).
   c. The nature of the job.

7. **Fitness for Driving.** Individuals with diabetes are eligible to drive LTs provided they meet the following criteria:
   a. No severe hypoglycaemic episode (as defined in Paragraph 3) in the last 6 months.
b. No severe hypoglycaemic episode in the last 24 months that has not been investigated by the treating consultant physician (diabetologist / endocrinologist).

c. Not experiencing hypoglycaemia unawareness.

d. Must be in a stable state. An unstable state is defined as:

(1) More than 10% of blood glucose self-monitoring values below 4 mmol/L. To provide evidence of this, the individual must comply with all monitoring requirements applicable to employees with diabetes; and

(2) A recent change in the number of insulin injections and/or a change in the type of insulin. The unstable state will be considered to last at least one month after such a change. The individual will need to be assessed at monthly intervals and cannot return to LT driving until a stable state has been reached.

e. Perform adequate blood glucose self-monitoring.

f. Demonstrate knowledge of managing diabetes, particularly insulin adjustment and understand how to avoid and treat hypoglycaemic events.

g. Be free of diabetic complications that might impair ability to work safely, including significant vascular or neurological complications, and significant visual impairment. If there are any diabetic complications, the case must be discussed with an occupational medicine consultant.

h. An individual who is commencing insulin must attain a stable state (as defined in paragraph 7d), for a period of 6 months before being considered fit for LT driving.

i. All cases of insulin dependent diabetes must be discussed with a consultant in occupational medicine before being passed as ‘fit’.

8. **Hypoglycaemia Prevention Strategy.** As a condition of employment as a LT driver, each individual is required to take every possible measure to avoid hypoglycaemia. Individuals requiring insulin therapy must carry a source of rapidly absorbable glucose at all times. Hypoglycaemia prevention strategies must be tailored to the individual with the guidance of the treating physician. Line managers must cooperate by ensuring that meal breaks are taken at the correct time and are not delayed, especially if the diabetic individual is doing heavy physical work as well as LT driving.

**EPILEPSY**

9. Epilepsy results in sudden impairment of alertness, judgement, or sensory or motor function and can pose a serious safety threat. Although the overall prognosis for seizure control is excellent, with about 70% of patients having a 5-year remission of seizures, epilepsy is a condition that can cause sudden and unpredictable impairments of the functions noted above. Each person with epilepsy has different disabilities. Complete evaluation of each case is therefore needed to assess the risk of seizure recurrence and the risk to safety caused by a seizure. The notion of ‘significant risk’ cannot be precisely defined. A risk-free environment is unattainable and undoubtedly some employees with no history of epilepsy will have their first and unpreventable seizure whilst at work.

10. Consideration needs to be given to the big difference in requirements for Group 1 and Group 2 driving licences and epilepsy. For ordinary driving, only one fit-free year is required and anticonvulsant medication may be taken during this period, whereas a Group 2 licence requires 10 years fit-free without medication. This significant difference needs to be taken into account when considering a person with epilepsy for anything more hazardous than very straightforward LT driving involving only ‘safe’ loads.

**ISCHAEMIC HEART DISEASE**

11. LT driving should cease if angina symptoms occur at rest and/or when driving, but basic LT driving with ‘safe’ loads may recommence once satisfactory symptom control is achieved. For safety critical LT operations, a report from a consultant cardiologist and consultation with an occupational medicine consultant is required.
12. A single uncomplicated myocardial infarction is not a bar to LT driving, but driving should cease for at least one month (minimum six weeks if safety critical work). A medical assessment should be performed before return to work. Careful assessment will be required after a second or complicated infarction, taking into account risk factors for a further recurrence, type of LT driving and load hazards.

13. Other serious cardiac conditions will need to be assessed according to the risk of occurrence of sudden impairment. For example, conditions with a high risk of cerebral vascular accidents such as carotid stenosis and some types of valvular disease should be excluded, as should pacemaker dependent conditions and cardiomyopathies because of the risk of sudden impairment.

NERVOUS SYSTEM

14. Individuals with Ménière’s disease, labyrinthine disorders and any other disorders of balance should be suspended from LT driving until satisfactory control of symptoms is achieved. Progressive disorders like Parkinson’s disease, multiple sclerosis and motor neurone disease that impair muscle coordination and power will need careful and regular assessment to ensure that driving ability is not impaired.

15. Acute cerebro-vascular disease such as a stroke or transient ischaemic attack (TIA) are to be suspended from driving for at least a month and then reassessed according to symptoms and neurological deficit. Multiple TIs over a short period of time are to be suspended for a minimum of three months.

16. Acute encephalitis/meningitis may resume LT driving once clinical recovery is complete. However, if the illness has associated seizures, suspension from LT driving for six months is required. If the seizure(s) occur during or after the convalescent period (once signs of infection have gone), the normal epilepsy guidelines apply.

17. Most benign ‘brain’ tumours will require suspension from LT driving for one year and malignant tumours suspension for two years. LT driving may then recommence provided there is no neurological defect (including visual fields) and that there is no evidence of recurrence.

18. Individuals suffering a severe head injury involving a compound or depressed fracture or requiring surgery are to be suspended from LT driving for six to twelve months. Specialist assessment of epilepsy risk may be required before LT driving is recommenced.

PSYCHIATRIC DISORDERS

19. Many psychiatric illnesses are not in themselves a bar to LT driving. However, all central nervous system drugs can impair alertness, concentration and driving performance. This is especially so during the first few days after commencing medication or increasing the dose. LT drivers with psychiatric illnesses are usually safer when well controlled on regular psychotropic medication than when they are ill. Inadequate treatment or lack of compliance may render the LT driver impaired by both illness and medication.

20. Medications most likely to cause problems with LT driving are the benzodiazepines, tricyclic antidepressants and phenothiazines as they all tend to cause drowsiness. Concurrent alcohol potentiates the drowsiness caused by all these drugs. The SSRIs, MAOIs and noradrenaline uptake inhibitors are less likely to cause drowsiness, but there may be some individual idiosyncratic responses.

21. Psychiatric conditions requiring very careful assessment include any psychotic episode including mania, hypomania or schizophrenia, especially if insight is limited and compliance with treatment is poor, and dementias or other organic brain syndromes where lack of insight and judgement are a feature. Individuals with a history of these conditions will normally be unsuitable for safety critical LT work even when in an apparently stable condition.

SLEEP DISORDERS

22. This includes narcolepsy and obstructive sleep apnoea syndrome resulting in excessive awake-time sleepiness. Anyone with either of these or similar conditions should be suspended from LT driving until satisfactory control of symptoms has been obtained and ongoing compliance with treatment is confirmed by a specialist.

VISION
23. The basic visual requirements for LT drivers are stated at Lft 3-04 Annex L, paragraph 11b.

24. **Monocular individuals.** For MOD purposes, a monocular individual is a person who has lost the use of one eye or has a visual field in one eye that is less than 40 degrees in any direction. An experienced LT driver who becomes monocular may be deemed acceptable to continue LT driving provided that the following conditions are met:

   a. A report by a consultant ophthalmologist indicates that, with respect to the worse eye, the condition is stable and unlikely to affect the better eye;

   b. With respect to the better eye, the visual acuity is corrected to 6/9 or better;

   c. The visual field is within acceptable limits. The minimal acceptable visual field limits are defined as:

      (1) Horizontal meridian of 120°.

      (2) Vertical meridian of 90°.

      (3) Oblique meridians of 90°.

      (4) A continuous visual field within the above limits.

   d. Colour and night vision are adequate under binocular viewing conditions (according to specific job requirements).
LEAFLET 3-04 ANNEX M: INDUSTRIAL HAZARDS - MEDICAL SUPERVISION OF FOOD HANDLERS

POPULATION AT RISK

1. For the purpose of this Annex, the following personnel are classified as food handlers:
   a. All personnel of Trade Group (TG) 19.
   b. Aircrew involved with food preparation.
   c. All personnel selected to attend cookery courses.
   d. NAAFI/Spar food handlers and cooks.
   e. Kitchen/mess orderlies employed by the MOD on regular or casual duties.
   f. Locally recruited civilians engaged in food handling or kitchen cleaning for welfare facilities, or other non-publicly funded organizations.

Medical screening of contractors’ staff (including NAAFI/Spar employees in the UK or BFG) is the responsibility of that contractor (see paragraph 15), although MOs or CMPs might be requested to complete a food handling medical in their capacity as a dependants GP.

INTRODUCTION

2. Food that is contaminated by harmful micro-organisms, in particular bacteria and viruses, can cause illness. Prevention of food-borne disease is based primarily on a combination of food hygiene training, good catering practice and supervision of food handlers by catering management in accordance with Regulation (EC) No 852/2004 and JSP 456 Vol. 3. Medical supervision of food handlers is necessary in certain circumstances. Food handlers who are suffering from certain infections, or who are carrying certain micro-organisms (in or on their bodies) without showing symptoms of an infection, may contaminate food.

FURTHER READING

3. This Annex is to be read in conjunction with the following publications:
   a. Food Handlers: Fitness to work. Regulatory Guidance and Best Practice Advice for Food Business Operators. Food Standards Agency 2009...
   b. JSP 456 Vol. 3 (Defence Catering Manual), Vol. 3 (Defence Food Safety Management).
   c. Communicable Disease and Public Health Vol. 7 No 4 Dec 2004 - Preventing person-to-person spread following gastrointestinal infections: Guidelines for public health physicians and environmental health officers.
     http://www.food.gov.uk/multimedia/pdfs/outbreakmanagement.pdf

STATUTORY CONSIDERATIONS

4. It is a legal duty for a food-handler who is suffering from, or is a carrier of, a disease that is potentially transmitted by food to report this fact to his supervisor (Regulation (EC) No 852/2004 Annex II Chapter VIII). The Regulations require employers to instruct all food handlers on appointment, preferably in writing, of this statutory duty.
5. If food handlers suffer from any gastrointestinal illness, skin infection or suspect they may be a carrier of a disease transmitted through food, they are required to notify their manager at the beginning of their shift before they start handling food. A supervisor notified in this way would be expected to take appropriate action to ensure that food does not become contaminated. Appropriate action would in most cases necessitate seeking medical advice, and the food handler would then continue to be medically supervised until deemed fit to return to food handling duties.

6. It is good practice, but not a statutory requirement, for food handlers to be asked to complete a medical questionnaire on appointment.

7. Pre-employment medical examination is required for some specific food industries, none of which is relevant to MOD activities, and may also remain a feature of some national legislation outside the UK.

DEFINITIONS

8. Food handlers may be classified as those employed directly in the production, preparation and service of foodstuffs, whether they are Service personnel, permanent or casual civilian Directly Employed Labour (DEL), or contractors.

9. Those personnel who handle only pre-wrapped, canned or bottled food, and Service personnel preparing food for their own personal consumption, or using individually issued rations to prepare food for others on exercise or operational deployment, are not considered to be food handlers for the purposes of this Annex.

10. Service and civilian personnel classified as food handlers include specialist catering personnel and personnel for whom food handling is not their primary role. Those who are temporarily or intermittently engaged, for however short a period of time, in the preparation or service of food (other than that excluded in paragraph 9 above) are to be classified as food handlers.

11. These definitions are considered to be essentially consistent with current Department of Health (DH) advice.

INSTRUCTIONS FOR MEDICAL SUPERVISION

12. Service Personnel. The medical supervision of Service food handlers is detailed below:

   a. Pre-employment. No Service person may undertake food handling duties until they have completed an approved medical questionnaire and this has been reviewed by the unit Medical Officer (MO) or Civilian Medical Practitioner (CMP). All Service catering personnel are to complete the questionnaire during their period of induction training. Non-specialist personnel temporarily or intermittently tasked with food handling duties are to complete the questionnaire once assigned food handling duties and before the first occasion that food handling is undertaken. In both cases the pre-employment questionnaire at Appendix 1 is to be completed and enclosed in the FMed 4. A copy of the authorised certificate at Appendix 2 is to be forwarded to the Catering Manager. The certificate will remain valid until the food handler becomes, or is suspected to be, unfit to handle food.

   b. Review During / After Illness. A Service food handler who is suffering from, or is suspected to be carrying, any infectious or communicable medical condition is to be seen by the unit MO/CMP. The food handler will not be permitted to resume food handling duties until cleared by the unit MO/CMP and appropriate certification has been passed to the Catering Manager.

13. Civilians – Directly Employed Labour (DEL). DEL includes permanent employees or casual staff who are paid directly from public funds. The catering manager may be Service or a directly employed civilian. Medical supervision of food handlers who are DEL is detailed below:

   a. Pre-Employment of Permanent Staff. The pre-employment medical questionnaire at Appendix 1 is to be completed by the employee and reviewed by the unit MO/CMP or appointed representative. A copy of the authorised certificate at Appendix 2 is to be forwarded to the Catering Manager. The certificate will remain valid until the food handler becomes, or is suspected to be, unfit to handle food. The unit MO/CMP is to retain the completed questionnaire in the individual's occupational health record until informed by the Catering Manager that the food handler’s period of employment has been terminated.
b. **Pre-Employment of Casual Staff.** As far as possible the requirements for permanent staff are to be followed. In appreciation of the short-notice engagement of this category of food handler, unit MOs/CMPs are to review completed questionnaires and issue certificates promptly. For casual food handlers engaged for one event only, for example a summer ball, the requirements of Regulation (EC) No 852/2004 are to be met as a minimum and MOs/CMPs are to provide advice to the catering manager as necessary.

c. **Review During/After Illness.** Permanent or casual DEL suffering from, or suspected to be suffering from, any infectious or communicable medical condition are to be removed from food handling duties immediately. In cases of doubt as to the need for removal from duties, the unit MO/CMP is to provide advice at the Catering Manager’s request. The MO/CMP may require the individual to attend the medical centre in order that a full history can be taken, and if necessary for examination and further investigation. Treatment, with the exception of emergency treatment, is the responsibility of the employee’s own doctor.

d. **Return to Work.** Permanent or casual DEL are not to be permitted to resume food handling duties following sickness absence, or removal from such duties for medical reasons, until cleared to do so by a doctor. The requirements differ according to location as follows:

   (1) **UK and British Forces Germany (BFG).** DEL are to be seen and cleared by the unit MO/CMP, or are to produce a valid medical certificate from their own doctor certifying fitness to return to food handling duties. In Germany there is a statutory requirement for civilian staff to be seen by their civilian doctors and declared fit for return to food handling duties. Such certification is considered adequate for MOD purposes.

   (2) **Overseas Locations (excluding BFG).** At overseas locations other than BFG, only certificates issued as a result of an assessment by a Service medical authority are acceptable as evidence that DEL may return to food handling duties.

14. **Delegation of Medical Supervision.** The unit MO/CMP may delegate the medical supervision of food handlers, where appropriate, to a suitably trained appointed representative whom they consider to be competent. The appointed representative is to consult the MO/CMP in all cases where the appropriate action is not immediately clear.

15. **Contract Catering Food Handlers.** The supervision of contract catering staff within the UK/European mainland is the responsibility of the contractor. In operational and exercise areas the supervision of contract catering staff and the provision of evidence that a medical examination of at least the standard prescribed within this AP is to be available on request of contract supervising staff or the Medical Authorities. All catering staff are to have undertaken the medical and to be passed as fit to handle food prior to commencing work in any service food establishment. The unit MO/CMP is to provide advice to the unit Commander in the event of any suspicion that a food handler employed by a contractor, working on a Service unit, may be suffering from, or carrying, an infection transmissible via food. In circumstances that pose a threat to public health, the unit MO/CMP is to take whatever appropriate action is necessary, seeking advice from suitably qualified specialist Service Medical Officers and EH Personnel if required.

16. **Visitors.** Visitors to catering facilities, including maintenance personnel, may be in direct contact with food, or with surfaces and equipment that are in contact with food. It is the responsibility of the catering management staff to ensure that visitors do not pose a risk to food safety and are aware of the personal hygiene aspects of the essentials of food hygiene, as stated in Regulation (EC) No 852/2004. In the event of a potentially infected visitor being identified, the unit MO/CMP is to give advice should doubt exist on the appropriate course of action.

17. **Other Food Handlers.** There may be other food handlers working on Service units who neither work for contractors nor are paid for from public funds. Examples include volunteers at charitable events and welfare-related activities, and staff paid from non-public funds. The organizers of the activities or events for which food is being prepared have a duty to ensure that the statutory requirements of Regulation (EC) No 852/2004 are met. Where there is suspicion of a risk to public health, the unit MO/CMP is to provide advice to the Station Commander and take appropriate necessary action.

18. **Return from Overseas Travel.** Regulation (EC) No 852/2004 place a statutory duty on all food handlers to inform their catering manager if they suffer from diarrhoea and/or vomiting, or other
gastrointestinal symptoms, during or on return from travel abroad. To meet the requirements of the Regulations, the following action is to be taken:

a. Service and DEL food handlers returning to work after travel abroad, and who have had gastrointestinal symptoms during or after their trip, are to inform their Catering Manager before commencing food handling duties.

b. Service and DEL food handlers are to be advised of this requirement, preferably in writing, before commencing employment as a food handler. It is the duty of the Catering Manager to ensure that staff comply with this requirement.

c. The unit MO/CMP is to provide advice on the request of the Catering Manager, and may request to see and examine the food handler. The actions for return to work after illness, as at paragraphs 12 b and 13 c-d, are to be followed.

PREVENTIVE MEASURES AND MANAGEMENT OF INFECTED FOOD HANDLERS

19. General. The following measures are based on ‘Preventing person-to-person spread following gastrointestinal infections: guidelines for public health physicians and environmental health officers.’ Published in Communicable Disease and Public Health Vol. 7 No 4 Dec 2004 and ‘Management of outbreaks of food borne illness in England and Wales.’ Published by the Food Standards Agency 2008.

20. Diarrhoea and/or Vomiting. Food handlers with symptoms of diarrhoea and/or vomiting are to be supervised and managed as follows:

a. Any food handler who has diarrhoea and/or vomiting should report to their line manager and immediately leave the food-handling area. They should normally leave the work area, but may be given safe alternative work (i.e. no direct contact with open food or with surfaces and equipment where open food is stored and processed).

b. If only one bout of diarrhoea and/or vomiting occurs in a 24-hr period, and there is no fever, the unit MO/CMP may advise that full food-handling duties may be resumed, provided the food handler is reminded of the importance of, and complies with, good food hygiene practice, particularly hand washing.

c. If symptoms persist, the person should only be allowed to return to work once the following criteria have been met:

(1) There has been no vomiting for 48 hours after spontaneous resolution or following the cessation of any treatment.

(2) The bowel habit has returned to normal for 48 hours either spontaneously or following cessation of treatment with anti-diarrhoeal drugs.

(3) The food handler is capable of maintaining good hygiene practice, particularly hand washing, in all circumstances.

d. Stool testing of such personnel is not a necessary condition for their return to full food handling duties. However, it may be appropriate to provide evidence of clearance in some situations. In the case of food handlers who have had positive stool samples for gastrointestinal pathogens (other than verotoxin-producing *E. coli*, *Shigella* and *amoebic dysentery* or the enteric fevers) further stool samples are not normally required in order to certify fitness for work, provided the criteria at paragraph 20 c have been met.

21. Enteric Fever. Typhoid and paratyphoid fevers merit special consideration because of the severity of the illness and the possibility of a carrier state being induced following recovery. Anyone suffering from, carrying or in contact with these diseases must be excluded from food handling duties as detailed below:

a. Cases are to be excluded from food handling duties until stool testing indicates that the infecting organism is not being excreted. This will typically take at least 3 months. Advice should initially be sought from SO1 PH (RAF), through the medical chain of command. Investigation and
management of such cases will usually be carried out by the Local Authority ‘Proper Officer’, in conjunction with RAF EH personnel, SO1 PH (RAF). DCA CDC will be informed as required.

b. In the case of food handlers who continue to excrete, but are otherwise well, permission to return to work in a non-food-handling capacity may be considered after discussions between the appropriate ‘Proper Officer’ and/or SO1 PH (RAF).

c. Food handlers who are identified as being carriers during, for example, the course of an investigation into a food poisoning outbreak, must be excluded from food-handling and managed as in sub-paragraph b.

d. Food handlers who have been in close domestic contact with a known case, or who have been exposed to an outbreak, are to be excluded from food-handling duties pending follow-up. Advice should be sought from SO1 PH (RAF) through the medical chain of command.

22. **Verotoxin-producing E. coli (VTEC).** In circumstances where VTEC infection is identified in a food handler or a member of their household, the food handler is to be excluded from work until the bowel habit has been normal for 48 hours, and two stool samples taken 48 hours apart have been obtained and reported as negative.

23. **Hepatitis A.** Food handlers suffering from hepatitis A are to be excluded from work for 7 days after the onset of overt disease (usually jaundice). Advice should be sought as at paragraph 20 d. Symptomless contacts of a case of Hepatitis A can continue food handling provided they follow good hygiene practices.

24. **Skin Conditions.** Food handlers with actively weeping or discharging lesions on exposed skin hands, face, neck or scalp) are to be excluded from work until the lesions have healed. Particular attention should be paid to the following:

   a. Any infection of the finger nail-bed or a weeping boil on the face or other exposed skin, even if covered with a suitable waterproof dressing, will usually be considered to be a bar to food handling.

   b. Clean wounds are to be covered with a distinctively coloured waterproof dressing, but there should normally be no need to discontinue food handling.

25. **Infections of the Eyes, Ears and Mouth.** Any food handler whose eyes, ears, mouth or gums are weeping or discharging is to be excluded from food handling until they are cleared to do so by a doctor.

26. **Non-Infective Gastrointestinal Disorders.** Disorders such as Cohn’s disease or ulcerative colitis are not a bar to employment as a food handler, even though they may result in diarrhoea. Such workers are, however, to be made aware that they are to seek medical advice and notify their line managers if any change from their normal bowel habit occurs, as this must be assumed to be infectious until proven otherwise.

27. **Chest and Other Respiratory Diseases.** There is no evidence that these cause food-borne infection. Coughing and sneezing over food is, however, not hygienically acceptable, and cases may need to be excluded from food handling duties for this reason.

28. **Further Advice.** Whilst having wide applicability, there may be rare occasions when a local risk assessment of a suspected infected food handler, or an outbreak of food-borne illness, necessitates more stringent measures than those contained in this Annex. Further advice is available from Service Public Health and Environmental Health personnel.

**DOCUMENTATION REQUIRED**

29. The completed questionnaire (see Appendix 1), copies of laboratory results, associated documentation and records of consultations where appropriate are to be retained as detailed below:

   a. Service Personnel – DMICP enabled units, scanned into the iHR/Non-DMICP enabled units, enclosed in the FMed 4.

   b. MOD Civilians - in the patient’s occupational health record.
The following Read code is to be recorded on the patient's DMICP medical record ‘Food-Handler Medical Exam’ -‘6944’.

30. Where the individual is declared fit, the certificate at Appendix 2 is to be passed to the relevant line manager.
LEAFLET 3-04 ANNEX M, APPENDIX 1: CONFIDENTIAL PRE-EMPLOYMENT HEALTH QUESTIONNAIRE FOR FOOD HANDLING DUTIES

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<td>NAME &amp; ADDRESS OF YOUR DOCTOR (GP OR MEDICAL OFFICER)</td>
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Please answer the following questions:

Please √ YES or NO as applicable

1. Have you suffered from any of the following in the past 6 months:
   a. Skin disease or a rash?
   b. Discharge or infection of the ears, or hearing defect?
   c. Asthma or hay fever of sufficient severity to require time off work [or school]?
   d. Allergies [including sensitivity to antibiotics or other drugs]?
   e. Recurrent sore throats or sinusitis?
   f. Bronchitis or pneumonia?
   g. Tuberculosis?

2. Have you ever had enteric fever (typhoid or paratyphoid) or are you known to be a carrier?

3. Do you currently have diarrhoea and/or vomiting, or have you suffered from diarrhoea and/or vomiting over the last seven days?

4. Have you been abroad in the last three weeks?
   If you answered YES to 4, what countries did you visit?
   If you answered YES to 4, were you ill while abroad, or have you been ill since your return?

5. At present are you suffering from any of the following:
   a. Skin trouble affecting hands, arms or face?
   b. Boils, styes or septic fingers?
   c. Discharge from the eye, ear, gums or mouth?

6. Do you suffer from:
   a. Recurring skin or ear trouble?
   b. A recurring stomach or bowel disorder?

PLEASE CONTINUE OVERLEAF:
If you answered **YES** to any of the questions overleaf, please provide below any further details that may assist in determining your acceptability to work in food handling areas. Please continue, if necessary, on a separate sheet.

I declare that the answers to these questions and any additional information supplied are accurate to the best of my knowledge. If further enquiries are necessary I consent to my General Practitioner supplying relevant information to the appointed Medical Adviser or Medical Officer.

Signature: _____________________________  Date: _____________________________

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**OFFICIAL USE**

To be completed by the MO or appointed representative:

<table>
<thead>
<tr>
<th>Details of Food Handler</th>
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<tr>
<td>Surname:</td>
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<td>Rank or Title:</td>
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I declare that I have reviewed the responses on the Health Questionnaire for Food Handling Staff and have determined that the above applicant is:

**Suitable / Unsuitable** for employment as a food handler

*Delete as appropriate.

Signature: _____________________________  Date: _____________________________

Name and Rank/Title: _____________________________  Appointment: _____________________________
**LEAFLET 3-04 ANNEX M, APPENDIX 2: FOOD HANDLER HEALTH CERTIFICATE**

(Not to contain any clinical information)

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Please ✔ as applicable

| PRE-EMPLOYMENT: |  |
| FITNESS FOR RETURN TO FOOD HANDLING DUTIES AFTER A PERIOD OF EXCLUSION: |  |

I declare that I have reviewed the above individual and have determined that he/she is suitable for employment as a food handler.

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<th>Date:</th>
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<tbody>
<tr>
<td>Name and Rank/Title:</td>
<td>Appointment:*</td>
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*To be signed by a Medical Officer or an appointed representative
LEAFLET 3-04 ANNEX N: INDUSTRIAL HAZARDS – SEWAGE WORKERS

POPULATION AT RISK

1. Sewage workers are individuals who are regularly employed in the transport or treatment of sewage and who may be expected to come into direct contact with it (or with equipment that is contaminated by it). Examples include:
   a. Personnel employed in environmental waste disposal.
   b. Personnel emptying septic tanks in the land environment.
   c. Personnel emptying the sewage holding tanks of aircraft or naval vessels.
   d. Personnel maintaining the equipment involved in these activities.

Other groups can also include:
   e. Personnel regularly working in / on contaminated watercourses (such as drainage engineers, small boat drivers and divers) especially when on operations.
   f. Clinical and laboratory workers who handle human excreta as part of their daily duties.
   g. Animal workers involved in cleaning animal housing or exposed to animal excreta.

It does not include individuals who are occasionally involved in the emptying and cleaning of toilets or latrines on exercises or on operational deployments.

2. The handling of human waste in the operational environment has long been recognised as a source of morbidity, mortality and lost operational effectiveness. The handling and disposal of human waste in the operational environment is addressed in NATO STANAG 2982 Edition 1.

FURTHER READING

3. Further information is detailed in:

MEDICAL CONCERNS

4. The content and makeup of sewage is not uniform; however, micro-organisms and noxious compounds form an inherent part of the mixture. These hazards cannot be eliminated at source. The majority of illnesses caused by exposure to sewage and contaminated land run off are relatively mild cases of gastroenteritis, superficial skin infections, eye infections and respiratory irritation. Potentially fatal diseases, such as leptospirosis (Weil’s disease) and hepatitis are occasionally reported. The majority of illness is the result of poor personal hygiene and subsequent hand to mouth transmission of contaminated material. This is easily preventable. Exposure occurring by immersion; by splashes; and by spray may also occur during some mechanised processes (e.g. pressure washing of equipment).
5. **Human pathogens.** Serious infections may result from relatively low inoculation levels as these organisms are adapted to the human host. Examples include:

   a. Infective colitis – including enterotoxin producing bacteria [e.g. VTEC or E.coli (0157)].
   b. Viral gastroenteritis – including ‘winter vomiting virus’ [Norwalk virus].
   c. Salmonellosis [Typhoid].
   d. Shigellosis.
   e. Hepatitis A.

6. **Zoonoses.** Serious infections that cross the species barrier are generally rare and usually require higher levels of inoculation in order to cause illness. Examples include:

   a. Leptospirosis.
   b. Toxoplasmosis.
   c. Toxocariasis.
   d. Cryptosporidiosis.
   e. Salmonellosis.
   f. Campylobacteriosis.
   g. Bovine tuberculosis.
   h. CoxIELlosis.

7. **Environmental pathogens:** These pathogens are ubiquitous within the environment and can cause sporadic index cases of ill health. Examples include:

   a. Clostridium tetani.
   b. Legionellosis
   c. Various moulds and fungi.

8. **Respiratory irritation / sensitisation.** Sewage may generate gases that are irritants of the human respiratory tract such as ammonia. Additionally, work practices causing aerosolisation of sewage material has the capacity to induce an allergic alveolitis either directly or through the modifying action of complex bacterial toxins present within the airborne mixture.

**ORGANISATIONAL CONTROLS**

9. Line management is responsible for the provision of the following:

   a. The conduct of the initial risk assessment indicating that members of their team may need to be classified as sewage workers.
   b. Education and training for designated sewage workers outlining the hazards and safe systems of work. This should occur at no less than annual intervals and be part of the employee’s ‘competence’ package.
   c. Provision of suitable Personal Protective Equipment [PPE], inc its maintenance, repair and replacement. Reduce exposure as far as reasonably practical.
   d. Suitable washing / cleaning facilities for personnel.
10. Whilst some of these tasks may be delegated, the overall responsibility for overseeing the system remains a line management function. A person should be nominated to be responsible for overseeing the system. Line management can seek the advice of Environmental Health, Occupational Health or Public Health for professional expertise. Line management should note that not all general MO’s will have knowledge or expertise in this field. Generalist MO’s should seek advice as outlined above if they are asked to provide advice to management but are not comfortable with their level of competence.

11. Individual workers are to observe and comply with the following:
   a. Keep their finger nails short and use a nail brush to clean under the nails.
   b. Cover all cuts and abrasions with a waterproof dressing before starting work.
   c. Wear protective clothing provided at all times when they are at risk of sewage contamination.
   d. Keep soiled work clothes and other clothes separate to avoid contamination.
   e. Always wash hands with clean hot water and antibacterial soap before eating or smoking. Hands should be dried using disposable (paper) towels.
   f. Avoid touching their nose, mouth, eyes or ears if hands may be contaminated by sewage.
   g. Shower and change out of work clothes before leaving work.
   h. Report to their line manager any injury or illness they think resulted from work.
   i. Inform their doctor of their occupation as a sewage worker if they become unwell.
   j. Cooperate with their employer in following health and safety guidelines and take reasonable care of their own health and safety and that of others affected by their actions.

12. **Pregnant/breast-feeding women.** A particular risk assessment needs to be carried out for the hazards specific to pregnant or breastfeeding women; or women who have given birth within the previous 6 months. In addition to the physical hazards of work such as heavy lifting, use of ladders and access to confined spaces, the foetus is at especial risk from some of the zoonoses. In addition leptospirosis has a particularly high mortality rate during pregnancy. Therefore, suitable alternative work will almost certainly need to be provided for any pregnant sewage worker.

**MEDICAL CONTROLS**

13. **Pre-employment assessment.** Personnel with the following conditions should be excluded from sewage working:
   a. Immunosuppression.
   b. Chronic fissuring skin conditions that cannot be protected by water excluding garments e.g. psoriasis.
   c. Chronic irritant dermatitis induced by use of occlusive clothing or by frequent hand washing.
   d. Chronic allergic dermatitis induced by frequent hand washing or by exposure to specific compounds present in sewage.
   e. Known respiratory sensitisation (work related asthma) created by previous sewage handling.

14. **Vaccination requirements.** Vaccination against the following diseases is strongly recommended:
   a. Hepatitis A.
   b. Poliomyelitis.
c. Tetanus.
d. Typhoid.

Refusal to undergo vaccination should result in withdrawal of that person from sewage working.

15. **COSHH medical.** Sewage workers are to undergo a health review that may be performed by a suitably qualified Occupational Health Nurse or a Medical Officer. This is to include the respiratory health questionnaire and lung function tests (spirometry). The COSHH medical also provides an opportunity to check that recommended vaccinations are up to date, and to reinforce the education and training already provided. The first review should occur no more than 6 months after commencing sewage working or sooner if the worker displays/reports symptoms causing concern. Thereafter the COSHH assessment should occur annually or sooner if the worker notes symptoms causing concern. Symptoms suggestive of respiratory sensitisation or chronic dermatitis should be discussed with an Occupational Physician who will provide the responsible MO with advice on fitness for work and the need for further investigation.

**DOCUMENTATION REQUIRED**

16. Medical assessments and annual health reviews are to be recorded on a FMed 143A and enclosed in the FMed 4/IHR or the occupational health record. Line management is to be informed of the individual’s fitness on a FMed 566. The form is to state the period of validity and contain the phrase ‘Continued fitness for sewage worker duties must be specifically reconfirmed by a Medical Officer following an accident, sickness absence of more than one month or after a shorter period if the illness could affect sewage duties’. Records of the assessments and reviews are to be retained as detailed below:

a. Service Personnel – DMICP enabled units, scanned into the iHR/Non-DMICP enabled units, enclosed in the FMed 4.

b. MOD Civilians - in the patient's occupational health record.

c. The following Read code is to be recorded on the patient’s DMICP medical record ‘Medical Examination – Sewage Worker’ – ‘TRIQQME26’.

17. Workers are to be provided with a health warning card which is available as a free download from the following web address [http://www.hse.gov.uk/pubns/indg197.pdf](http://www.hse.gov.uk/pubns/indg197.pdf).
LEAFLET 3-04 ANNEX O: INDUSTRIAL HAZARDS - PRESSURE CHAMBER DUTIES – RAF CENTRE OF AVIATION MEDICINE

POPULATION AT RISK

1. This Annex covers MOs, Instructors and Pressure Chamber Operators (PCOs) based at the RAF Centre of Aviation Medicine (RAF CAM).

PRE EMPLOYMENT QUALIFICATIONS

2. MOs supervising training in a hypobaric chamber are to be aviation medicine qualified and are to have received role-specific training as defined by RAF CAM Standard Operating Procedures (SOPs).

MEDICAL CONCERNS

3. Pressure changes can affect the ears, sinuses, lungs and alimentary tract. In particular, there is a potential danger of gas embolism during decompression of an individual with a gas-containing cystic cavity in the lung. Pneumothorax and otitic barotrauma are also possible. Those who have been exposed to above atmospheric pressure will have a temporary increase in susceptibility to decompression sickness akin to those who have been sub-aqua diving.

4. Omitted

5. Personnel attending the PCO training course are to have their ears checked within 48 hrs of attending this course (see Lflt 3-03 Annex A).

PRE EMPLOYMENT MEDICAL EXAMINATION

6. All personnel regularly undertaking duties inside the hypobaric chambers at RAF CAM are to have a Category 1 (Occasional) Medical Examination prior to appointment. A full clinical examination (level 4) to the standard required for sports diving (see Lflt 3-03, Annex D) is required, including a full review of the medical history in order to identify any disqualifying conditions (see Lflt 3-03, Annex D, Appendix 1). All personnel are to have a normal chest X-ray on record prior to commencing training/duty. In cases where fitness is in doubt, the advice of Regional Occupational Medicine Consultant (ROMC) at RAF CAM is to be sought.

7. Personnel operating outside the chambers, who are not exposed to the chamber environment, are exempt from this requirement although PCOs must have a minimum vertical functional reach of 1970 mm and will require a medical inspection (level 2) (see Lflt 3-03, Annex A) in order to qualify them for the one-off experience that they undergo during their PCO training course.

8. Civilian employees, whose medical records are unavailable, are to complete the health declaration at Annex P. If further information is required, the individual is to be invited and encouraged to sign a statement of consent to the disclosure of his medical condition from his civilian General Practitioner (GP), see AP 1269, Lflt 4-01 for further details.

FREQUENCY

9. Following pre-employment medical examination, MOs and instructors are to have a Category 1 (Occasional) Medical Examination annually. There is no requirement for further chest radiography unless clinically indicated.

DISQUALIFYING CONDITIONS

10. The fitness standard to be applied to personnel employed on Pressure Chamber duties is the same as that which is applicable to sports divers as detailed at Lflt 3-03, Annex D. In addition, personnel should be
temporarily barred from these duties if they have a psychiatric condition, are pregnant, are unable to clear their ears or are suffering from an acute catarrhal illness.

11. Individuals are not to:

    a. Fly for 12 hours after cabin pressure testing in order to minimise the potential for decompression illness.

    b. Undertake diving for 12 hours after exposure or until an appropriate surface interval has elapsed, if using other diving tables.

DOCUMENTATION REQUIRED

12. Medical examinations are to be recorded on a FMed 143 and a FMed 566 certifying fitness for duty is to be forwarded to OC AMTW. MOs and instructors maintaining a flying logbook are also to have the outcome of the annual medical examination recorded in their logbook.
LEAFLET 3-04 ANNEX P: INDUSTRIAL HAZARDS - STATEMENT OF HEALTH BY CIVILIAN EMPLOYEES NOT UNDER ROUTINE SERVICE MEDICAL CARE

I certify that I was last medically examined with regard to my medical fitness for:

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On:  

By:  

The result of the medical examination was that I was assessed fit / unfit*.

* Delete as appropriate.

I have not subsequently been involved in any accident, suffered from any illness or disability or received any medical treatment other than as indicated below:

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<th>Illness or Disability</th>
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I hereby declare that I have carefully considered the statements made above and that to the best of my knowledge they are complete and correct. I have not withheld any relevant information or made any misleading statement.

Name (in capitals):  

Signature:  

Date:
LEAFLET 3-04 ANNEX Q: WHOLE BODY VIBRATION

POPULATION AT RISK

1. Whole Body Vibration (WBV) is shaking or jolting of the human body transmitted through a supporting surface (usually a seat or the floor). Examples include driving or riding in a vehicle along an unmade road; flying (especially rotary wing aircraft); and standing on a structure attached to a machine that is impacting or vibrating.

2. Although a number of health effects have been associated with work environments involving WBV, only low back pain and neck pain have been widely accepted as being caused by vibration. However, these conditions are also common in the general population not exposed to WBV. Unlike Noise Induced Hearing Loss and Hand Arm Vibration Syndrome (HAVS), the dose-response relationship is unclear.

FURTHER READING

3. Further information is contained in the publications detailed below:
   a. Control of Vibration at Work Regulations 2005. This is available with further information on the HSE website (hse.gov.uk).
   b. DIN 2006DIN07-008.
   c. JSP 6-4-1

INITIAL ASSESSMENT

4. Service personnel do not require screening prior to exposure to WBV as personnel with back and neck conditions would be excluded as part of the recruitment process (see JSP 6-4-1). The pre-exposure questionnaire at Annex A is not required for Service personnel and is for civilian personnel only.

5. Civilian personnel do not necessarily receive an extensive pre-employment medical assessment. Therefore, their line management is required to ensure they complete a civilian personnel pre-exposure questionnaire (see Annex A to JSP 6-4-1). Completed questionnaires become “PROTECT – MEDICAL” and should be forwarded to the Medical Officer for review then filed in the individual’s medical record. Individuals with no symptoms suggestive of WBV, or other relevant medical history, are fit for WBV exposure. Individuals with possible symptoms of WBV or neck and/or back conditions are to be seen by a Medical Officer for further assessment and a decision on their fitness to work with exposure to WBV, referral to the civilian OH provider is only to be made if deemed necessary by the unit MO. A formal diagnosis of WBV illness should only be made by a civilian OH provider for civilian workers. MOs (taking advice from civilian OH provider if appropriate) are to inform line managers using a F Med 566 of any decision on fitness for exposure to WBV.

ONGOING SURVEILLANCE

6. Aircrew attend for an annual PME; therefore, a special medical solely for WBV is not required. However, either the screening questionnaire at Annex B to JSP 6-4-1is to be completed by the aircrew at the time of the PME, or the answers to these questions are positively mentioned (especially part B of Annex B to JSP 6-4-1) on the F Med 143 to ensure the effects of WBV have been considered at the PME.

7. Ongoing surveillance is required for all personnel exposed to WBV. A self administered screening questionnaire at Annex B to JSP 6-4-1is to be issued by line management (law JSP 375, Vol. 2, Lft 38 and DIN 2006DIN07-008) on a regular basis, normally annually. Service personnel exposed to variable levels of HBV due to a variety of tasks undertaken at their home unit and on deployment may have less frequent screening at intervals if so determined by specific risk assessment. The Line Manager is to forward completed questionnaires, both positive and negative to the Medical Centre law Annex D of DIN 2006DIN07-008 for retention in the individual’s medical file. However, individuals giving all negative answers are not required to be seen. Line managers should be ensuring all personnel exposed to WBV are aware of the health hazards and the need to report any symptoms at once and not to wait until the next time screening is carried out.
8. The Line Manager In accordance with DIN 2006DIN07-008 is to refer any individual giving a positive answer in the questionnaire to their MO for assessment of symptoms and their relationship with exposure to WBV. Cases with symptoms definitely not related to WBV can continue working with routine surveillance. A MO may make a presumptive diagnosis of WBV related symptoms; however, the MO should refer the individual to an appropriate occupational health physician to confirm a formal diagnosis. Once a formal diagnosis of WBV related symptoms is made, advice to line managers on fitness for continuing exposure to WBV and changes to Medical Employment Standard should be made.

WAIVERS TO EXAMINATION


DOCUMENTATION REQUIRED

10. In order to identify individuals who are considered to be at risk the Read Code ‘U11P6′ – ‘{X} Exposure vibratn indus area’ is to be recorded as an ‘active problem’ on the DMICP. Health surveillance should be recorded on the forms given at Annexes A and B to JSP 6-4-1 is.

11. The Station Health & Safety Officer is, with the written permission of the patient (see AP 1269, Lft 4-01, Annex F, and a record of the consent is to be recorded on the DMICP in the patients ‘Medical Record’ using the Read Code ‘Admin reason for encounter’ – ‘9N57’ and relevant text), to be notified in writing by the MO of any case of symptoms attributable to WBV, in order that the appropriate reporting action can be undertaken.

NOTIFICATION TO ACOS MEDICAL

12. MOs are to notify SO1 Casework (RAF) of all cases of WBV related symptoms.
INTRODUCTION

1. **Population at Risk.** A number of skin sensitisers that can cause allergic dermatitis are in use in the RAF; these include, but are not limited to, epoxy resins (and their hardening agents), acrylic resins, formaldehyde, gluteraldehyde, isocyanates, biocides, latex rubber, cement, enzymes, cobalt, beryllium, rosin and wood. Irritating chemicals, such as metal-working fluids, cadmium, thinners, white spirits and kerosene can also lead to irritant dermatitis, and solvents on the skin make other chemicals more likely to cause skin damage. In addition, wet work/hand immersion, particularly multiple short-term immersions using soap or detergent, is associated with dermatitis. Mechanical friction can also act as a chronic irritant, and chemical irritation may be encouraged by cuts, abrasions or frictional damage. These lists are not exhaustive, and whilst the identification of personnel working with skin sensitisers/irritants, and the need for health surveillance is firmly a line management responsibility the following policy provides guidance to medical centre staff on how to manage those thus identified. Health surveillance is also required for substances that cause contact urticaria (eg latex rubber gloves); depigmentation (eg alkyl phenols); and substances known to cause oil acne (eg cutting oils) and chloracne (eg dibenzodioxins).

2. **Legislative Requirements.** Health surveillance is not an alternative to the proper control of exposure by line managers: line managers should aim to prevent the occurrence of occupational dermatitis. The requirements of the COSHH 2002 Regulations, and the more general requirements of the Health and Safety at Work etc Act 1974 and MHSW 1999, will apply wherever substances which have skin damaging properties may be present. This requires a regime based on the accurate assessment of the risks; provision, use and maintenance of appropriate control measures; information, instruction and training; and, in appropriate cases, health surveillance (HS). Personal protective equipment (PPE), such as gloves, should not be the first or only means of control considered. COSHH Regulation 12 requires employers to provide employees with information, instruction and training on the nature of the health risks and the precautions to be taken. This should include characteristic signs and symptoms of dermatitis if appropriate. Employees at risk should be encouraged to examine their skin for such signs and report them.

IDENTIFYING POTENTIAL SKIN SENSITISERS AND IRRITANTS

3. There are various ways that these agents can be identified:

   a. **Material Safety Data Sheets (SDS)** These should indicate the presence of skin-damaging potential, and the necessary precautions to avoid it. In particular, the risk phrase R43 indicates a skin sensitising agent, for which HS will always be required. The Defence Safety and Environment Authority maintains a Hazardous Stores Information System (HSIS) which contains SDS for all hazardous substances used by the MOD; this is contained in JSP515 which can be accessed using the following link (the product name or last 7 of the NSN is all that is required): [http://www.transportsafety.dii.r.mil.uk/homepageedit/homegeneral.asp?department=HSIS](http://www.transportsafety.dii.r.mil.uk/homepageedit/homegeneral.asp?department=HSIS).

   b. **Previous Experience.** Experience within the trade/branch or industry sector may suggest a risk of skin sensitisation or irritation from a particular substance or process

   c. **Industry Knowledge.** Many occupations are known generally to carry a risk of skin damage. Examples are jobs where there is regular immersion of hands in liquids, skin contact with substances such as solvents, mechanical trauma from sharp particles, or where plants or animals are handled.

   d. **COSHH Assessments.** Where newly introduced materials are handled, and there is reason to suspect they may cause skin damage, or existing materials are used in new ways which may increase skin contact, the COSHH assessment should be revised, and this may indicate a need for HS. A cautious approach is advisable to detect any adverse effects as soon as possible. Sometimes skin contact with the substance is so infrequent, or for such a brief period of time, that skin sensitisation or irritation would be most unlikely. Where there is any doubt, advice should be sought from an occupational health professional (Station Environmental Health Technician (SEHT), Regional Occupational Health Advisor (ROHA) or Regional Occupational Medicine Consultant (ROMC).
e. **Workplace Advisory Visits.** During workplace advisory visits iaw AP1269 Leaflet 13/03, the SEHT can assist line managers in identifying substances and processes that may sensitise or irritate the skin and require health surveillance.

**FURTHER READING**

4. The following publications give further information:
   a. Material Safety Data Sheets for chemicals/substances (see 3a.).
   b. Control of Substances Hazardous to Health Regulations 2002 (as amended).
   c. JSP 375, Vol. 2.
   d. Health and Safety Executive Guidance Notes:
      1. HSG 61: Health Surveillance at Work.
      2. Health surveillance for occupational dermatitis: HSE control guidance sheet G403
      3. Metal-working fluids :COSHH Essentials LFlt MW2 (Fluid Control: Skin Risks)

**MEDICAL CONCERNS**

5. The main signs of dermatitis are redness, swelling, blistering, flaking and cracking and its main symptom is itching. Accurate clinical diagnosis of suspected occupational dermatitis is essential for two main reasons. Firstly, a wide range of non-occupational dermatitis can look very like contact dermatitis: these include constitutional eczema, psoriasis and tinea. Secondly, non-occupational dermatitis occurs as commonly in the general population as occupational dermatitis is likely to occur in the workforce.

6. Substances capable of causing contact dermatitis can be divided into two groups: irritants and sensitisers (allergens). There is no absolute visual distinction between irritant and allergic contact dermatitis; they can look the same in spite of the essential differences in their underlying mechanism.
   a. **Irritant.** An irritant is an agent capable of causing dermatitis if applied to the skin for a sufficient amount of time, and in sufficient quantities.
   b. **Sensitiser.** A skin sensitiser, or allergen, is a substance capable of causing allergic contact dermatitis, the underlying mechanism of which is quite different from that of the irritant type. Skin sensitisers firstly induce a process known as contact sensitisation which takes about 7 days to complete. After this time, further skin contact with that particular sensitiser causes allergic contact dermatitis. There is no absolute visual distinction between irritant and allergic contact dermatitis; they can look the same in spite of the essential differences in their underlying mechanism.

**HEALTH SURVEILLANCE**

7. **Benefits.** The benefits of HS are: it can provide information to detect harmful health effects at an early stage; it can prompt checks that control measures are working by giving feedback on risk assessments; it can provide data, by means of the health records, to detect and evaluate health risks; it can provide an opportunity to train and instruct employees further in safe and healthy working practices (COSHH Regulation 12), eg how to use PPE properly; and it can give employees the chance to raise any concerns about the effect of their work on their health. Health surveillance should not be thought of in isolation; it is one part of the overall management of health risks.

8. **Requirement.** The need for health surveillance, and its extent, should be determined as part of the COSHH assessment. The line manager (LM) is responsible for identifying where there is a need for HS during risk assessments, and the LM must ensure that this is carried out and is clearly communicated to staff. LMs should institute skin surveillance if workers are exposed to products where the SDS indicates the product is labelled with the risk phrase R43 ‘May cause sensitisation by skin contact’, and consider it if workers are exposed to occupations and processes mentioned in paragraphs 1, 2 and 3. Following sensitisation, an individual can have an adverse response to very small quantities of material, possibly even from fumes penetrating the sleeves of a coverall (eg with epoxy resins). It is essential that those undertaking
COSHH assessments and reading SDSs understand the meaning of risk phrases. If the LM is uncertain about whether HS is appropriate, specialist advice should be obtained from the stn EHT or the SMO. For civilian staff, advice will be sought through the Occupational Health Services Contract via the PPPA. LMs should also ensure that staff are informed of the purpose of HS and their duty to co-operate; the nature and degree of risks to health arising from exposure; the control measures that have been adopted and why; the need to collate the anonymised results of any HS; and the reasons for using any type of PPE such as gloves.

9. Implementation. Health surveillance should be conducted by a suitably trained responsible person (RP) performing a skin inspection (hands, forearms and, if these can be affected, lower legs) and administering a questionnaire (occupational dermatitis screening questionnaire given at Appendix 1). A RP is a person, appointed by the line manager, who is competent to recognise the particular signs and symptoms of the skin conditions associated with the substances concerned. The RP is charged with reporting their findings to the employer and to report any symptoms that occur between tests. Confidentiality must be safeguarded if such reporting is to be effective. The RP should be someone familiar with the workplace and its hazards, and who has the confidence of the workforce. The SMO will need to make arrangements to provide basic training for this individual (a deputy may be sensible to cover leave and other absences), possibly via the SEHT or ROHA. Educational material for RPs can be obtained from Occupational Health Flight (OH Flt) at RAF CAM. Whilst they should be able to describe basic symptoms to employees, they should not attempt to diagnose disease but refer anyone declaring symptoms or concerns directly to a MO. Directness of recording is recommended: descriptive terms such as ‘red’, ‘swollen’, ‘blistered’, ‘flaky’ and ‘cracked’ are better than loose terms such as ‘rash’ or interpretive terms such as ‘dermatitis’

10. Positive Result. Any individual with positive HS findings should be referred for a MO opinion. Medical centre staff will interpret the results and identify any need to revise the risk assessment (this should be annotated on MOD Form 5051). If necessary (almost certainly in the case of possible dermatitis due to a skin sensitizer) the MO should refer for an ROMD opinion. The ROMD will be able to determine whether the origin is occupational and, if so, investigate the causative agent and process.

FREQUENCY

11. The RP should assess the worker’s skin condition (questionnaire and skin inspection) as soon as possible after they start a relevant job to provide a baseline (e.g. within six weeks), and then every few months (the frequency of assessment will depend on the nature of the risk). The SMO or ROMD may modify the HS system for those diagnosed as having occupational dermatitis (this may include regular MO reviews). The RP should report any symptoms that occur between assessments.

DISQUALIFYING CONDITIONS

12. It is recommended that any consideration for a permanent change of job on account of dermatitis should not be made without a thorough dermatological assessment. This should include referral to the ROMD, and possibly a dermatologist. Individuals who develop possible occupational dermatitis should not work with the suspected agent until a fitness for work assessment is carried out by the ROMD. Having identified a case of occupational dermatitis, and the likely cause of it, the ROMD should advise the patient about continuing employment in the process concerned, or about precautions or hygiene practices to prevent a recurrence.

DOCUMENTATION REQUIRED

13. Skin inspections should be conducted by the RP using the occupational dermatitis screening questionnaire given at Appendix 1. JSP 375 Volume 2 Lft 2 provides a form (MOD Form 5051 – employee health surveillance health record) to record the actions after each skin inspection. Known skin sensitising agents in the workplace should be added to the MOD Form 5051 of all exposed employees. These documents are health records and are different from clinical records in that they do not contain confidential clinical details and can therefore be kept securely with other confidential personnel records. The surveillance records are to be retained in the employee’s personal file for 40 years. It is also good practice to offer individual employees a copy of their health records when they leave each employment

At MO review after a positive response to the screening questionnaire, details of medical surveillance are to be recorded on a F Med 143A (electronic or hard copy) as well as the MOD Form 5051. The LM is to be informed of the individual’s fitness on a F Med 566. For entitled civilian workers, the examination record is to be retained in the individual’s Occupational Health Record. If the record is not electronic then the examination record is to be either held within a sealed envelope in the personal file, or in an independent medical record
held within the medical centre. If applicable, a copy should be sent to the individual’s occupational health provider (for example Atos Healthcare). Records of these medical examinations are also to be kept for 40 years.
LEAFLET 3-04 ANNEX R, APPENDIX 1: OCCUPATIONAL DERMATITIS MEDICAL QUESTIONNAIRE

Number: 	 Rank: 	 Name and Initials:

1. This screening questionnaire may be used for the detection of occupational dermatitis.

2. Any positive response should result in a referral to a Medical Officer.

QUESTIONS:

3. When exposed to any chemical have you noticed any sensations such as tingling or itching that may have occurred on your hands, forearms, face, neck or any other part of your skin?
   
   YES 	 NO

4. Do you, or have you had, any redness, swelling, cracking, blistering, flaking or scaling that may have occurred on your hands, forearms, face, neck or any other part of your skin at or after work?
   
   YES 	 NO

5. If you have answered yes to any of the above questions, please describe your symptoms in the space below, then sign and date the form and return it to the designated responsible person.

Signature: 	 	 Date:
LEAFLET 4-01: THE MEDICAL ASSESSMENT OF RAF RECRUITS

FOREWARD

New entrants to the RAF (regular and reserves) undergo intensive training that is both physically arduous and mentally taxing. They must be of robust constitution and free from disease or injury that may prevent them from meeting the challenge. During service they may operate in locations remote from medical care. It follows that those predisposed to, or with, conditions requiring periodic medical care or review; taking long-term medication; or in whom deterioration of a pre-existing condition might occur may not be suitable for military service. The RAF operates with minimal manning margins so that illness, especially in key personnel, may have an immediate and even profound impact upon operational effectiveness. Furthermore, flexibility of employment, in the event of illness, is limited. These constraints place considerable reliance upon screening at the entry medical examination. This pre-employment assessment is vital to ensure that individuals join military employment with the best chance of success and subsequently serve for the period of their engagement as fit, healthy and dependable service men and women.

The minimum level of medical fitness for all recruits, whether regular or reserves, is described in JSP 950 Lf 6-7-4. The JSP is the prime reference for recruit medical entry standards, with AP 1269A Lf 5 describing conditions where the RAF requires a different level of medical fitness. These medical standards, which determine fitness for entry, are also to be applied to serving personnel transferring from current non-commissioned to commissioned employment, and between regular and reserve service. This is because they will undergo the same rigorous initial training programme, are likely to be subject to a changed, possibly extended, length of service and deploy to the same austere locations with minimal medical support as regular personnel. However, there may be occasions where either Gp Capt Recruiting and Selection or DACOS Reserves may make exceptions depending on Service requirements (see below).

The Single Service Occupational Physician within the Recruiting & Selection Department of Occupational Medicine (R&S DOM) at RAF College Cranwell is responsible in all cases for advising on the medical selection of recruits.

CATEGORIES OF CANDIDATE

Regulars

All candidates for regular service are to undergo a pre-employment entry medical by the authorised medical contractor. Aircrew and controllers (ATC and ABM) will undergo further medical screening when they attend OASC. Other service candidates deployed overseas, when required to attend for a medical, may be authorised by R&S DOM to have the medical performed locally by a nominated medical centre. The completed F Med 1 is to be returned to R&S DOM for approval.

Reserves

Candidates for reserve service (RAuxAF, FTRS, Additional Duties Commitment (ADC) and Sponsored Reserves) who have had an exit Level 4 medical within the previous 12 months are to undergo a pre-employment Level 3 screening medical following a review of the Service medical records by R&S DOM. This should be performed by the station medical centre that parents the reservist unit to ensure the candidate’s exit JMES remains appropriate to the standards promulgated in JSP 950 Lf 6-7-4 and AP1269A. All other reserve candidates, with the exception of aircrew who will be boarded by R&S DOM, will undergo a pre-employment medical conducted either by the authorised medical contractor or by the SMO (FTRS and ADC only) of the recruiting unit. In cases of doubt, additional clinical information may be obtained, with the candidate’s consent, from their GP. Should there continue to be doubt as to whether the candidate meets the recruit entry medical standard, or a potential assessment error by the contracted medical examiner is identified, the case should be referred to R&S DOM. Direct referral to a speciality CA or DCA is not to be made.

Reserve candidates may be older than regular candidates and may have a more extensive medical history; however, the same medical standards are to be applied as for candidates to the regular Service. An executive waiver system exists for Reserve candidates with exceptional skill sets who do not satisfy entry standards. Such waivers can only be authorised by Air Cmd Reserve staffs, who will seek a medical risk assessment from R&S DOM (AP3392 Vol. 7 Lf 9-01 paragraph 8a). Waivers are to be initiated by the
Reserve unit Chain of Command and not by the authorised medical contractor, R&S DOM or parent unit medical staffs.

**Medical and Dental Cadets**

7. Medical and dental cadets will have their initial medical assessment performed as per paragraph 4. Their JMES will be awarded by R&S DOM, on confirmation of a cadetship. Their fitness to undertake Phase 1 training will be confirmed by the SMO of their parenting medical centre by undertaking a Level 4 medical and forwarding an annotated F Med 566 to P2 Processing, OASC, RAFC Cranwell. This is to be completed 4 weeks prior to the Initial Officer Training Course (IOT) start date.

**Currently Serving Personnel**

8. Candidates for commissioning who are currently serving will have their pre-employment assessment performed by the authorised medical contractor. There is no requirement for a Level 4, pre-screening medical to be performed by their parent medical centre; however, a Level 1 medical screen is required to filter out those with a TJMES or PJMES lower than A4 L1 M4 E1. Medical staff are to complete the required information on the applicant’s F7153B. Advice on the suitability of candidates with a PJMES below A4 L1 M4 E1 is to be sought from R&S DOM. Serving personnel will be subject to the same medical selection standards as their civilian counterparts (AP3391 Part A Vol. 1 Lft 4 paragraph 1). A complete print-out of DMICP records is to be taken by the individual to the authorised medical contractor to allow completion of a full and accurate PULHHEEMS assessment in line with JSP 950 Lft 6-7-4. Any changes to medical fitness for Phase 1 training will be confirmed to P2 Processing at OASC RAFC Cranwell by the R&S DOM following completion of the pre-attestation screening medical questionnaire 4 weeks prior to the IOT start date.

**Re-entrant Candidates**

9. Candidates applying to re-join the RAF who have had a release medical within 12 months of their proposed date of attestation may use this in lieu of a screening medical by the authorised medical contractor. Responsibility for the pre-employment occupational screening of the candidate’s medical documentation lies with R&S DOM.

**Basic Engineering Scheme and Bursars**

10. Enlisted engineers and university bursars will have their initial medical performed by the authorised medical contractor. Bursars will have their fitness for IOT confirmed at a medical performed by the authorised medical contractor. On graduation from the BES scheme BES candidates will have their continued fitness for commissioning and IOT assessed by the medical centre with parenting responsibility by means of a level 4 medical examination undertaken in the month prior to the commencement of their IOT course; the candidate will be provided with an F Med 566 detailing the outcome of the medical for them to forward to P2 Processing at OASC. The medical standard for these graduates to commence IOT is the same as for civilian direct entrant candidates and is published in JSP 950 Leaflet 6-7-4; any concerns regarding the fitness of BES or bursar candidates for IOT are to be referred to R&S DOM.

**Defence Sixth Form College Scholars**

11. Candidates for sixth form scholarships at the Defence Sixth Form College, Welbeck, will have their initial selection medical performed by the authorised medical contractor. Those selected for entry to the DTUS bursary scheme at the end of the sixth form will have a further examination by the medical examiner contracted by DFSC which will be screened by R&S DOM to the initial entry medical standard. On completion of their degree a pre-employment medical by the authorised medical contractor will be required to ascertain their fitness for commissioning and IOT. The medical standard for DTUS graduates to commence IOT is the same as for civilian direct entry candidates.

**Defence Engineering and Science Group**

12. Defence Engineering and Science Group (DESG) students are civil servants who are offered social membership of the DTUS squadrons as reservists to enable them to experience the Service ethos by partaking in squadron activities, they are to undertake a medical by the medical contractor to the University Air Squadron standard (para 13) to give some assurance of their fitness for these activities; however since there are no long term military employment concerns those who do not meet the UAS standard are to be referred to R&S DOM by SO2 Sponsorship for a bespoke assessment using the process at AP3391 vol 3 part
The completed form is to be returned to SO2 Sponsorship who will either accept or decline the risk following discussion with the relevant OC DTUS Sqn.

Members of University Air Squadrons

13. The medical assessment of members of university air squadrons is detailed at Lflt 4-03 paragraphs 3-5.

Re-branching During Phase 1 or Phase 2 Training

14. Candidates will be assessed for suitability for their proposed trade or branch by OASC or the Re-trade Cell at HQ Air, who will seek the advice of R&S DOM for their medical fitness for the new choice.

RECRUITING PATHWAY AND MEDICAL DOCUMENTATION

Pre-employment Screening – Medical Supplement Lfts

15. The selection process for all candidates, except recent re-entrants, starts with candidate completing pre-employment screening questionnaires - Medical Supplement Lfts (MSL) - provided by the AFCO or Squadron recruiters (RAF Reserves (RAFR)), and returned once completed to R&S DOM for screening. The outcome of the screening is to be notified to the AFCO/RAFR and the candidate.

Authorised Medical Contractor – Medical

16. Currently serving personnel from all 3 Services are to take a full DMICP print-out to their contractor medical. The authorised medical contractor raises a FMed 1 for all candidates which for fit candidates is sent to: the receiving Phase 1 RAF training unit for regular ground trades (RAF Halton and RAF Honington); R&S DOM for officers, aircrew and controllers; and to parent medical centres for all RAFR candidates when completed.

Pre-entry Courses and Visits

17. Details of occupational screening for pre-entry candidates are to be found at Annex A. The receiving medical unit awards the JMES; and raises the DMICP electronic health record. All candidates are to be issued with Change in Medical Circumstances form at Annex A and any significant changes that may affect fitness for Service or Phase 1 training since the initial entry medical are to be notified by the phase 1 training unit to R&S DOM who will refer the candidate back to the medical contractor for further assessment if appropriate.

18. Pre-entry courses and visits are generally conducted 6 weeks prior to the planned entry-into-service date. In some cases, short notice recruitment may reduce the 6 week time frame for completing the pre-service screening.

19. The recruiting pathways for non-controller ground trades - Airmen; non-controller ground branches - Officers; and aircrew and controllers are at Annexes D-F respectively.

On Arrival at Phase 1 Training (RAF Halton and RAF Honington)

20. Recruits will be screened by nursing staff to confirm that no medical issues have arisen since the pre-entry medical. Any medical issues highlighted are to be referred to a MO for assessment. The MO may refer to the R&S DOM for further occupational advice if there is a significant change that may affect fitness for Service or Phase 1 training. The Phase 1 Training Unit delivers the required military employment immunization package and undertakes any additional requirements dictated by the recruits’ branch or trade. On confirmation of the recruit’s fitness the PULHEEMS profile and JMES can be confirmed by the MO, who completes the initial JMES and PULHEEMS templates on the FMed 1 and DMICP.

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80 Except for ground officers not boarded by R&S DOM, who will have their DMICP record raised by RMC Cranwell.

81 If an issue is raised at the pre-entry medical screening stage which requires referral to R&S DOM, the electronic record is to be raised at this time.

82 All recruiting medical documents and letters are to be scanned into DMICP.
MEDICAL STANDARDS FOR ENTRY

21. The tri-Service medical standards for entry are to be found in JSP 950 6-7-4. Where more stringent RAF standards apply these are documented in AP1269A Sections 4 and 5. AP 3391 Trade Selection Sheets Branch Selection Sheets provide the current entry PULHEEMS at pre-employment and are reviewed annually by the R&S DOM in consultation with the Branch and Trade Sponsors.

22. Candidates found to be permanently or temporarily unfit for service will be informed of the decision by the agency making that decision, i.e. the authorised medical contractor; the SMO of the Phase 1 training unit; the SMO of the parent unit for reserve candidates; or R&S DOM.

Award of Initial JMES

23. Responsibility for the award of the initial JMES lies with the receiving Phase 1 training unit Medical Centre, except for officers, non-commissioned aircrew and controllers for whom the responsibility lies with R&S DOM. The award of a JMES for reserves is the responsibility of the SMO of the reserve unit’s parent station or the parenting unit in the case of individual reserve posts. Lftt 3-03 Annex A paragraph 1 b refers to the Read code for the award of an initial JMES.

Aircrew and Controller Medicals

24. All aircrew and controllers, to include civil servants employed as aircrew, contractors’ aircrew, part-time reserve aircrew and AEF staff pilots, are to attend an initial Formal Medical Board at the R&S DOM unless a waiver applies (paragraph 25). An F Med 144 is raised for aircrew and controller candidates to capture the additional R&S DOM examination.

Aircrew Selection Medical Standards

25. Selection medical standards for regular aircrew, aviation officers, contractors’ pilots, part-time reserve aircrew, AEF staff pilots, flight medical officers, sponsored reserve pilots, members of university air squadrons and gliding instructors are detailed at Lftt 4-02. ECG and blood testing is to be performed in accordance with Lftt 3-01.

Initial Medical Board Waivers - Non-Regular Aircrew, Ground Personnel, Air Cadet Staff Pilots and Civilian Aircrew

26. The regulations regarding the application for and approval of waivers to attend an initial Formal Medical Board at R&S DOM are at Lftt 4-02 paragraph 9. Prior to the approval of a waiver by the R&S DOM Medical Board a completed Statement of Health (Lftt 3-02 Annex C), a Medical Attendant’s Report (Lftt 3-02 Annex D), a copy of a current JAA FCL Class 1 medical certificate, and a copy of any page of the EASA Part-Med licence stating a permanent medical limitation must be provided to the Medical Board. If satisfied that a waiver may be authorised, the R&S DOM Medical Board will inform the unit executive accordingly.

APPEALS AND COMPLAINTS

Appeals

27. Candidates who have been found permanently medically unfit for service during the recruitment process are to be advised by the AFCO or RAFR squadron that to appeal they must able to show that significant facts have been misrepresented or omitted from the original assessment. Appeals will only be considered if the candidate can provide supporting evidence. All appeals must be made direct to R&S DOM in the form of a letter from the candidate. All medical appeal correspondence and decisions will be directed to the candidate, or parent/guardian if under 18. The final decision on medical fitness for recruit entry lies with the consultant occupational physician responsible for RAF Recruiting and Selection.

28. If candidates within the medical process are unsure why they have been found unfit, advice should be sought from the examining agency. Candidates are to be advised that appeals against disqualifying medical conditions listed on the AFCO Form 5 or the RAF Careers website will be unsuccessful.

Complaints before Attestation

83 Currently Air Tanker Services Voyager pilots
29. If a complaint concerning medical policy or procedure is received while a candidate is in the recruitment process it must be addressed to R&S DOM, who will direct the complaint to the Account Manager at the authorised medical contractor; the examining medical unit practice manager; or to SO2 Policy RAF Recruiting and Selection, as appropriate.

Complaints after Attestation

30. Medical complaints received from candidates after attestation are an in-service issue and are to be dealt with by the respective Medical Centre in conjunction with the appropriate unit P1 staffs at the receiving Phase 1 training unit. If necessary, guidance on medical selection policy is available from the R&S DOM.

R&S DOM Contact Details

Email: CRN-RecruitSelect-OccMed-Grp (MULTIUSER)

Telephone: 95751 6754 / 6831
          01400 266745 / 266831

Fax:       95751 6892
          01400 266892

Address:  Department of Occupational Medicine
          Recruiting and Selection
          Adastral Hall
          PO Box 1000
          RAFC Cranwell
          Sleaford
          Lincolnshire
          NG34 8GZ
LEAFLET 4-01 ANNEX A: OCCUPATIONAL SCREENING FOR PRE-JOINING CANDIDATES AND RECRUITS

1. Candidates are informed by the AFCO of the requirement to notify R&SDOM of any change in their medical circumstances, such as an injury or illness that develops between their medical and attestation. Candidates attending the pre-entry courses are issued the Change in Medical Circumstances form (Lft 4-01 Annex B) by the medical centre staff together with a full explanation of its purpose.

2. The FMed 1, any supporting documentation and the Change in Medical Circumstances are to be screened by the receiving Medical Centre during the pre-entry course visit if no medical issues are identified. The recruit remains fit for entry and fit to join the planned phase 1 training course. GP records may have been requested by the Medical Examiner to determine Fitness for Service; if the GP reports are not included within the RMTE they are to be requested from the contractor. Where documents are not available medical staffs are to discuss the case with the R&SDOM staff.

3. If a change in medical circumstances is declared the case is to be reviewed by a designated MO at the phase 1 training unit medical centre. If the medical issue requires further occupational assessment the case is to be referred via DMICP to R&SDOM who will decide whether the candidate requires further assessment by the contractor. All cases referred by R&SDOM for assessment by the contractor are to be graded as Temporarily Medical Unfit for entry and the AFCO will be informed of the change in the candidate’s medical status R&SDOM. It is key for cases referred to the R&S DOM that the FMed 1, the Change in Medical Circumstances form at Lft 4-01 Annex B and any other supporting documentation are made available at the time of referral as any delay in receipt of these documents may delay the candidate’s entry date. The final fitness for entry decision by R&S DOM will be entered onto DMICP to notify the Phase 1 Training Unit referring MO.
MEDICAL CHANGE OF CIRCUMSTANCE

You must inform the Department of Occupational Medicine for Recruiting and Selection if there is any significant change in your health since your last medical assessment.

You should tell us if you have visited a doctor, hospital or any other health care professional for treatment and/or been prescribed any medication or have a current injury or illness (excluding minor illness and injuries).

Any failure to declare your past and present medical history may result in your application being discontinued. If you are found to have not declared a health issue once employed by the RAF then this may result in employment termination under the terms of Queens Regulations as Services No Longer Required.

If there is a significant change in your health you must complete the enclosed Medical Change of Circumstances Proforma and send it immediately to the above address.

Your case will be reviewed by a Specialist Nurse and you will be informed of the outcome.

Yours Sincerely

for XXXXX
Wing Commander
Department of Occupational Medicine

Enclosure:
1. Medical Change of Circumstances Proforma
MEDICAL CHANGE OF CIRCUMSTANCE PROFORMA

Full Name: 

Address: 

Date of Birth: 

<table>
<thead>
<tr>
<th>What was/is the new illness or injury</th>
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<tr>
<td>On what date did the illness or injury occur?</td>
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<tr>
<td>Did you visit your doctor or other health care professional? If so please provide all dates of assessments</td>
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<tr>
<td>Did/do you have a confirmed diagnosis following your assessments? Please provide details.</td>
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<tr>
<td>What treatment if any did you receive? Please provide details.</td>
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<tr>
<td>Were you prescribed any medication as treatment for your illness or injury? If so please provide details.</td>
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<tr>
<td>How long did your injury / illness last for? Please give details of how it affected your daily activities.</td>
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<tr>
<td>On what date was your treatment completed and you were discharged from medical care?</td>
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<tr>
<td>By what date were you fully recovered from your illness or injury?</td>
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<tr>
<td>What exercise are you currently doing?</td>
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For completion by Department of Occupational Medicine only:

Outcome: 

Rank / Name: 
Signature: 
Date: 

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Publication date: 01/08/16
LEAFLET 4-01 ANNEX E: MEDICAL ASSESSMENT PATHWAY FOR NON-CONTROLLER GROUND BRANCHES - OFFICERS

1. Presents to AFCO

2. MSLs Completed

3. Yes → R&S DOM

4. Unfit → Refer to AFCO (Case closed)

5. No → Attestation

6. F Med 1 and other Documents sent to RMC Cranwell to raise DMICP record

7. Fam Visit → Selected by OASC Questionnaire administered to successful candidates and compared with FMed1 by R&S DOM

8. JMES awarded by R&S DOM on F Med 1

9. All QA checks and referrals in-house

10. Fit → Contractor Medical

11. Unfit → Refer to AFCO (Case closed)

12. Arrival at IOT

13. Health check and immunisation
MEDICAL STANDARDS

1. Aircrew must possess a high degree of physical and mental stamina to withstand the rigours of flying, especially under active service conditions. Careful medical examination and assessment of aircrew, both pre-selection and during routine review, is therefore essential. This leaflet details the fitness standards required of aircrew. Policy and guidance relating to specific medical conditions is detailed in Section 5 which should be read in conjunction with this leaflet.

REGULAR AIRCREW

2. The minimum acceptable PULHHEEMS profiles for a JMES of A1/A2 L2 M4 E2 and the minimum selection standard for regular aircrew officers and non-commissioned aircrew are detailed in AP3391 Branch Selection Sheets and Trade Selection Sheets and AP3392 vol 2 Lflt 1570 for ground tradesmen selected for airborne mission crew training.

MEMBERS OF UNIVERSITY AIR SQUADRONS

3. There are 3 groups of University Air Squadron member:

   a. Bursars – will have their initial medical performed by the authorised medical contractor followed by a specialist medical at R&SDOM. There is no requirement for an annual PME but they will have the medical repeated by the authorised medical contractor and R&SDOM prior to acceptance onto IOT; they are not awarded a JMES until they attest.

   b. Flying Members – have no commitment to join the RAF as regulars but are attested as reservists for the duration of their membership of the UAS and so are required to meet the minimum medical standard for reserve service. Their entry medical will be performed by the authorised medical contractor to a standard equivalent to that required for the Personnel Branch, this standard exceeds that required for the Light Aircraft Pilot’s Licence and will ensure a level of medical fitness sufficient for UAS non-flying activities. Should they wish to commission they will be required to undergo the full recruit entry medical process.

   c. Medical Cadets – are attested and employed and so are awarded a JMES by the SMO of their parent medical centre following their initial medical by the authorised medical contractor. The SMO will perform a level 4 medical to confirm their fitness prior to Phase 1 Training (Lflt 4-01 para 6).

4. Candidates for cadetships and bursaries are assessed to the same standard required for candidates for regular service in the appropriate air or ground branch; the minimum PULHHEEMS profile and JMES required for acceptance is detailed in the Branch Selection Sheets and the in AP 3391.

5. UAS students who were awarded a JMES of A3 L2 M4 E2 or better (fit UAS flying only) before the introduction of the DVLA Group 2 standard will continue to hold their JMES until they leave the UAS or enter productive service when an appropriate JMES will be awarded (subject to further medical assessment at R&SDOM or by the authorised medical contractor).

CIVILIAN AIRCREW

6. The minimum acceptable medical standard for civilian aircrew (including civil servants employed as aircrew, contractors’ pilots, Defence Helicopter Flying School (DHFS) instructors) is one that would lead to the award A3 L2 M4 E3 for regular RAF aircrew.

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84 This is the minimum tri-Service entry standard for aircrew training. Single Service refractive error limits may be more exacting and are detailed at Annexes A and B.
7. Aviation Officers, contractors' pilots, part-time reserve aircrew, air experience flight staff pilots (whether full or part-time) and Flight Medical Officers (FMOs) selected to undergo flying training are to attend a medical board at R&SDOM to establish their fitness for their proposed flying duties. The minimum acceptable medical standard is one that could lead to the award of a JMES of A3 L2 M4 E3. The standards to be used are those defined for serving aircrew. The individual must be fit for the full operational flight envelope of the aircraft type in which flying duties will be performed and, except as indicated below, for solo flight. The following specific requirements apply:

a. Part-time reserve aircrew are required to meet the A2 visual and hearing standards. In addition, they are required to meet a standard that could lead to the award of a RAF JMES of A3 L2 M4 E2. If they are to be employed in two pilot operated transport aircraft, they may be permitted the limitation “Unfit solo pilot - must fly with a pilot suitably qualified” (MedLim 2000). If compatible with their proposed employment they may be permitted the limitations ‘Unfit ejection seat aircraft’ (MedLim2007) and ‘Unfit specific aircraft (types to be specified in Med Docs)’ (MedLim 2002). Other A3 limitations are not permitted.

b. Aviation officers, contractors' pilots and air experience flight staff pilots are required to meet the A2 visual and hearing standards.

c. FMOs must meet the A2 hearing standard and must have a corrected visual acuity in each eye separately no worse than 6/12. If, in either eye the uncorrected visual acuity is worse that 6/60 or the required correction in any axis exceeds 5 dioptres the candidate is to be referred to a Service ophthalmologist for assessment of his or her fitness to fly. The colour vision standard for this group is CP3. Any FMO found fit for flying training but not meeting the A2 or CP2 visual standard, is to be awarded the limitation ‘Fit flight medical officer flying duties only’ (MedLim 2003).

d. All Voyager Sponsored Reserve Aircrew will hold a valid EASA Class 1 medical certificate as a condition of their employment. This may be used to waive the requirement of their initial or annual aircrew medical examination, depending on the source of recruitment:

(1) No previous military aircrew service or over 1 year since last PME. These aircrew will be required to undergo an initial medical examination to assess their fitness for general military service and deployed duties by the authorised medical contractor. The results of the completed medical examination will be forwarded to R&SDOM together with a copy of their EASA Class 1 medical certificate and their F1047A attestation form for confirmation and award of their JMES.

(2) Less than 1 year since their last Service PME. These aircrew will not require an initial medical examination to assess their fitness for general Service and deployed duties. Air Tanker will forward to R&SDOM a copy of their EASA Class 1 medical certificate, a completed consent form to access their Service medical records and F1047A attestation form. R&SDOM will award a JMES accordingly.

(3) Currently serving personnel looking for employment as sponsored reserves. These aircrew will have a current aircrew JMES in addition to an EASA Class 1 medical certificate. A copy of the EASA Class 1 medical certificate, a completed consent form to access their Service medical records and F1047A attestation form will be forwarded to R&SDOM for confirmation of their JMES.

Subsequent annual assessments of fitness to operate will be in accordance with Lflt 3-02 para 10 and a waiver of annual examination PME may be awarded in accordance with Lflt 3-01. Aircrew reaching the age of 60 will be required to comply with additional tests such as enhanced cardiac screening.

8. The Board is to award a JMES to regular Service personnel and to those who hold a reserve forces appointment; the JMES awarded is to reflect the individual’s fitness for all flying duties and is not to be artificially restricted to the minimum acceptable standard for the intended flying role. Other personnel are to be certified as fit to perform their flying duties, with any limitations to be noted on the certificate of fitness. The Board is to record its findings on a FMed 144 and is to distribute single Service documentation in
accordance with Lft 2-01, Annex B. Where there are no clear instructions for the distribution of documents the minimum documentation is a FMED 566, certifying fitness for flying duties and listing limitations, or certifying unfitness, distributed to:

a. The employer; i.e. the relevant MOD Service or civilian personnel branch, or the contractor.

b. CFMO (RAF).

c. The individual.

d. If fit, the Flying Executive of the unit where the individual will be employed.

WAIVER OF INITIAL AIRCREW AND CONTROLLER MEDICAL BOARDS

9. Non-Regular Aircrew. The initial medical board may not be waived for a candidate who will be liable to undertake flying in an aircraft fitted with an ejection seat. The initial medical board or examination for other candidates may be waived, subject to the approval of the R&SDOM Medical Board, in which case the candidate must provide a completed Statement of Health (SOH) (Lft 3-02 Annex C) and Medical Attendant’s Report (MAR) (Lft 3-02 Annex D). In addition one of the following must apply:

a. The candidate is serving or has served, is qualified for the intended appointment and whose most recent JMES was confirmed by a Service medical examination no more than 24 months before the date of the selection board and meets the standard for employment. The Service medical documents must be available to the R&SDOM Medical Board; a full medical examination (level 4) at unit level will be required where the previous examination was completed more than 12 months before the start of the flying appointment.

b. The candidate was passed fit by a Service Permanent Medical Board no more than 24 months before the date of the selection board. The Service medical documents must be available to the R&SDOM Medical Board; a full medical examination (level 4) at unit level will be required where the previous examination was completed more than 12 months before the start of the flying appointment.

c. The candidate holds a current EASA aircrew licence supported by a Class 1 medical certificate, has provided a copy of the audiogram and visual acuities from their most recent EASA Class 1 medical examination, has normal results for the initial aircrew and age 40 blood tests (AP1269A Lft 3-01 paragraph 13) as appropriate and has had confirmation of anthropometric fitness by either a cockpit check or formal anthropometry. The blood tests may be performed by any service MO and the results forwarded to R&SDOM. The waiver is valid until the end of the month in which the Class 1 medical certificate expires even if the EASA medical certificate needs to be renewed every 6 months for the type of civilian flying being conducted.

10. The waiver of the initial medical board will remain provisional until the individual’s anthropometric fitness for the intended aircraft type and normal blood test results have been confirmed.

11. Non-regular controllers. The initial medical board or examination may be waived, subject to the approval of the R&SDOM Medical Board, in which case the candidate must provide a completed SOH (Lft 3-02 Annex C) and MAR (Lft 3-02 Annex D). In addition one of the following must apply:

a. The candidate is serving or has served, is qualified for the intended appointment and whose most recent JMES was confirmed by a Service medical examination no more than 24 months before the date of the selection board and meets the standard for employment. The Service medical documents must be available to the R&SDOM Medical Board; a full medical examination (level 4) at unit level will be required where the previous examination was completed more than 12 months before the start of the aircraft controlling appointment.

b. The candidate was passed fit by a Service Permanent Medical Board no more than 24 months before the date of the selection board. The Service medical documents must be available to the R&SDOM Medical Board; a full medical examination (level 4) at unit level will be required where the previous examination was completed more than 12 months before the start of the aircraft controlling appointment.
c. The candidate holds a current EASA ATCO or equivalent as accepted by R&SDOM licence supported by a Class 3 medical certificate and has provided a copy of the audiogram and visual acuities from their most recent EASA Class 3 medical examination.

12. Where an EASA aircrew or ATCO licence and medical certificate is used to provide the basis for a waiver the candidate must present the licence and medical certificate to the Service executive authority responsible for their recruitment. That authority is to forward a certified copy of the medical certificate and any page of the licence showing permanent medical limitations with the completed SOH and MAR, unopened, to R&SDOM Medical Board. When the R&SDOM Medical Board is satisfied a waiver can be granted, the Service executive authority responsible for recruitment is to be informed accordingly. The notification is to include the award of a JMES and a statement of any applicable limitations.

WAIVERS OF ANNUAL AIRCREW AND CONTROLLER MEDICALS

13. **Aircrew.** Annual medical examinations may not be waived for aircrew flying ejection seat aircraft. Non-regular aircrew under the age of 60 may be granted a standing waiver of the annual PME subject to the following conditions:
   a. The individual must hold a current aircrew licence supported by an EASA Class 1 medical certificate or equivalent as accepted by R&SDOM.
   b. Provide a completed SOH and MAR, a copy of the audiogram and visual acuities from their most recent EASA Class 1 medical examination.
   c. Undergo satisfactory blood testing as for regular aircrew (Lflt 3-01).
   d. There must be no new medical limitation on the EASA licence or medical certificate.
   e. Aircrew aged 60 and over are required to undergo additional screening tests including enhanced cardiac screening (Lflt 3-01); their annual waiver is subject to R&SDOM Medical Board approval.

14. The waiver is valid until the end of the month in which the Class 1 medical certificate expires even if the EASA medical certificate needs to be renewed every 6 months for the type of civilian flying being conducted. Aircrew who fly with a helmet are required to have it checked annually by a MAME; the line management is to be informed by the medical centre of the result of the waiver review and helmet check in writing and the MO authorising the waiver is to sign the flying log book.

15. **Controllers.** Non-regular controllers under the age of 60 may be granted a waiver of the annual PME subject to the following conditions:
   a. The individual must hold a current ATCO licence supported by an EASA Class 3 medical certificate.
   b. Provide a completed SOH and MAR and a copy of the audiogram and visual acuities from their most recent EASA Class 3 medical examination.
   c. There must be no new medical limitation on the EASA licence or medical certificate.
   d. Controllers aged 60 and over are required to undergo additional screening tests including enhanced cardiac screening (Lflt 3-01); their annual waiver is subject to R&SDOM Medical Board approval.

16. The waiver is valid until the end of the month in which the Class 3 medical certificate expires even if the EASA medical certificate needs to be renewed every 6 months for the type of civilian controlling being conducted. The line management is to be informed by the medical centre of the result of the waiver review in writing and the MO authorising the waiver is to sign the controller’s log book.

17. A summary of the documentation required for aircrew medical waivers is at Lflt 4-02 Annex D.

GLIDING INSTRUCTORS

16. Air Cadet gliding instructors undergoing training are required to comply with the British Gliding Association (BGA) to hold an NPPL / LAPL (DVLA Gp 1 standard) and not knowingly have a medical issue.
19. The terms RPAS and UAS are often used interchangeably though the preferred term for larger UAS is REMOTELY PILOTED AIR SYSTEMS (RPAS). Contractors flying RPAS on behalf of the MOD must hold an equivalent civilian medical certificate approved by the appropriate SS MO responsible for medical assessment of aircrew on entry.

20. Fitness standards for RPAS operators depend on the NATO classification of the Uninhabited Aerial System (UAS) being operated (Annex C) and recognise different risks in each RPAS category. The standards seek to minimise the potential for human operator failure through incapacitation or reduced performance. As the NATO classification is primarily weight based, it may be necessary to adjust medical standards to address specific hazards: conversely, with increasing automation some relaxation of standards may be possible in light of a risk assessment based on the individual’s role. All RAF direct entrant candidates will be required to meet the minimum medical entry standard published in AP 3391 Vol. 3 part B to ensure that they are adequately fit to complete phase 1 and phase 2 training; additional specialist assessment will also be required at R&SDOM. In-service branch transfers may be assessed against the minimum air traffic requirement for fitness for solo controlling and so may be accepted with a lower JMES however RPAS also be required at R&SDOM; however, the following paragraphs outline additional considerations for aircrew with a restricted medical category and for ground based personnel who may be selected to operate RPAS. Contractors flying RPAS on behalf of the MOD must hold an equivalent civilian medical certificate approved by the appropriate SS MO responsible for medical assessment of aircrew on entry.

Class 1 operators will normally be selected from ground based trades/branches. They must meet standards for military retention and deployment as defined by their specific Service and trade/branch. Additionally, there should be no coexisting medical condition, or treatment, that may result in sudden incapacitation or impaired alertness, judgement, cognition, sensory function or coordination. Distant VA should be correctable to 6/9 (R), 6/12 (L). There are generally no restrictions on near VA or colour vision, though limitations may be appropriate for specific systems if the operator is required to interact with a visual display. A Level 3 medical should be undertaken prior to employment, after which routine medical reassessment is only required at intervals in line with single Service regulations for the individual’s original branch/trade. The medical may only be undertaken by a MO or CMP qualified as a Military Aviation Medicine Examiner (MAME).

b. Military Class 2 operators require a Level 4 medical prior to selection and are subject to an annual Level 4 PME. Medicals must be performed by a MAME. Individuals should have distant VA correctable to 6/6 and have normal intermediate and near VA as per Annex A. Individuals with H2H2 hearing must have loss no greater than 75 dB(A) summed at 1, 2 and 3 kHz in the best ear (nonstandard low tone summation). For Army candidates medical standards and administrative
requirements are set out in Appendix 13 of the PULHEEMS Administrative Pamphlet (PAP). As a rule, medical conditions (and medication use) that would restrict employment of an air traffic controller would also restrict employment of a Class 2 RPAS operator. Operation by civilian contractors presents a very low third-party risk to life (mitigations include multiple people in the control loop, delineated airspace, and small vehicle size). In consultation with the relevant sS CA AvMed or CFMO (RAF), an EASA Class 2 (PPL) medical licence may be acceptable as evidence of medical fitness.

c. Class 3 operators will normally be aircrew but may include non-aircrew personnel in future. These operators require annual PMEs by a MAME, exactly as they would if piloting manned aircraft, with ECGs and blood testing performed at the frequency specified in Lft 3-01 paragraph 11a and para 14. RPAS operators must have normal vision as outlined at Annex A. Normal aircrew hearing standards apply. As a rule, medical conditions (and medication use) that would restrict employment of an air traffic controller would also restrict employment of a Class 3 RPAS operator (RPAS Cdr/pilot).

d. Although Class 3 RPAS operators are considered to be aircrew in that they have command and control over an aircraft they are not exposed to the same physiological stresses as other aircrew and will not have undertaken a full course of aviation medicine training. They will therefore be awarded an A3 medical standard with the limitation: ‘Fit RPAS and EFT flying duties only’ (MedLim 2003) those requiring visual correction will be awarded ‘Must wear approved visual correction when flying or controlling aircraft (MedLim 2201). An annual assessment of visual correction is required.

A2 VISUAL AND HEARING LIMITATIONS

21. All serving aircrew whose uncorrected VA in one or both eyes falls below 6/6 (E2), or who complain of visual difficulties, are to be referred for refraction (see Lft 5-14 Annex C). If Corrective Flying Spectacles (CFS) are required, the appropriate A2 visual limitation is to be awarded (see Lft 2-03 paragraph 3 and Lft 5-14 Annex C). As there may be a short period before CFS are available, aircrew may continue to fly pending delivery of the CFS unless, in the opinion of the Medical Board, it would be unsafe for him to do so. In this case the board is to annotate the Patient Advice Notice ‘Unfit to fly until CFS have been issued’. The A2 visual limitations are not to be used for pathological changes to the eyes. Full details of the minimum visual standards required of aircrew are detailed in Lft 4-02 Annexes A and B.

22. Aircrew found to have a hearing standard lower than H1 are to have audiometry repeated after a minimum period of 48 hours away from noise, and once any short term conditions influencing hearing have been resolved. If the hearing remains outside the H1 standard then they are to be reviewed by an FMO or consultant in OM, and are to be awarded an A2 marker in accordance with Lft 2-03 paragraph 3b.

SPECIAL CONSIDERATIONS

23. Aircrew Visual Standards. Entry visual standards for aircrew are detailed at Lft 4-02 Annexes A and B.

24. Aircrew Weight and Anthropometry Limitations. Weight and anthropometric limitations for RAF aircrew are detailed at Lft 4-05.

GROUND BRANCH AND TRADE PERSONNEL, WHO DO NOT HOLD AN AIRCREW JMES, FLYING AS A PART OF THEIR NORMAL EMPLOYMENT

25. Selection. The minimum medical standard for selection for Aeromedical evacuation or air steward duties is a JMES of A4 L2 M4 E2. Candidates for employment are to be medically examined by a Service MO to confirm fitness for their proposed duties. For full details see Lft 3-02 Annex A, Appendix 1. The standards for selection for Army Air Dispatcher are at Lft 4-04 Annex B,
<table>
<thead>
<tr>
<th>Component</th>
<th>Uncorr</th>
<th>Corr.</th>
<th>Inter²</th>
<th>Near²</th>
<th>Spherical Component</th>
<th>Cyl</th>
<th>Muscle Balance</th>
<th>Converg</th>
<th>Accommodation²</th>
<th>Age</th>
<th>CP</th>
<th>Stereopsis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pilot</td>
<td>6/12</td>
<td>6/6</td>
<td>N14</td>
<td>N5</td>
<td>-0.75 to +1.75 dioptries</td>
<td>+0.75 dioptries</td>
<td>Dist: Eso 6Δ to Exo 8Δ, ≤1Δ Vertical&lt;br&gt;Near: Eso 8Δ to Exo 16Δ, ≤1Δ Vertical</td>
<td>≤10 cm</td>
<td>≤ 11 cm</td>
<td>Age 17 – 20: 11 – 13 cm</td>
<td>2</td>
<td>120 secs of arc</td>
</tr>
<tr>
<td>WSO</td>
<td>6/24</td>
<td>6/6</td>
<td>N14</td>
<td>N5</td>
<td>-1.25 to +3.00 dioptries</td>
<td>+1.25 dioptries</td>
<td>As Pilot</td>
<td>&lt; 10 cm</td>
<td>As Pilot</td>
<td>2</td>
<td>120 secs of arc</td>
<td></td>
</tr>
<tr>
<td>WSOp [All except WSOp(L)]⁴</td>
<td>6/24</td>
<td>6/6</td>
<td>-</td>
<td>-</td>
<td>-2.00 to +3.00 dioptries&lt;br&gt;(along highest meridian)</td>
<td>-4.00 to +4.00 dioptries&lt;br&gt;(along highest meridian)</td>
<td>No standards laid down.⁹</td>
<td>&lt; 10 cm</td>
<td>As Pilot</td>
<td>4</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>WSOp(L)⁷</td>
<td>6/60</td>
<td>6/6</td>
<td>-</td>
<td>-</td>
<td>-6.00 to +6.00 dioptries</td>
<td>+2.00 dioptries</td>
<td>No standards laid down.⁹</td>
<td>&lt; 10 cm</td>
<td>As Pilot</td>
<td>4</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Sentry Mission Crew</td>
<td>6/36</td>
<td>6/6</td>
<td>-</td>
<td>-</td>
<td>-6.00 to +6.00 dioptries</td>
<td>+2.00 dioptries</td>
<td>As Pilot</td>
<td>&lt; 10 cm</td>
<td>As Pilot</td>
<td>2</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Airborne Technicians</td>
<td>6/60</td>
<td>6/9</td>
<td>-</td>
<td>-</td>
<td>-6.00 to +6.00 dioptries</td>
<td>+2.00 dioptries</td>
<td>No standards laid down.⁹</td>
<td>4</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>UAS/RPAS Operator Cat 1</td>
<td>&gt;6/60</td>
<td>6/9 R 6/12 L</td>
<td>-</td>
<td>-</td>
<td>-7.00 to +8.00 dioptries</td>
<td>As Pilot</td>
<td>&lt; 10 cm</td>
<td>As Pilot</td>
<td>2</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>UAS/RPAS Operator Cat 2</td>
<td>&gt;6/60</td>
<td>6/6</td>
<td>N14</td>
<td>N5</td>
<td>-7.00 to +8.00 dioptries</td>
<td>+5.00 dioptries</td>
<td>As Pilot</td>
<td>&lt; 10 cm</td>
<td>As Pilot</td>
<td>2</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>UAS/RPAS Operator Cat 3</td>
<td>&gt;6/60</td>
<td>6/6</td>
<td>N14</td>
<td>N5</td>
<td>-7.00 to +8.00 dioptries</td>
<td>+5.00 dioptries</td>
<td>As Pilot</td>
<td>&lt; 10 cm</td>
<td>As Pilot</td>
<td>2</td>
<td>-</td>
<td></td>
</tr>
</tbody>
</table>

Notes 1-9: See overleaf
1. All Aircrew: Manifest hypermetropia <+2.50 dioptres (Initial Medical Board only)

2. For candidates whose age is above 25, accommodation should fall within normal age parameters.

3. If the examiner considers the candidate requires CFS he is to be assessed A2 and awarded the appropriate restriction (see Lflts 2-03 and 5-14, Annex C). Pending delivery he may continue to fly unless it is considered unsafe to do so.

4. Each eye separately at 100 cm with spectacles if applicable. The spectacles prescribed should enable the examinee to achieve an adequate standard of intermediate vision for the aircraft he operates.

5. Each eye separately at the appropriate distance for age between 30-50 cm, with spectacles if applicable, as determined from the accepted Duane scale or RAF binocular gauge test. The spectacles prescribed should enable the examinee to achieve an adequate standard of near vision for the aircraft he operates.

6. SAR. To be employed on SAR, the WSOp’s eyesight must be correctable to the required standard using contact lenses. Those unable to wear contact lenses must be notified that they cannot be employed on SAR duties.

7. WSOp(L) outside the Generic WSOp range of lens correction and/or colour perception will not be eligible to cross-over to other WSOp specialisations. Candidates should be informed of this restriction by PMB and the candidate should sign as having been informed of the limitation.

8. Visual acuity worse than 6/36 requires referral to the CA in Ophthalmology. Although the basic job requirements of Sentry Mission Crew does not differ from TG12 / Ops Spt (ABM), the requirement for basic airmanship including emergency egress requires a more stringent visual standard.

9. Alternating strabismus which is cosmetically satisfactory and where each eye sees 6/6, with correction if necessary, may be accepted. However, if the examiner considers any candidate has an abnormality that may affect the full performance of his duty he is to be referred for assessment.
## LEAFLET 4-02 ANNEX B: VISUAL STANDARDS AT SELECTION - NON-REGULAR AIRCREW (CIVILIANS, UAS, CONTROLLER & GROUND BRANCHES)

<table>
<thead>
<tr>
<th>Visual Acuity (min)</th>
<th>Ref. Range</th>
<th>Muscle Balance</th>
<th>Converg.</th>
<th>Accommodation</th>
<th>CP</th>
<th>Stereopsis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uncorr.</td>
<td>Corr.</td>
<td>Inter</td>
<td>Near</td>
<td>Spherical Component</td>
<td>Cyl</td>
<td>(Maddox Rod)</td>
</tr>
<tr>
<td>Non-Regular Aircrew*:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Civil Servants</td>
<td>Contractors Pilots</td>
<td>DHFS Instructors</td>
<td>P/T Reserve Aircrew</td>
<td>AEF Staff Pilots</td>
<td>6/36</td>
<td>6/6</td>
</tr>
<tr>
<td>DHFS/Reserve aircrew (non-pilot)*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gilding Instructors*</td>
<td>89</td>
<td>6/12</td>
<td>N14</td>
<td>N5</td>
<td>5.00 dioptries in any axis*</td>
<td>Astigmatism and anisometropia not to exceed 3.00 dioptries</td>
</tr>
<tr>
<td>Flight Medical Officer*</td>
<td>92</td>
<td>93</td>
<td>N14</td>
<td>N5</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>UAS - Flying Branches*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>UAS – Student Members taking part in flying (except Flying Branch Bursars)</td>
<td>95</td>
<td>96</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Air Cadets &amp; CCF Cadets</td>
<td>6/9</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Air Stewards selected for C130 duties</td>
<td>6/24</td>
<td>6/9</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Passengers (including research subjects)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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85 If the examiner considers the candidate requires CFS he is to be assessed A2 and awarded the appropriate restriction (see Lfts 2-03 and 5-14, Annex C). Pending delivery he may continue to fly unless it is considered unsafe to do so.

86 Each eye separately at 100 cm, with spectacles if applicable. The spectacles prescribed should enable the examinee to achieve an adequate standard of near vision for the aircraft he operates.

87 Each eye separately at the appropriate distance for age between 30-50 cm, with spectacles if applicable, as determined from the accepted Duane scale or RAF binocular gauge test. The spectacles prescribed should enable the examinee to achieve an adequate standard of near vision for the aircraft he operates.

88 The refractive range for DHFS/Reserve aircrew (non-pilot) at selection is the same as that required for the equivalent regular crew position (Lft 4-02, Annex A). Waivers for acceptance outside these limits may be granted by CFMO following assessment by the CA in Ophthalmology.

89 Individuals with an uncorrected VA worse than 6/60 must have their prescription checked to ensure that it meets the requirement.

90 Distant VA is to be 6/12 or better in each eye separately: binocular visual acuity is to be 6/6 or better. Amblyopic candidates whose VA is 6/18 or better in the amblyopic eye may be accepted as fit if vision in the other eye is 6/6 or better subject to approval by CFMO(RAF).

91 Candidates outside this limit are to be referred for ophthalmic assessment.

92 The standards for FMO’s and UAS Student Members are NVPL (DVLA Group 2) standards. The NVPL has no uncorrected VA standard.

93 DVLA Group 2 standards apply: Corrected VA of at least 6/9 in one eye and 6/12 in the other.

94 Pilots with a VA of 6/9 in one or both eyes, and WSOs with a VA of 6/24 in one or both eyes, at the initial medical board are to be referred for ophthalmic assessment.

95 The standards for FMO’s and UAS Student Members are NVPL (DVLA Group 2) standards. The NVPL has no uncorrected VA standard.

96 DVLA Group 2 standards apply: Corrected VA of at least 6/9 in one eye and 6/12 in the other.
<table>
<thead>
<tr>
<th>Class</th>
<th>Category</th>
<th>Normal Employment</th>
<th>Normal Operating Altitude</th>
<th>Normal Mission Radius</th>
<th>Primary Supported Commander</th>
<th>Example Platform</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class III</td>
<td>Strike/Combat</td>
<td>Strategic/National</td>
<td>Up to 65k ft MSL</td>
<td>Unlimited (BLOS)</td>
<td>Theatre COM</td>
<td>Reaper</td>
</tr>
<tr>
<td>(&gt;600 kg)</td>
<td>HALE</td>
<td>Strategic/National</td>
<td>Up to 65k ft MSL</td>
<td>Unlimited (BLOS)</td>
<td>Theatre COM</td>
<td>Global Hawk</td>
</tr>
<tr>
<td></td>
<td>MALE</td>
<td>Operational/Theatre</td>
<td>Up to 45k ft MSL</td>
<td>Unlimited (BLOS)</td>
<td>JTF COM</td>
<td>Heron</td>
</tr>
<tr>
<td>Class II</td>
<td>Tactical</td>
<td>Tactical Formation</td>
<td>Up to 10k ft AGL</td>
<td>200 km (LOS)</td>
<td>Bde Comd</td>
<td>Hermes 450</td>
</tr>
<tr>
<td>(150-600 kg)</td>
<td>Small</td>
<td>Tactical Unit</td>
<td>Up to 5k ft AGL</td>
<td>50 km (LOS)</td>
<td>BN/Regt, BG</td>
<td>Scan Eagle</td>
</tr>
<tr>
<td></td>
<td>Mini</td>
<td>Tactical Sub-Unit</td>
<td>Up to 3k ft AGL</td>
<td>25 km (LOS)</td>
<td>Coy/Sqd</td>
<td>Skylark</td>
</tr>
<tr>
<td></td>
<td>Micro</td>
<td>Tactical Sub-Unit</td>
<td>Up to 200 ft AGL</td>
<td>5 km (LOS)</td>
<td>Pl, Sect</td>
<td>Black Widow</td>
</tr>
</tbody>
</table>

LEAFLET 4-02 ANNEX D: DOCUMENTATION REQUIRED FOR WAIVER OF INITIAL MEDICAL BOARDS AND ANNUAL PMEs FOR AEF VR(T) CONTRACTOR AIRCREW AND VGS INSTRUCTORS NOT UNDER DPHC

Under 60 years of age

| AEF VR(T) / CONTRACTOR PILOTS / VGS INSTRUCTORS UNDER THE AGE OF 60 YEARS |
|---------------------------------|-----------------|
| Unrestricted EASA Part-Med Class 1 licence | No | Yes |

<table>
<thead>
<tr>
<th>Initial applicant Meeting the conditions at: Lft 4-02 paragraph 9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial level 4 medical at parent medical centre if required.</td>
</tr>
<tr>
<td>SOH</td>
</tr>
<tr>
<td>MAR</td>
</tr>
<tr>
<td>Initial and age 40 bloods if not previously recorded</td>
</tr>
<tr>
<td>ECGMS reported ECG</td>
</tr>
<tr>
<td>Approval by R&amp;SDOM</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Annual renewal: Lft 4-02 paragraph 15</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level 4 by medical centre MAME, supported by:</td>
</tr>
<tr>
<td>SoH</td>
</tr>
<tr>
<td>MAR</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Screening ECG as per Lft 3-01 paragraph 11</td>
</tr>
<tr>
<td>MAME to sign logbook, valid for 12 months to end of month in which medical was undertaken</td>
</tr>
</tbody>
</table>
## Over 60 years of age

### AEF VR(T) / CONTRACTOR PILOTS / VGS INSTRUCTORS OVER THE AGE OF 60 YEARS

<table>
<thead>
<tr>
<th>Unrestricted EASA Part-Med Class 1 licence</th>
<th>No</th>
<th>Yes</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Initial applicant Meeting the conditions at: Lflt 4-02 paragraph 9</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Unrestricted EASA Part-Med Class 1 licence</strong></td>
</tr>
<tr>
<td>Initial level 4 medical at parent medical centre if required.</td>
</tr>
<tr>
<td>SOH</td>
</tr>
<tr>
<td>MAR</td>
</tr>
<tr>
<td>Class 1 medical certificate</td>
</tr>
<tr>
<td>Initial and age 40 bloods if not previously recorded</td>
</tr>
<tr>
<td>ECGMS reported ECG</td>
</tr>
<tr>
<td>Enhanced cardiac screening</td>
</tr>
<tr>
<td>Approval by R&amp;SDOM</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Annual renewal: Lflt 4-02 paragraph 15</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level 4 by medical centre MAME, supported by:</td>
</tr>
<tr>
<td>SoH</td>
</tr>
<tr>
<td>MAR</td>
</tr>
<tr>
<td>Class 1 medical certificate</td>
</tr>
<tr>
<td>Enhanced cardiac screening</td>
</tr>
<tr>
<td>Screening ECG as per Lflt 3-01 paragraph 11</td>
</tr>
<tr>
<td>MAME to sign logbook, valid for 12 months to end of month in which medical was undertaken</td>
</tr>
</tbody>
</table>

**NOTE:** All aircrew flying with a flying helmet are required to have the fit checked annually by a MAME irrespective of whether their medical has been waived.
MEDICAL STANDARDS

1. The minimum entry standard for officers of the ground branches are published in AP3391 The RAF Manual of Recruiting and Selection Branch Selection Sheets. These provide the minimum PULHEEMS profile required for selection and an indication of the physical requirements of the branch. Whilst not fully comprehensive these physical requirements will also provide some assistance in determining appropriate limitations in trained individuals who need to be downgraded. The following caveats also apply:

2. **Visual Acuity:** Candidates for branches in which the minimum uncorrected vision is E8/ E8/ (i.e. less than 6/60 in both eyes) may not be accepted unless the following conditions are met:
   a. The fundi are normal.
   b. There is no other pathological condition of the eyes.
   c. Considering each eye separately, the spherical correction lies within the range of +6.00 to -6.00 dioptres in any meridian and the astigmatic correction is ≤5.00 dioptres.

3. **Engineer**
   - The colour perception standard required of officers appointed to all types of commission in the Engineer Branch is CP2. However, officers with a colour perception standard of CP3 or CP4 may be appointed subject to the conditions laid down in AP3393 and upon completion of the certificate of undertaking at Lflt 4-04, Annex A. In such cases a JMES of L2 is to be awarded.

4. **Logistics Supply**
   - CP3 or better is required for the Officers Movements Training course.

5. **Logistics Catering**
   - All Logs Cat officers can be expected to deploy with Diesel/Avtur operated mobile catering equipment and so must have a sense of smell (see Lflt 5-15) in order to ensure only the correct fuel is used.

6. **Ops Spt (ABM) or (ATC)**
   - The following conditions are incompatible with employment on aircraft control duties:
     a. Medical history which suggests a risk of:
        (1) Sudden disorientation.
        (2) Sudden loss of consciousness.
        (3) Sudden loss of mental or emotional control
     b. Epilepsy.
     c. Diabetes mellitus.
     d. Coronary artery disease.
     e. Cerebrovascular accident.
     f. Functional psychosis.
7. Employment restrictions apply to individuals in the Ops Spt (ATC) and (FC) branches with the following conditions:

a. **Hypertension.** Candidates with established hypertension, whether on drug treatment or not, will not normally be accepted for aircraft control duties. Hypertensive serving air traffic and fighter controllers should be referred to a RAF consultant in general medicine for treatment and advice regarding their fitness to continue aircraft controlling duties (see Lflt 5-02). Uncontrolled hypertension is incompatible with aircraft control duties.

b. **Migraine.** Candidates will not be accepted if there is a history of migraine. Individuals already serving who develop migraine are to be referred for consultant opinion. If the diagnosis is confirmed the individual is to be brought before a medical board to effect a permanent change in JMES. Unless there is evidence of sudden incapacitation, the individual may be permitted to continue controlling aircraft provided there is another qualified controller in the building. If sudden incapacitation is anticipated the individual is to be assessed L4 – ‘Unfit aircraft controlling duties’ (MedLim 2100) and removed from aircraft controlling duties.

8. AvO2s in the RAF Reserve will be engaged in both ATC and ATC instructional duties. AvO2s (ATC) must meet the minimum medical requirements for serving officers of the Ops Spt (ATC) branch. This means the award of a PULHEEMS profile consistent with a minimum JMES of A4 L3 M4 E5.

**Ops Spt (Int)**

9. The minimum visual requirements for Ops Spt (Int) officers are as follows:

a. No history of blepharitis or ocular allergy.

b. Refractive limits:
   
   (1) -7.00 to +8.00 dioptres in any meridian.
   
   (2) Astigmatic error ≤5.00 dioptres.

c. Convergence: 10 cm or better.

**Medical, Dental, Nursing**

10. Many drugs and medical materiels are colour coded and some laboratory tests involve the use of colour comparators. Officers of the medical, dental and PMRAFNS branches who have defective colour vision are to ensure that they do not depend on colour recognition to identify drugs or materiel. Where colour comparison is necessary the work is to be checked by an individual with normal colour vision. All personnel with defective colour vision are to sign the certificate at Lflt 4-04, Annex V.

11. Personnel who are CP4 are not permitted to drive a vehicle in any aircraft movement area or any other area which is under the control of Air Traffic Control (ATC) without making special arrangements with the Senior ATC Officer.

**Personnel Officer**

12. The Personnel Officer Branch combines Pers Admin, Pers Trg and PEdO all 3 groups are assessed at entry to the Pers Officer medical standard however applicants wishing to apply, following recruitment, for the role of PJ1 will be required to meet the following PULHEEMS profile:

<table>
<thead>
<tr>
<th>P</th>
<th>U</th>
<th>L</th>
<th>H</th>
<th>H</th>
<th>E</th>
<th>E</th>
<th>M</th>
<th>S</th>
<th>CP</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>5</td>
<td>5</td>
<td>2</td>
<td>2</td>
<td>4</td>
</tr>
</tbody>
</table>

|   |   |   | 3 | 2 |   |

Page: 232
Publication date: 01/08/16
INTRODUCTION

1. Service personnel from different trades require varying degrees of fitness reflecting the diverse nature of their duties. Notwithstanding this, on enlistment all personnel need to be fit to undertake general service duties in all areas of the world.

TRADE RELATED FITNESS STANDARDS

2. The trade related fitness standards to achieve an unrestricted JMES on entry are detailed at AP 3391 – http://defenceintranet.dif.r.mil.uk/Organisations/Orgs/RAF/Organisations/Locations/Cranwell/AP3391/Pages/TradeSelectionSheets.aspx.

3. Special fitness considerations apply to some trades when qualifying for certain duties. These are detailed as appropriate at Annexes C to Annex U in this leaflet and should be consulted when examining individuals undertaking these duties. When fitness for a trade is in doubt, MOs can obtain guidance on specific cases from OC R&SDOM.

4. Personnel who are CP4 are not permitted to drive a vehicle in any aircraft movement area or any other area which is under the control of Aircraft Control without making special arrangements with the Senior ATC Officer.

5. Air Dispatchers form part of the Royal Logistic Corp (RLC). The task involves airborne dispatch of stores to specified locations from the rear of aircraft. The specific fitness considerations for this group are at Lft 4-04, Annex B.
LEAFLET 4-04 ANNEX A: CERTIFICATE OF UNDERTAKING BY INDIVIDUAL HAVING A COLOUR PERCEPTION STANDARD BELOW THAT REQUIRED FOR THEIR BRANCH/TRade

<table>
<thead>
<tr>
<th>Rank</th>
<th>Name and Initials</th>
</tr>
</thead>
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<table>
<thead>
<tr>
<th>Service Number</th>
<th>Branch/Trade</th>
</tr>
</thead>
<tbody>
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</tbody>
</table>

1. I acknowledge that I have been informed that my colour perception is below the full standard required for certain duties in my branch/trade, and I undertake to inform my Line Manager whenever I am employed on a new unit.

2. I also undertake that, should my work at any time require colour shade differentiation, I will on each occasion have the work checked by a colour-safe person who is competent to check such work.

3. *Medical/Dental personnel - When working with colour coded drugs or equipment I shall always identify each item by name and not colour.

4. *CP4 cases - I also understand that I am not permitted to drive a vehicle in any aircraft movement areas or any other area which is under the control of Air Traffic Control without making special arrangements with the Senior ATC Officer.

<table>
<thead>
<tr>
<th>Date</th>
<th>Signature</th>
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</thead>
<tbody>
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</tbody>
</table>

Further regulations can be found in AP3393 (Commissioning and Conditions of Service for Officers).

* - Delete as appropriate.

Distribution:

Individual
OC PSF for inclusion on the individual’s personal file
Medical Record
LEAFLET 4-04 ANNEX B: ARMY – AIR DISPATCHER

TRADES

1. Air Dispatchers form part of the Royal Logistic Corp (RLC). The task involves airborne dispatch of stores to specified locations from the rear of aircraft.

MEDICAL STANDARDS

2. The minimum entry standard for award of an A3 grade is:

   **Air Dispatcher:**

<table>
<thead>
<tr>
<th>P</th>
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<th>H</th>
<th>E</th>
<th>E</th>
<th>M</th>
<th>S</th>
<th>CP</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>5</td>
<td>5</td>
<td>2</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

   **Physical Attributes Required:**
   - At least average strength
   - Endurance
   - Manual dexterity
   - Clear and fluent speech

   **Potential Hazards:**
   - Manual handling
   - Field conditions
   - Work out of doors
   - Fuels and Lubricants
   - Noise exposure
   - Work at heights (2m+)
   - Confined spaces
   - Prolonged stooping

   **SPECIAL CONSIDERATIONS**

3. Personnel selected for Air Dispatcher duties are to undergo a full medical examination (level 4) before acceptance and every 5 years thereafter whilst they continue in this role. In addition, they are to have an annual medical screening (level 3) to confirm continued fitness for duties (undertaken by a MAME or appropriately trained nurse). All Air Dispatchers operating above 10,000 feet are required to attend Aviation Medicine Training Wing at RAF CAM before operating at this altitude and every 5 years thereafter while still employed in this environment.

4. The 5 yearly level 4 medical and aeromedical training should be aligned.

5. The following conditions are usually incompatible with Air Dispatcher duties:

   a. **ORL.** Healed or repaired perforated tympanic membrane, chronic vestibular disease, eustachian tube dysfunction, chronic/recurrent sinusitis, and chronic/recurrent otitis media/externa.

   b. **Locomotor System.** Poor functional results from old fractures or dislocations, recurrent sprains or dislocations, a history of easily fractured bones, or significant osteoarthritis of weight bearing joints.

   c. **Respiratory System.** Chronic respiratory conditions affecting functional capacity.

   d. **Abdomen.** Hernias or unsound/stretched abdominal scars.

   e. **Neurological.** Epilepsy (treated or otherwise) with the exception of febrile convulsions, and all other conditions affecting strength or co-ordination.

   f. **Endocrine.** Diabetes mellitus, however controlled, and any other untreated endocrine disorder.
g. **Mental Health** - Significant psychiatric disorder or current alcohol/drug abuse. Conditions requiring use of medication with sedative or psychotropic side-effects are incompatible with Air Dispatcher duties.

h. **Vision.** Poor visual acuity (binocular vision worse than 6/12 after correction with spectacles or contact lenses) and functionally significant field defects. Monocular vision may be acceptable provided that the good eye has a full field and the candidate has adapted to the monocular vision.

6. This list is not exhaustive and in cases where fitness is in doubt, the opinion of a Regional Occupational Medicine Consultant is to be sought.

7. On appointment, Air Dispatchers will be awarded an A3 category ‘Fit Air Dispatcher flying duties only’ (MedLim 2003).

8. A MO who considers that an individual is permanently unfit to continue in flying duties is to refer the patient for appropriate clinical advice. The individual is to be referred to the relevant ROMD if assessment of occupational fitness is required and beyond the ability of the MO. Where necessary the JMES is to be changed appropriately. Advice on fitness for work in the aviation environment may also be sought from CFMO (RAF), CA AvMed(Army) or CA AvMed (RN).
### LEAFLET 4-04 ANNEX C: TRADE GROUP 1 - AIRCRAFT ENGINEERING

<table>
<thead>
<tr>
<th>TRADE</th>
<th>ABBREVIATION</th>
<th>MEDICAL STANDARD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aircraft Maintenance Mechanic Avionics * #</td>
<td>AMM (Av)</td>
<td>AP3391 Trade Selection Sheets AMM (Av)</td>
</tr>
<tr>
<td>Aircraft Maintenance Mechanic Mechanical * #</td>
<td>AMM (Mech)</td>
<td>AP3391 Trade Selection Sheets AMM (M)</td>
</tr>
<tr>
<td>Weapon Technician</td>
<td>Weapon Technician</td>
<td>AP3391 Trade Selection Sheets Weapon Technician</td>
</tr>
</tbody>
</table>

### PHYSICAL ATTRIBUTES REQUIRED

| At least average strength                | Working out of doors in all weather environments |
| Manual dexterity                         | Shift work                                      |
| Endurance                                | Extreme noise exposure                          |
| Normal Spirometry                         | Working in confined spaces                     |
| Manual handling                          | Working at height                               |
| Prolonged standing                       | Field conditions                                |
|                                          | Remote breathing apparatus                      |
|                                          | Cabin pressure testing                          |
|                                          | Routine exposure to substances hazardous to health (COSHH materiel) |
|                                          | Sewage                                          |
|                                          | Flashing/stroboscopic lights                     |
|                                          | VDU work                                        |

### POTENTIAL HAZARDS

### SPECIAL CONSIDERATIONS

1. Personnel in trades annotated *, may qualify as Aircraft Ground Engineers (AGE). The minimum PULHHEEMS profile for acceptance is at: AP3392 Vol 2 Lft 527 para 9

2. Personnel in trades annotated #, may be selected for Mission Crew duties. Mild, treatable hay fever is not a bar for selection for mission crew duties.

The minimum PULHHEEMS profile for acceptance is at: AP3392 vol 2 Lft 1570 para 6

3. Candidates for TG 1 are to be CP2. Waivers for CP below that required for the trade are only applicable to the current trained workforce, subject to ‘Special Considerations’ notes. In such cases individuals are to be notified of their reduced CP and made personally responsible for ensuring that any work undertaken requiring colour identification is independently checked by somebody with normal colour perception. Such personnel are to sign the certificate of undertaking at Lft 4-04 Annex V.

4. Demolition and Explosive Ordinance Disposal (EOD) duties - Weapon Technician personnel are not to be employed on demolition or EOD unless they have normal colour perception (CP2).

5. Individuals with a history of anxiety or emotional liability are not to be engaged on EOD duties; serving personnel are to be downgraded if such symptoms develop.

6. Candidates for TG 1 should not present any pre-disposition to:
   a. Respiratory problems (remote breathing apparatus, cabin pressure testing, exposure to COSHH materiel).
   b. Any dermatological problems (routine exposure to skin irritants and sensitisers).

7. Any history of epilepsy precludes employment in TG 1.

8. **Individuals Employed in the Servicing and Setting up of Night Vision Goggles.** Small numbers of TG1 personnel may be required to set up Night Vision Goggles (NVGs) at a number of stations. It is critical
that these individuals possess vision which is correctable to at least 6/6 in both eyes. However, this requirement exceeds the trade entry standard for TG1. Due to the small numbers of individuals involved in the work, a change in the entry standard for visual acuity (VA) for the whole trade is unwarranted. The management of such individuals is detailed at Lft 4-04 Annex A, Appendix 1.
LEAFLET 4-04 ANNEX D: TRADE GROUP 4 – COMMUNICATIONS INFRASTRUCTURE TECHNICIANS

<table>
<thead>
<tr>
<th>TRADE</th>
<th>ABBREVIATION</th>
<th>MEDICAL STANDARD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communication Infrastructure Technician</td>
<td>CIT</td>
<td>AP3391 Trade Selection Sheets (CIT)</td>
</tr>
<tr>
<td>Information and Communication Technology</td>
<td>ICT</td>
<td>AP3391 Trade Selection Sheets (ICT)</td>
</tr>
</tbody>
</table>

**COMMUNICATION INFRASTRUCTURE TECHNICIAN**

**PHYSICAL ATTRIBUTES REQUIRED**

- At least average strength
- Manual dexterity
- Endurance

**POTENTIAL HAZARDS**

- Manual handling
- Prolonged standing/stooping
- Work out of doors
- Noise exposure
- Work at heights (10m+)
- Confined spaces
- Field Deployments
- May be exposed to chemicals on the COSSH Register

**SPECIAL CONSIDERATIONS**

Personnel are required to work at height (in excess of 10m) and should have a good sense of balance, a keen sense of hearing, at least average strength and a high degree of fitness. A history of epileptic episode or susceptibility to loss of consciousness or vertigo, impairment to hands, arms, legs or knees is a bar to selection. Due to safety limitations of certain platforms and ladders, individuals who are over 100kg cannot be employed as CIS Al Erect.

TG4 personnel need to be CP2. That said there are some personnel within TG4 (ex TCC or TCO) who may be CP3 as this was their minimum requirement upon joining the RAF prior to assimilating to TG4. It is to be noted that personnel with CP3 MAY have their employment opportunities limited due to operational requirements. However, when it is considered that personnel need to be able to easily distinguish between electrical cable colours and component identifications immediately and without error then CP2 must remain a minimum. TG4 tradesman with CP3 will be managed accordingly to ensure their employment roles are commensurate with their CP standards.

**INFORMATION AND COMMUNICATION TECHNOLOGY**

**PHYSICAL ATTRIBUTES REQUIRED**

- Clear and fluent speech
- Powers of concentration
- Manual dexterity

**POTENTIAL HAZARDS**

- Shift work
- DSE work
- Confined spaces without natural light
- Field/maritime deployments
- Work at heights (10m+)
- Prolonged standing/stooping
- Confined spaces

**SPECIAL CONSIDERATIONS**

Work is carried out both indoors and outdoors in a standing or stooping position. Personnel may also be required to live in ‘field conditions’ when deployed. Individuals may also be required to work at heights in excess of 10m in the course of their maintenance duties, consequently, a good sense of balance is required and a past medical history of epileptic episode or susceptibility to loss of consciousness or vertigo, impairment to hands, arms, legs or knees is a bar to selection.
### TRADE GROUP 5 – GENERAL ENGINEERING

<table>
<thead>
<tr>
<th>TRADE</th>
<th>ABBREVIATION</th>
<th>MEDICAL STANDARD</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Technician Electrical</td>
<td>Gen Tech (E)</td>
<td>AP3391 Trade Selection Sheets Gen Tech (Electrical)</td>
</tr>
<tr>
<td>General Technician (Mechanical)</td>
<td>Gen Tech (M)</td>
<td>AP3391 Trade Selection Sheets Gen Tech (Mech)</td>
</tr>
<tr>
<td>General Technician (Workshops)</td>
<td>Gen Tech (WS)</td>
<td>AP3391 Trade Selection Sheets Gen Tech (Workshops)</td>
</tr>
</tbody>
</table>

**Physical Attributes Required**

<table>
<thead>
<tr>
<th>Physical Attributes Required</th>
<th>Potential Hazards</th>
</tr>
</thead>
<tbody>
<tr>
<td>At least average strength</td>
<td>Manual handling</td>
</tr>
<tr>
<td>Manual dexterity</td>
<td>Prolonged standing/stooping</td>
</tr>
<tr>
<td></td>
<td>Work out of doors</td>
</tr>
<tr>
<td></td>
<td>Work at heights (2m+)</td>
</tr>
<tr>
<td></td>
<td>Noise exposure</td>
</tr>
<tr>
<td></td>
<td>Working in confined spaces</td>
</tr>
<tr>
<td></td>
<td>Routine exposure to vibrating tools</td>
</tr>
<tr>
<td></td>
<td>Routine exposure to substances hazardous to health (COSHH materiel)</td>
</tr>
<tr>
<td></td>
<td>Field conditions</td>
</tr>
<tr>
<td></td>
<td>VDU work</td>
</tr>
</tbody>
</table>

**Special Considerations**

Candidates for entry to TG 5 are to be CP 2. Waivers for CP below that required for the trade are only applicable to the current trained workforce, subject to Special Considerations’ notes. In such cases individuals are to be notified of their reduced CP and made personally responsible for ensuring that any work undertaken requiring colour identification is independently checked by somebody with normal colour perception. Such personnel are to sign the certificate of undertaking at Lft 4-04 Annex V.
<table>
<thead>
<tr>
<th>TRADE</th>
<th>ABBREVIATION</th>
<th>MEDICAL STANDARD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Logistics Driver</td>
<td>Logs (Driver)</td>
<td>AP3391 Trade Selection Sheets Logs (Driver)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PHYSICAL ATTRIBUTES REQUIRED</th>
<th>POTENTIAL HAZARDS</th>
</tr>
</thead>
<tbody>
<tr>
<td>At least average strength</td>
<td>Manual handling</td>
</tr>
<tr>
<td>Endurance</td>
<td>VDU work</td>
</tr>
<tr>
<td>Manual dexterity</td>
<td>Field conditions</td>
</tr>
<tr>
<td></td>
<td>Work out of doors in extreme weather conditions</td>
</tr>
<tr>
<td></td>
<td>Fuels and Lubricants</td>
</tr>
<tr>
<td></td>
<td>Noise exposure</td>
</tr>
<tr>
<td></td>
<td>Work at heights (2m+)</td>
</tr>
<tr>
<td></td>
<td>May be exposed to substances on the COSHH register</td>
</tr>
</tbody>
</table>

**SPECIAL CONSIDERATIONS**

No allowance is permitted for amblyopia

All personnel must be fit to hold a LGV/PCV licence in accordance with current DVLA regulations (see Ltft 3-04 Annex L).
### LEAFLET 4-04 ANNEX H: TRADE GROUP 8 - SECURITY

<table>
<thead>
<tr>
<th>TRADE</th>
<th>ABBREVIATION</th>
<th>MEDICAL STANDARD</th>
</tr>
</thead>
<tbody>
<tr>
<td>RAF Police</td>
<td>RAFP</td>
<td>AP3391 Trade Selection Sheets RAF Police</td>
</tr>
<tr>
<td>Gunner</td>
<td>Gnr</td>
<td>AP3391 Trade Selection Sheets RAF Regiment Gunner</td>
</tr>
<tr>
<td>Fire-fighter</td>
<td>Fftr</td>
<td>AP3391 Trade Selection Sheets Firefighter</td>
</tr>
</tbody>
</table>

#### RAFP:

<table>
<thead>
<tr>
<th>PHYSICAL ATTRIBUTES REQUIRED</th>
<th>POTENTIAL HAZARDS</th>
</tr>
</thead>
<tbody>
<tr>
<td>At least average strength</td>
<td>Work out of doors</td>
</tr>
<tr>
<td>Absence of significant deformity</td>
<td>Sense of Smell (see Lflt 5-15)</td>
</tr>
</tbody>
</table>

#### Gnr:

<table>
<thead>
<tr>
<th>PHYSICAL ATTRIBUTES REQUIRED</th>
<th>POTENTIAL HAZARDS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Above average physical strength</td>
<td>Arduous training</td>
</tr>
<tr>
<td>Above average endurance</td>
<td>Field conditions</td>
</tr>
<tr>
<td>Personnel must be fit to hold a LGV licence in accordance with current DVLA regulations (see Lflt 3-04, Annex L)</td>
<td>Manual handling</td>
</tr>
<tr>
<td>The minimum permanent JMES for retention in the trade is A4 L2 M4 E2</td>
<td></td>
</tr>
</tbody>
</table>

#### Fftr:

<table>
<thead>
<tr>
<th>PHYSICAL ATTRIBUTES REQUIRED</th>
<th>POTENTIAL HAZARDS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Above average physical strength</td>
<td>Arduous training</td>
</tr>
<tr>
<td>Above average endurance</td>
<td>Confined spaces</td>
</tr>
<tr>
<td>Manual dexterity</td>
<td>Manual handling</td>
</tr>
<tr>
<td>Must not wear spectacles or contact lenses*</td>
<td>Work at heights (2m+)</td>
</tr>
<tr>
<td>Normal spirometry</td>
<td>Work out of doors</td>
</tr>
<tr>
<td>The minimum permanent JMES for retention in the trade is A4 L2 M4 E2</td>
<td>Smoke exposure</td>
</tr>
<tr>
<td></td>
<td>Breathing apparatus</td>
</tr>
</tbody>
</table>

#### SPECIAL CONSIDERATIONS

* The minimum visual acuity of serving RAF fire-fighters justifying a standard of L1/2 is 6/12 (binocularly). Individuals falling below this standard must be referred for consultant opinion (ideally to DCA Ophth) prior to a Formal Medical Board. If the visual acuity is confirmed as below 6/12 the usual board findings would be L4 – ‘Fit limited range of duties in branch or trade’ (MedLim 1208).

Height Requirements: The minimum acceptable height is 154 cm.

Personnel must be fit to hold a LGV licence in accordance with current DVLA regulations (see Lflt 3-04, Annex L)

Any condition likely to affect effectiveness under extreme operational conditions is incompatible with fire-fighter duties e.g. asthma, hernias, bronchitis, chronic skin disorders vertigo and...
LEAFLET 4-04 ANNEX I: TRADE GROUP 9 - CONTROLLERS

<table>
<thead>
<tr>
<th>TRADE</th>
<th>ABBREVIATION</th>
<th>MEDICAL STANDARD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Air Traffic Control (SNCO)</td>
<td>SNCO(ATC)</td>
<td>AP3391 Branch Selection Sheets Air Traffic Control (SNCO)</td>
</tr>
<tr>
<td>Flight Operations Assistant</td>
<td>FOA</td>
<td>AP3391 Trade Selection Sheets Flight Operations Assistant</td>
</tr>
</tbody>
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**PHYSICAL ATTRIBUTES REQUIRED**

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<tbody>
<tr>
<td>Powers of concentration</td>
<td>Shift work</td>
</tr>
<tr>
<td>Dexterity</td>
<td></td>
</tr>
<tr>
<td>Excellent corrected vision</td>
<td></td>
</tr>
<tr>
<td>VDU work</td>
<td></td>
</tr>
</tbody>
</table>

**POTENTIAL HAZARDS**

**SPECIAL CONSIDERATIONS**

The following conditions are incompatible with employment on aircraft control duties:

Medical history which suggests a risk of:
- Sudden disorientation
- Sudden loss of consciousness
- Sudden loss of mental or emotional control
- Epilepsy
- Diabetes mellitus
- Coronary artery disease
- Cerebrovascular accident
- Functional psychosis
- Hypertension - Candidates with established hypertension, whether on drug treatment or not, will not normally be accepted for aircraft control duties. Hypertensive serving controllers should be referred to a RAF consultant in general medicine for treatment and advice regarding their fitness to continue aircraft controlling duties (see Lflt 5-02). Uncontrolled hypertension is incompatible with aircraft control duties.
- Migraine - Candidates for service in TG9 will not be accepted if there is a history of migraine. Individuals already serving in TG9 who develop migraine are to be referred for consultant opinion. If the diagnosis is confirmed the individual is to be brought before a medical board to effect a permanent change in JMES. Unless there is evidence of sudden incapacitation, he may be permitted to continue controlling aircraft provided there is another qualified controller in the building. If sudden incapacitation is anticipated he is to be assessed L4 – ‘Unfit for aircraft controlling duties’ (MedLim 2100) - and removed from aircraft controlling duties.
PHYSICAL TRAINING INSTRUCTOR

<table>
<thead>
<tr>
<th>TRADE</th>
<th>ABBREVIATION</th>
<th>MEDICAL STANDARD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical Training Instructor</td>
<td>PTI</td>
<td>AP3391 Trade Selection Sheets Physical Training Instructor</td>
</tr>
</tbody>
</table>

**PHYSICAL ATTRIBUTES REQUIRED**

<table>
<thead>
<tr>
<th>PHYSICAL ATTRIBUTES REQUIRED</th>
<th>POTENTIAL HAZARDS</th>
</tr>
</thead>
<tbody>
<tr>
<td>High standard of physical fitness</td>
<td>Work out of doors in mountainous areas and in water as an adventurous training instructor</td>
</tr>
<tr>
<td></td>
<td>Parachute Jumping Instructor (PJI) duties</td>
</tr>
</tbody>
</table>

**SPECIAL CONSIDERATIONS**

All candidates must be prepared to undertake trade specialist duties, after suitable training, including PJI and adventurous training duties.

Fitness for parachuting standards - Lflt 3-03, Annex E
## LEAFLET 4-04 ANNEX K: TRADE GROUP 11 - INTELLIGENCE

<table>
<thead>
<tr>
<th>TRADE</th>
<th>ABBREVIATION</th>
<th>MEDICAL STANDARD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intelligence Analyst</td>
<td>Int An</td>
<td>AP3391 Trade Selection Sheets</td>
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<tr>
<td></td>
<td></td>
<td>Intelligence Analyst</td>
</tr>
<tr>
<td>Intelligence Analyst (Voice)</td>
<td>Int An (V)</td>
<td>AP3391 Trade Selection Sheets</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Intelligence Analyst (Voice)</td>
</tr>
<tr>
<td>Intelligence Analyst (Reserve)</td>
<td>Int An (Res)</td>
<td>See Special Considerations</td>
</tr>
</tbody>
</table>

### PHYSICAL ATTRIBUTES REQUIRED

<table>
<thead>
<tr>
<th>Physical Attributes Required</th>
<th>Potential Hazards</th>
</tr>
</thead>
<tbody>
<tr>
<td>Powers of concentration</td>
<td>VDU work</td>
</tr>
<tr>
<td>Clear and fluent speech</td>
<td>Shift work</td>
</tr>
<tr>
<td>Manual dexterity</td>
<td>Prolonged use of headphones</td>
</tr>
<tr>
<td></td>
<td>Confined spaces without natural light</td>
</tr>
<tr>
<td></td>
<td>Field/maritime deployments</td>
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</table>

### SPECIAL CONSIDERATIONS

**Int An (Res):**
Int An (V) is NOT a sub specialisation open to Reserve Int personnel therefore H2 is an appropriate standard,

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<th>M</th>
<th>S</th>
<th>CP</th>
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<td>2</td>
<td>8</td>
<td>8</td>
<td>2</td>
<td>2</td>
<td>4</td>
</tr>
</tbody>
</table>
### TRADE GROUP 12 - AEROSPACE SYSTEMS OPERATING

<table>
<thead>
<tr>
<th>TRADE</th>
<th>ABBREVIATION</th>
<th>MEDICAL STANDARD</th>
</tr>
</thead>
</table>

#### PHYSICAL ATTRIBUTES REQUIRED

<table>
<thead>
<tr>
<th>Physical Attribute</th>
<th>Potential Hazards</th>
</tr>
</thead>
<tbody>
<tr>
<td>Powers of concentration</td>
<td>VDU work</td>
</tr>
<tr>
<td>Clear and fluent speech</td>
<td>Shift work</td>
</tr>
<tr>
<td>Manual dexterity</td>
<td>Semi-dark working environment</td>
</tr>
<tr>
<td></td>
<td>Work underground</td>
</tr>
</tbody>
</table>

#### SPECIAL CONSIDERATIONS

Qualified personnel may be selected for aircrew mission crew duties. The minimum JMES for acceptance is at: **AP3392 vol 2 Lft 1570**
LEAFLET 4-04 ANNEX M: TRADE GROUP 13 - SAFETY AND SURFACE

<table>
<thead>
<tr>
<th>TRADE</th>
<th>ABBREVIATION</th>
<th>MEDICAL STANDARD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Survival Equipment Fitter</td>
<td>SE Fitt</td>
<td>AP3391 Trade Selection Sheets Survival Equipment Fitter</td>
</tr>
</tbody>
</table>

### PHYSICAL ATTRIBUTES REQUIRED

<table>
<thead>
<tr>
<th>Physical Attributes Required</th>
<th>Potential Hazards</th>
</tr>
</thead>
<tbody>
<tr>
<td>At least average strength</td>
<td>Prolonged standing/stooping</td>
</tr>
<tr>
<td>Manual dexterity Routine</td>
<td>Exposure to substances hazardous to health (COSHH materiel)</td>
</tr>
<tr>
<td>Normal spirometry</td>
<td>Manual handling</td>
</tr>
<tr>
<td></td>
<td>Work at heights</td>
</tr>
<tr>
<td></td>
<td>Remote breathing apparatus</td>
</tr>
<tr>
<td></td>
<td>Working in confined spaces</td>
</tr>
<tr>
<td></td>
<td>Flashing/stroboscopic lights</td>
</tr>
<tr>
<td></td>
<td>VDU Work</td>
</tr>
</tbody>
</table>

### SPECIAL CONSIDERATIONS

1. Candidates for entry to TG 13 are to be CP2. Waivers for CP below that required for the trade are only applicable to the current trained workforce, subject to ‘Special Considerations’ notes. In such cases, individuals are to be notified of their reduced CP and made personally responsible for ensuring that any work undertaken requiring colour identification is independently checked by somebody with normal colour perception. Such personnel are to sign the certificate of undertaking at Lflt 4-04 Annex V.

2. **Individuals Employed in the Servicing and Setting up of Night Vision Goggles.** Small numbers of SE Fitt personnel are regularly employed in the servicing and setting up of Night Vision Goggles (NVGs) at a number of stations. It is critical that these individuals possess vision which is correctable to at least 6/6 in both eyes. However, this requirement exceeds the trade entry standard for TG13. Due to the small numbers of individuals involved in the work, a change in the entry standard for visual acuity (VA) for the whole trade is unwarranted.
LEAFLET 4-04 ANNEX N: TRADE GROUP 14 – PHOTOGRAPHY

<table>
<thead>
<tr>
<th>TRADE</th>
<th>ABBREVIATION</th>
<th>MEDICAL STANDARD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Photographer</td>
<td>Photo</td>
<td>AP3391 Trade Selection Sheets Photographer</td>
</tr>
<tr>
<td>Air Cartographer</td>
<td>Air Cart</td>
<td>AP3391 Trade Selection Sheets Air Cartographer</td>
</tr>
</tbody>
</table>

PHOTOGRAPHER

<table>
<thead>
<tr>
<th>PHYSICAL ATTRIBUTES REQUIRED</th>
<th>POTENTIAL HAZARDS</th>
</tr>
</thead>
<tbody>
<tr>
<td>At least average strength</td>
<td>Manual handling</td>
</tr>
<tr>
<td>Manual dexterity</td>
<td>Exposure to substances hazardous to health</td>
</tr>
<tr>
<td>Normal spirometry (COSHH material)</td>
<td>VDU work</td>
</tr>
<tr>
<td></td>
<td>Flashing/stroboscopic lights</td>
</tr>
</tbody>
</table>

AIR CARTOGRAPHER

<table>
<thead>
<tr>
<th>PHYSICAL ATTRIBUTES REQUIRED</th>
<th>POTENTIAL HAZARDS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manual dexterity</td>
<td>Manual handling</td>
</tr>
<tr>
<td>Normal spirometry (COSHH material)</td>
<td>Exposure to substances hazardous to health</td>
</tr>
<tr>
<td></td>
<td>VDU work</td>
</tr>
</tbody>
</table>

SPECIAL CONSIDERATIONS

Candidates for TG 14 (Photo) are to be CP2. Waivers for CP below that required for the trade are only applicable to the current trained workforce, subject to ‘Special Considerations’ notes. In such cases individuals are to be notified of their reduced CP and made personally responsible for ensuring that any work undertaken requiring colour identification is independently checked by somebody with normal colour perception. Such personnel are to sign the certificate of undertaking at Lft 4-04 Annex V.
**LEAFLET 4-04 ANNEX O: TRADE GROUP 15 – MEDICAL**

<table>
<thead>
<tr>
<th>TRADE</th>
<th>ABBREVIATION</th>
<th>MEDICAL STANDARD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pharmacy Technician</td>
<td>Ph Tech</td>
<td>AP3391 Trade Selection Sheets Pharmacy Technician</td>
</tr>
<tr>
<td>Environmental Health Technician</td>
<td>EH Tech</td>
<td>AP3391 Trade Selection Sheets Environmental Health Technician</td>
</tr>
<tr>
<td>Operating Department Practitioner</td>
<td>ODP</td>
<td>AP3391 Trade Selection Sheets Operating Department Practitioner</td>
</tr>
<tr>
<td>Radiographer</td>
<td>Radiog</td>
<td>AP3391 Trade Selection Sheets Radiographer</td>
</tr>
<tr>
<td>Biomedical Scientist</td>
<td>BMS</td>
<td>AP3391 Trade Selection Sheets Biomedical Scientist</td>
</tr>
<tr>
<td>RAF Medic</td>
<td>RAF Medic</td>
<td>AP3391 Trade Selection Sheets RAF Medic</td>
</tr>
<tr>
<td>Registered Nurse (Adult)</td>
<td>RN (Adult)</td>
<td>AP3391 Trade Selection Sheets Registered Nurse (Adult)</td>
</tr>
<tr>
<td>Registered Nurse (Mental Health)</td>
<td>RN (Mental Health)</td>
<td>AP3391 Trade Selection Sheets Registered Nurse (Mental Health)</td>
</tr>
<tr>
<td>Student Nurse (Adult)</td>
<td>SN (Adult)</td>
<td>AP3391 Trade Selection Sheets Student Nurse (Adult)</td>
</tr>
</tbody>
</table>

**PHYSICAL ATTRIBUTES REQUIRED**

<table>
<thead>
<tr>
<th>At least average strength</th>
<th>Manual handling</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prolonged standing</td>
<td>Biomedical hazards</td>
</tr>
<tr>
<td></td>
<td>May be exposed to substances on the COSHH register</td>
</tr>
</tbody>
</table>

**POTENTIAL HAZARDS**

**SPECIAL CONSIDERATIONS**

**Colour Perception.** Many drugs and medical materials are colour coded and some laboratory tests involve the use of colour comparators. Personnel who have defective colour vision are to ensure that they do not depend on colour recognition to identify drugs or materiel. Where colour comparison is necessary the work is to be checked by an individual with normal colour vision. All personnel with defective colour vision are to sign the certificate at Lft 4-04 Annex V. In addition, those who are CP4 are not permitted to drive a vehicle in any aircraft movement area or any other area which is under the control of Aircraft Traffic Control.

**ODPs.** ODPs work in areas where it is vital to eliminate pathogenic bacteria as far as possible. The advice of the CA in Surgery should be sought before employing such personnel in these duties if they have any condition, including the wearing of beards on medical grounds, which may make them dispersers of pathogenic bacteria.

**Pressure Chamber Operator Duties.** Personnel selected for Pressure Chamber Operator (PCO) duties are to have a vertical functional reach of 1970 mm in normal Service footwear. A functional check of physical capability is to be conducted at the RAF Centre of Aviation Medicine (RAF CAM), RAF Henlow. See Lft 3-04, Annex O.

**Aeromedical Evacuation Duties.** Personnel selected for aeromedical evacuation duties are to hold a minimum JMES of A4 L2 M4 E2 and are to be subject to examination as defined at Lft 3-02, Annex A, Appendix 1.

**RN(Adult), EH Tech, Radiographer.** May be exposed to chemicals on the COSHH register, therefore a history of skin problems may be a bar to this trade.
**LEAFLET 4-04 ANNEX P: TRADE GROUP 16 – DENTAL**

<table>
<thead>
<tr>
<th>TRADE</th>
<th>ABBREVIATION</th>
<th>MEDICAL STANDARD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dental Nurse</td>
<td>Dent Nurse</td>
<td>AP3391 Trade Selection Sheets Dental Nurse</td>
</tr>
</tbody>
</table>

### PHYSICAL ATTRIBUTES REQUIRED

<table>
<thead>
<tr>
<th>PHYSICAL ATTRIBUTES REQUIRED</th>
<th>POTENTIAL HAZARDS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manual dexterity</td>
<td>Prolonged standing/sitting</td>
</tr>
<tr>
<td></td>
<td>Prolonged wearing of latex gloves</td>
</tr>
<tr>
<td></td>
<td>May be exposed to substances on the COSHH register</td>
</tr>
</tbody>
</table>

### SPECIAL CONSIDERATIONS:

Many drugs and medical materials are colour coded. Personnel who have defective colour vision are to ensure that they do not depend on colour recognition to identify drugs or material. Where colour comparison is necessary the work is to be checked by an individual with normal colour vision. All personnel with defective colour vision are to sign the certificate at Lfft 4-04 Annex V.
## LEAFLET 4-04 ANNEX Q: TRADE GROUP 17 – PERSONNEL SUPPORT

<table>
<thead>
<tr>
<th>TRADE</th>
<th>ABBREVIATION</th>
<th>MEDICAL STANDARD</th>
</tr>
</thead>
</table>

### PHYSICAL ATTRIBUTES REQUIRED

<table>
<thead>
<tr>
<th>PHYSICAL ATTRIBUTES REQUIRED</th>
<th>POTENTIAL HAZARDS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manual dexterity</td>
<td>VDU work</td>
</tr>
</tbody>
</table>
### LOGISTICS SUPPLIER

<table>
<thead>
<tr>
<th>PHYSICAL ATTRIBUTES REQUIRED</th>
<th>POTENTIAL HAZARDS</th>
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</thead>
<tbody>
<tr>
<td>At least average strength</td>
<td>VDU work</td>
</tr>
<tr>
<td>Endurance</td>
<td>Manual Handling</td>
</tr>
<tr>
<td>Manual dexterity</td>
<td>Field conditions</td>
</tr>
</tbody>
</table>

### LOGISTICS MOVER

<table>
<thead>
<tr>
<th>PHYSICAL ATTRIBUTES REQUIRED</th>
<th>POTENTIAL HAZARDS</th>
</tr>
</thead>
<tbody>
<tr>
<td>At least average strength</td>
<td>VDU work</td>
</tr>
<tr>
<td>Endurance</td>
<td>Manual Handling</td>
</tr>
<tr>
<td>Manual dexterity</td>
<td>Field conditions</td>
</tr>
<tr>
<td>Clear and fluent speech</td>
<td>Work at heights (2m+)</td>
</tr>
<tr>
<td></td>
<td>Fuels and Lubricants</td>
</tr>
<tr>
<td></td>
<td>Noise exposure</td>
</tr>
<tr>
<td></td>
<td>Prolonged stooping</td>
</tr>
<tr>
<td></td>
<td>Confined spaces</td>
</tr>
<tr>
<td></td>
<td>Work out of doors</td>
</tr>
</tbody>
</table>
LEAFLET 4-04 ANNEX S: TRADE GROUP 19 – LOGISTICS

<table>
<thead>
<tr>
<th>TRADE</th>
<th>ABBREVIATION</th>
<th>MEDICAL STANDARD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Logistics Caterer</td>
<td>Log (Cat)</td>
<td>AP3391 Trade Selection Sheets (Logs Cat)</td>
</tr>
<tr>
<td>Logistics Chef</td>
<td>Log (Chef)</td>
<td>AP3391 Trade Selection Sheets Log (Chef)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PHYSICAL ATTRIBUTES REQUIRED</th>
<th>POTENTIAL HAZARDS</th>
</tr>
</thead>
<tbody>
<tr>
<td>High standard of personal hygiene</td>
<td>Manual handling</td>
</tr>
<tr>
<td>Sense of Smell* (see Lflt 5-15)</td>
<td>Prolonged standing</td>
</tr>
<tr>
<td></td>
<td>Shift work</td>
</tr>
<tr>
<td></td>
<td>Food handling</td>
</tr>
<tr>
<td></td>
<td>Air catering duties</td>
</tr>
<tr>
<td></td>
<td>Field conditions</td>
</tr>
<tr>
<td></td>
<td>Exposure to Fuels</td>
</tr>
<tr>
<td></td>
<td>Frequent wet work</td>
</tr>
</tbody>
</table>

SPECIAL CONSIDERATIONS
Personnel of TG19 are required to handle food. They must complete a health questionnaire prior to employment and following any episode of illness in accordance with Lflt 3-04, Annex M.

* All Chefs can be expected to deploy with Diesel/Avtur operated mobile catering equipment and so must have a sense of smell (see Lflt 5-15) in order to ensure that only the correct fuel is used.

Air Catering Duties. Personnel selected for air catering duties are to hold a minimum JMES of A4 L2 M4 E2 and are to be subject to examination as defined at Lflt 3-02, Annex A, Appendix 1.

Chef. Frequent wet work may exacerbate underlying skin conditions and may be a bar to entry.
### Trade Group 21 – Musician

<table>
<thead>
<tr>
<th>Trade</th>
<th>Abbreviation</th>
<th>Medical Standard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Musician</td>
<td>Musn</td>
<td>AP3391 Trade Selection Sheets Musician</td>
</tr>
</tbody>
</table>

#### Physical Attributes Required

<table>
<thead>
<tr>
<th>Physical Attribute</th>
<th>Potential Hazards</th>
</tr>
</thead>
<tbody>
<tr>
<td>Endurance</td>
<td>Manual handling (dependent on instrument)</td>
</tr>
<tr>
<td>Manual dexterity</td>
<td>Prolonged standing</td>
</tr>
<tr>
<td></td>
<td>Marching/parades</td>
</tr>
<tr>
<td></td>
<td>Shift work</td>
</tr>
<tr>
<td></td>
<td>Work out of doors</td>
</tr>
<tr>
<td></td>
<td>Noise exposure</td>
</tr>
</tbody>
</table>
LEAFLET 4-05: ANTHROPOMETRY

Sponsor: DACOS Av Med

1. This leaflet outlines policy for recording aircrew anthropometry in the RAF to ensure that aircrew meet anthropometric safety and functional limits for the aircraft in which they fly. For the purposes of this leaflet, aircrew weight is considered to be a component of anthropometry. Although not yet covered by this leaflet, anthropometry is equally important in Army and RN aviation. Questions concerning Army and RN anthropometry should be addressed to the relevant single-Service Consultant Adviser in Aviation Medicine.

AIRCrew ANTHROPOmetry

2. Aircrew anthropometry is concerned with the measurement of aircrew to ensure that they are able to operate aircraft safely in normal operation and effect emergency egress without injury if required. Operating the aircraft outside of its anthropometric design limits may adversely affect safety, especially during emergency egress (including ejection where applicable), or impact on functional performance and ability to operate the aircraft controls under all flight conditions. Although primarily a concern for aircrew, the requirement to meet aircraft anthropometric limits also applies to passengers if limits are applicable to the passenger’s position within the aircraft.

3. Aircrew anthropometry aims to assure the Aviation Duty Holder that aircrew are able to perform their duties by recording compliance with aircraft limits. Where aircrew have borderline clearances, the aircrew member may require a cockpit assessment, details of which are included in this leaflet at Lflt 4-05 Annex A. A satisfactory cockpit assessment enables the Executive to allow aircrew to continue flying despite exceeding limits published in the aircraft Release to Service (RTS).

4. In addition to the role that medical staff play in identifying aircrew who may be anthropometrically unsuitable for certain aircraft types, aircrew and flying supervisors also have a duty to highlight any concerns to medical staff in order that a proper assessment can be made.

REcORDING AIRCrew ANTHROPOmetry

5. **Candidate Aircrew.** Aircrew candidates attending R&SDOM are to be measured on the anthropometry rig as part of the medical boarding process. The following measurements are to be recorded for aircrew candidates:

- b. Buttock-Knee (BK).
- c. Sitting Height (SH)
- d. Functional Reach (FR)
- e. Weight
- f. Stature
- g. Vertical Functional Reach – WSOP only - except WSOP(L)

Aircrew within 10 mm of any dimensional limit (borderline passes and fails) are to be re-measured in the presence of a medical officer. Aircrew meeting the generic entry standard (at Lflt 4-05 Annex B) for their branch are suitable for selection but will be re-measured at RAF CAM before commencing flying training to ensure they have remained within limits and can proceed through training.

6. **Serving Aircrew.** Aircrew attending RAF CAM for physiological training are to have their anthropometry confirmed on the anthropometry rig for the aircraft they intend to fly, or are currently flying. Aircraft limits are detailed at Lflt 4-05 Annexes B, C & D. This ensures that pilot and WSO anthropometry data is refreshed at least every 5 years. Aircrew who change size/shape can be identified and managed appropriately. Aircrew within 10 mm of any dimensional limit are to be re-measured in the presence of a medical officer. Aircrew confirmed as outside the anthropometric limit, or within 10 mm of a limit, for their current/intended aircraft are to be brought to the attention of CFMO in order that a cockpit check can be
arranged – CFMO will normally advise temporary grounding of aircrew who are out of safety-critical limits pending completion of the cockpit assessment. In addition to assessing anthropometric suitability for the current/intended aircraft, RAF CAM staff must also assess suitability against all other aircraft to inform future career planning - if out of limits, the A1 limitation ‘Restricted employability because of anthropometric limitations’ (MedLim 2008) is to be awarded on DMICP. Anthropometry results are to be entered in the aircrew logbook and a copy given to the individual for inclusion in the F5000. A further copy is to be e-mailed to manning staffs at HQ Air Command for uploading in the Manning e-dossier (Air-COSPers-Mann FgAnthro Mlbx).

7. Aircrew who do not routinely attend RAF CAM for physiological training (AEF and VGS pilots plus most rear-crew) will have weight recorded routinely as part of their annual periodic medical examination (PME). If concerned about dimensional anthropometry at the PME, the MO should contact CFMO in order that a formal assessment can be undertaken.

8. Algorithms summarising actions to be taken for recording anthropometry are at Lflt 4-05 Annex G.

9. **Passenger Anthropometry – Ejection Seat Aircraft.** It is essential that passengers are not exposed to undue risk of injury when flying in ejection seat aircraft. All Cat 1 and Cat 2 passengers are to have basic anthropometry (BH, BK, SH, FR and Wt) recorded when attending for their passenger medical examination (Lflt 3-03 Annex C). Medical centres do not have access to anthropometry rigs but, with care, can achieve reasonable accuracy with locally procured measuring devices (tape, steel rule etc). Descriptions of each of the basic measurements are at Lflt 4-05 Annex H. To reflect the limited accuracy of local measurements, passengers within 30 mm of the buttock-knee maximum limit (safety critical) must be declared temporarily unfit pending satisfactory cockpit assessment or confirmation of being within limits on a calibrated anthropometry rig (R&SDOM or RAF CAM). In cases of doubt, or when outside of any limit, the passenger is to be assessed as unfit.

10. **Passengers in Non-Ejection Seat Aircraft.** Passengers in non-ejection seat aircraft may occasionally fall outside the safe loading of the seat or exceed other aircraft specific limits (Lflt 4-05 Annex F). As these passengers are not subject to medical examination prior to flight, it is the responsibility of aircrew to raise any concerns in order that a risk assessment can be made regarding suitability for flight.

11. **International Defence Training / Exchange Aircrew.** IDT and Exchange aircrew should carry details of anthropometric measurements recorded in their parent nation. If this information is not available or is incomplete for the aircraft to be flown, it will be necessary to measure the aircrew on the anthropometry rig at OASC or RAF CAM.

**AIRCREW WEIGHT**

12. Aircrew must fall within BMI limits for military selection as outlined in JSP 950 Part 6 Chapter 7. BMI limits do not, however, take precedence over any additional height/weight restrictions that may be imposed because of anthropometric or ejection seat weight limitations. The entry aircrew weight range is 59.5 – 94.1 kgs (Pilot and WSO only to ensure unrestricted route through FT). WSOp candidates who weigh less than 63.5 kgs are to be barred from SAR duties until they reach the minimum weight; however, this does not preclude them being accepted as fit for other aircrew duties.

13. Additional weight limits apply to aircrew flying aircraft fitted with ejection seats and parachute escape systems. MOs are to be familiar with the maximum indicative nude body weight limits for ejection seat aircraft on their station (Lflt 4-04 Annex E). Aircrew whose weight is outside the limits for their aircraft type are not to be automatically grounded as this is a decision for the flying executive based on boarding weight. If an aircrew member exceeds the indicative nude weight, the SMO is to advise the OC of the flying unit/squadron that the individual may exceed the boarding weight in certain AEA configurations - aircrew will then be managed in accordance with the extant policy in Group Air Staff Orders (GASOs). For any aircrew judged to be overweight (see Lflt 4-01), the MO is to set a target weight to be achieved, monitor progress and provide appropriate support.

14. Aircrew who are overweight for their height (high BMI) may have difficulty obtaining full and free movement of the stick in certain aircraft. Although aircrew have a responsibility to carry out such pre-flight checks routinely, the MO should consider formally requesting a cockpit assessment if he/she believes that flight safety could be impaired.

15. Aircrew who change weight significantly and who are near an anthropometric limit for their aircraft may require anthropometry to be repeated ahead of their next routine attendance at RAF CAM for physiological
training. Medical officers are to consider the potential impact of weight change when aircrew attend their periodic medical examination and arrange repeat anthropometry if indicated.

ANTHROPOMETRIC LIMITS

16. Limits for individual aircraft are outlined in the relevant aircraft RTS and for ease of reference are reproduced in the following annexes:

   a. Dimensional anthropometric limits – Lflt 4-05 Annex B, Lflt 4-05 Annex C and Lflt 4-05 Annex D.

   b. Ejection seat weight limits – Lflt 4-05 Annex E.

   c. Non-ejection seat aircraft weight limits – Lflt 4-05 Annex F

Aircraft limits shown in these annexes can only be amended on the authority of Delegated Release To Service Authority (RAF).

17. For aircraft where dimensional anthropometric limits are not shown, aircrew are to be assessed by a QFI/QHI as part of aircraft type conversion training (or as directed by the RTS). If there are any concerns, the aircrew member is to be brought to the attention of medical staff in order that a formal assessment of anthropometric suitability can be undertaken.
LEAFLET 4-05 ANNEX A: COCKPIT ASSESSMENT

1. A cockpit assessment is required to check the anthropometric suitability of aircrew whose anthropometric measurements are borderline (≤ 10 mm inside of aircraft limit) or outside of limits (e.g. aircrew who have grown) for their current/intended aircraft. A cockpit assessment is also required for aircrew when functional ability is in doubt (e.g. following injury).

2. Cockpit assessments are to be conducted by staff competent to undertake the assessment and form an opinion regarding fitness/suitability for role. Cockpit assessments, whether anthropometric or functional, must be undertaken by a MO and a pilot qualified on the aircraft type unless dispensation has been granted by the CFMO for a QFI check only (see below). Flight Medical Officers should have the requisite skills to undertake the medical element of the assessment while a QFI is best placed to make the aircrew assessment. Non-FMOs may be authorised to complete cockpit assessments by the CFMO if they have been trained to do so. Although it is recognised that the QFI will be best placed to form an opinion regarding the acceptability of any anthropometric or functional limitation, the MO must not be afraid to challenge any recommendations and must record any unresolved concerns. If the outcome cannot be agreed, the matter must be brought to the attention of the CFMO for final resolution with the flying executive. Anthropometric suitability may be confirmed by a suitably qualified aircrew member alone (normally a QFI/QHI) when there are no anthropometric data for the aircraft (as per the notes at Lflt 4-05 Annex B and the aircraft RTS); however, if borderline, a formal assessment as outlined in this annex will be required.

3. When conducting a cockpit assessment, the form at Lflt 4-05 Annex A, Appendix 1 is to be completed, unless a QFI check has been authorised by the CFMO (borderline anthropometry in experienced aircrew where function is the only concern). Copies of the completed assessment are to be retained in the aircrew member’s medical record (scanned into DMICP) and F5000. The result of the assessment is also to be recorded in the aircrew member’s flying logbook (same page as the JMES).

4. The cockpit assessment should be repeated under the following circumstances:

   a. Change in anthropometry (≥ 10 mm) from the last assessment if the change is in a non-favourable direction (anthropometric assessments).

   b. Function deteriorates (functional assessments).

   c. On change of aircraft type (anthropometric cockpit assessment only required if outside new aircraft limits).

   d. Medical staffs or the aircrew member or the flying supervisory chain raise concerns (e.g. following introduction of bulky new AEA).
### LEAFLET 4-05 ANNEX A, APPENDIX 1: FUNCTIONAL COCKPIT ASSESSMENT FORM

#### 1. Subject details

<table>
<thead>
<tr>
<th>Surname</th>
<th>Forename</th>
<th>Rank</th>
<th>Service no</th>
<th>Date of birth</th>
<th>TG / aircrew role</th>
<th>Stage of flying training</th>
<th>Total flying hours</th>
<th>Current ac type</th>
<th>Intended ac type</th>
<th>Height</th>
<th>Buttock-knee</th>
<th>Weight</th>
<th>Buttock-heel</th>
<th>Sitting height</th>
<th>Functional reach</th>
</tr>
</thead>
</table>

#### 2. Assessment

<table>
<thead>
<tr>
<th>Date</th>
<th>Aircraft type and Mk</th>
</tr>
</thead>
</table>

- **Reason for Assessment**

  *If medical, diagnosis is not to be given as distribution of completed form includes non-medical addressees*

- **Assessed at**

<table>
<thead>
<tr>
<th>Subject matter experts</th>
<th>QFI/QHI</th>
<th>Medical officer 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crewman</td>
<td></td>
<td>Other specialist (SE/engineer/armourer)</td>
</tr>
</tbody>
</table>

- **Crew/seat position assessed**
3. **Aircrew equipment assembly worn**

(Note: Listing AEA worn is important, as this qualifies the bulk, weight and restrictions that the subject has throughout the assessment. Subjects should be assessed in the maximum and minimum bulk of AEA cleared for the aircraft. This will normally be a Winter Sea or Operational scaling and a UK Summer Land scaling).

<table>
<thead>
<tr>
<th>Type</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>a Helmet</td>
<td></td>
</tr>
<tr>
<td>b Mask</td>
<td></td>
</tr>
<tr>
<td>c Spectacles (if worn)</td>
<td></td>
</tr>
<tr>
<td>d NVG (if worn)</td>
<td></td>
</tr>
<tr>
<td>e Flying coverall or combat clothing</td>
<td></td>
</tr>
<tr>
<td>f Immersion suit (if worn)</td>
<td></td>
</tr>
<tr>
<td>g Survival vest</td>
<td></td>
</tr>
<tr>
<td>h Life preserver</td>
<td></td>
</tr>
<tr>
<td>i Armour plate / fragmentation vest (Note front, rear and/or other plates worn)</td>
<td></td>
</tr>
<tr>
<td>j Anti-G trouser</td>
<td></td>
</tr>
<tr>
<td>k Boots</td>
<td></td>
</tr>
</tbody>
</table>

Other equipment non-standard or trial (specify):

4. **Dressing and undressing**

(Note: Aircrew must be able to don and doff AEA without assistance. The immersion suit is perhaps the most difficult item of AEA to don and doff and for functional assessments it may be a useful first test where neck, shoulder, back, upper limb, hip, or lower limb mobility is impaired).

<table>
<thead>
<tr>
<th>Satis</th>
<th>Unsatis</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>a Any difficulty or restriction in donning / doffing clothing or AEA?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b Neck mobility</td>
<td></td>
<td></td>
</tr>
<tr>
<td>c Upper limb mobility</td>
<td></td>
<td></td>
</tr>
<tr>
<td>d Back mobility</td>
<td></td>
<td></td>
</tr>
<tr>
<td>e Hip mobility</td>
<td></td>
<td></td>
</tr>
<tr>
<td>f Lower limb mobility</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

5. **Walk out and entry**
(Note: This assessment must examine the normal activities conducted by aircrew during pre-flight. This may include crouching or crawling under the airframe, reaching into recesses or climbing the aircraft structure. Guidance should be sought from the assisting aircrew).

Q. Are any difficulties or restrictions experienced during normal access to the aircraft? In particular, crouching, reaching under airframe or climbing into or out of the cockpit.

<table>
<thead>
<tr>
<th>Satis</th>
<th>Unsatis</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>Pre-flight checks and walk-around</td>
<td></td>
</tr>
<tr>
<td>b</td>
<td>Access to hatches, etc</td>
<td></td>
</tr>
<tr>
<td>c</td>
<td>All methods of access to aircraft acceptable (including land away and emergency)?</td>
<td></td>
</tr>
</tbody>
</table>

6. **Strapping in procedures**

(Note: Aircrew should adjust the seat to the correct design eye point and this should be used for all remaining assessment serials. Guidance should be sought from the assisting aircrew).

Q. Are there any difficulties or restrictions in achieving the following?

<table>
<thead>
<tr>
<th>Satis</th>
<th>Unsatis</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>Seat adjustment – rake, height, fore/aft</td>
<td></td>
</tr>
<tr>
<td>b</td>
<td>Rudder pedal adjustment</td>
<td></td>
</tr>
<tr>
<td>c</td>
<td>Connection of lanyards, communication leads or man-mounted avionic systems</td>
<td></td>
</tr>
<tr>
<td>d</td>
<td>Attaching and adjusting restraint harness (including parachute if applicable)</td>
<td></td>
</tr>
<tr>
<td>e</td>
<td>Connection of breathing gas supply</td>
<td></td>
</tr>
<tr>
<td>f</td>
<td>Connection of arm or leg restraint lines</td>
<td></td>
</tr>
<tr>
<td>g</td>
<td>Adjustment of AEA for comfort including access to pockets used in flight</td>
<td></td>
</tr>
</tbody>
</table>
7. **Structural clearance**

<table>
<thead>
<tr>
<th>Q. Is there enough space for the individual within the aircraft for normal working during a crash or in the event of emergency egress or ejection?</th>
</tr>
</thead>
<tbody>
<tr>
<td>The following areas may need to be examined:</td>
</tr>
<tr>
<td>Stature. Is individual able to access, egress and work within the environment?</td>
</tr>
<tr>
<td>Sitting height. Consider canopy clearance, helmet/ head box position, helmet/ aircraft overhead panel interactions.</td>
</tr>
<tr>
<td>Buttock-knee / buttock-heel. Clearance to instrument panel or console. Note any visual obscuration caused by thighs, ability to comfortably place feet on controls and space within leg tunnels (caution feet &gt; size 12).</td>
</tr>
<tr>
<td>Bideltoid breadth (shoulder breadth). Check clearance to cockpit sizes, access, egress and ability to fit through emergency escape hatches.</td>
</tr>
<tr>
<td>Stomach depth. Can the harness be secured with most bulky AEA? Does stomach impact on structure, equipment or controls during movement? (See 9a also) Is subject able to egress through all emergency escape hatches?</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Internal:</th>
<th>Accep</th>
<th>Unaccep</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>a Basic flight instruments / symbology</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b Weapons systems / sighting systems</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c Emergency warning panel</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>d Comms / nav equipment</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>e Side, centre or overhead panels</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>f Rear crew / other crew, if applicable</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| External: |  |
| Look out scan: |  |

8. **Vision (Int/Ext)**

(Update: Adequate vision must be demonstrated to the satisfaction of the MO and aircrew SME).
9. **Functional Workspace Assessment**

(Note: This is required to demonstrate that the aircrew can safely carry out all the actions required to operate the aircraft or equipment within their area of responsibility. Guidance should be taken from the QFI/QHI or training aircrewman. The serial should be conducted with harness in the locked and go forward modes. For handling pilots, check all flying controls under the direction of QFI/QHI and note where restrictions occur).

<table>
<thead>
<tr>
<th>Satis</th>
<th>Unsatis</th>
<th>Comments</th>
</tr>
</thead>
</table>

**Seat harness locked**

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>Is there full and free movement of the control column/cyclic in all directions?</td>
<td></td>
</tr>
<tr>
<td>b</td>
<td>Does the subject have adequate reach, strength and dexterity to operate all the required switches &amp; controls?</td>
<td>To the right</td>
</tr>
<tr>
<td>c</td>
<td>To the left</td>
<td></td>
</tr>
<tr>
<td>d</td>
<td>Above</td>
<td></td>
</tr>
<tr>
<td>e</td>
<td>Below</td>
<td></td>
</tr>
</tbody>
</table>

**Seat harness in go forward mode (if applicable)**

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>f</td>
<td>Is there full and free movement of the control column/cyclic in all directions?</td>
<td></td>
</tr>
<tr>
<td>g</td>
<td>Does the subject have adequate reach, strength and dexterity to operate all the required switches &amp; controls?</td>
<td>To the right</td>
</tr>
<tr>
<td>h</td>
<td>To the left</td>
<td></td>
</tr>
<tr>
<td>i</td>
<td>Above</td>
<td></td>
</tr>
<tr>
<td>j</td>
<td>Below</td>
<td></td>
</tr>
</tbody>
</table>

Note – Check ability of subject to conduct other duties expected of their trade at the workplace under the guidance of QFI/QHI/aircrewman. Make notes / take photographs as required.
10. Emergency egress

(Note: This is required to demonstrate that aircrew can escape unaided in the event of an emergency. However, this assessment should be done in such a manner as to avoid both injury to the aircrew and structural damage to the aircraft. There is no need to remove escape hatches or jettison doors. Guidance should be taken from the QFI/QHI or training aircrewman).

<table>
<thead>
<tr>
<th>Satis</th>
<th>Unsatis</th>
<th>Comments</th>
</tr>
</thead>
</table>

All aircraft

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<table>
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<tr>
<th></th>
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</tr>
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<tbody>
<tr>
<td>a</td>
<td>Harness release</td>
<td></td>
</tr>
<tr>
<td>b</td>
<td>Release of other equipment</td>
<td></td>
</tr>
<tr>
<td>c</td>
<td>Clearance of escape route, operating emergency handles/levers</td>
<td></td>
</tr>
<tr>
<td>d</td>
<td>Egress, primary escape route</td>
<td></td>
</tr>
<tr>
<td>e</td>
<td>Egress, secondary escape route</td>
<td></td>
</tr>
<tr>
<td>f</td>
<td>Egress through emergency panels/openings, if appropriate</td>
<td></td>
</tr>
</tbody>
</table>

Ejection seat aircraft

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>g</td>
<td>Check ejection seat posture</td>
<td></td>
</tr>
<tr>
<td>h</td>
<td>Check ability to reach and operate seat pan handle</td>
<td></td>
</tr>
<tr>
<td>i</td>
<td>Check ability to reach and operate emergency oxygen</td>
<td></td>
</tr>
<tr>
<td>j</td>
<td>Check ability to reach and operate man seat separation</td>
<td></td>
</tr>
</tbody>
</table>

11. Comments
12. Recommendation

<table>
<thead>
<tr>
<th>Recommendation:</th>
<th>Acceptable</th>
<th>Unacceptable</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</table>

(Delete as appropriate)

<table>
<thead>
<tr>
<th>QFI/QHI</th>
<th>Medical Officer</th>
<th>Name</th>
<th>Signature</th>
<th>Rank</th>
<th>Appt</th>
<th>Date</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Crewman</th>
<th>Other specialist</th>
<th>Name</th>
<th>Signature</th>
<th>Rank</th>
<th>Appt</th>
<th>Date</th>
</tr>
</thead>
</table>

13. Decision

Command comments / decision:

<table>
<thead>
<tr>
<th>Signature</th>
<th>Name</th>
<th>Rank</th>
<th>Appt</th>
<th>Date</th>
</tr>
</thead>
</table>

[Distribution: CFMO, F5000, Air Mann-Fg Anthro]
# LEAFLET 4-05 ANNEX B: RAF ANTHROPOMETRIC LIMITS

## RAF AIRCREW ENTRY STANDARDS

<table>
<thead>
<tr>
<th>Branch</th>
<th>Sitting Height (mm)</th>
<th>Buttock-Knee (mm)</th>
<th>Buttock-Heel (mm)</th>
<th>Functional Reach (mm)</th>
<th>Stature (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Min</td>
<td>Max</td>
<td>Max</td>
<td>Min</td>
<td>Max</td>
</tr>
<tr>
<td>Pilot</td>
<td>865</td>
<td>990</td>
<td>660</td>
<td>1000</td>
<td>1200</td>
</tr>
<tr>
<td>WSO</td>
<td>850</td>
<td>1005</td>
<td>670</td>
<td>970</td>
<td>1200</td>
</tr>
<tr>
<td>WSOP All except WSOPL</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>Vertical 1975</td>
</tr>
</tbody>
</table>

## RAF AIRCRAFT LIMITS (ALPHABETICAL) – RTSA AUTHORISED

<table>
<thead>
<tr>
<th>Aircraft A-Z</th>
<th>Sitting Height (mm)</th>
<th>Buttock-Knee (mm)</th>
<th>Buttock-Heel (mm)</th>
<th>Functional Reach (mm)</th>
<th>Rationale + Additional Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Min</td>
<td>Max</td>
<td>Max</td>
<td>Min</td>
<td>Max</td>
</tr>
<tr>
<td>Atlas C Mk 1</td>
<td>865</td>
<td>990</td>
<td>660</td>
<td>1000</td>
<td>1200</td>
</tr>
<tr>
<td>Air Seeker</td>
<td>800</td>
<td>990</td>
<td>675</td>
<td>1000</td>
<td>1200</td>
</tr>
<tr>
<td>BAE 125</td>
<td>864</td>
<td>1010</td>
<td>660</td>
<td>1000</td>
<td>1200</td>
</tr>
<tr>
<td>BAE 146</td>
<td>855</td>
<td>1010</td>
<td>680</td>
<td>1000</td>
<td>1240</td>
</tr>
<tr>
<td>BBMF (various)</td>
<td></td>
<td></td>
<td></td>
<td>Note 1</td>
<td></td>
</tr>
<tr>
<td>C-130J</td>
<td>860</td>
<td>990</td>
<td>680</td>
<td>1000</td>
<td>1240</td>
</tr>
<tr>
<td>C-130K</td>
<td>860</td>
<td>1010</td>
<td>680</td>
<td>1000</td>
<td>1240</td>
</tr>
<tr>
<td>C-17</td>
<td>857</td>
<td><strong>986</strong></td>
<td><strong>655</strong></td>
<td><strong>1039</strong></td>
<td>1204</td>
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<tr>
<td>Chinook Mk 2/2A/3/4</td>
<td>850</td>
<td>1040</td>
<td>680</td>
<td>990</td>
<td>1240</td>
</tr>
<tr>
<td>Griffin Mk 1/2</td>
<td>845</td>
<td>1020</td>
<td>670</td>
<td>980</td>
<td>1220</td>
</tr>
<tr>
<td>Hawk T1 (Front)</td>
<td>855</td>
<td>1014</td>
<td>660</td>
<td>990</td>
<td>1220</td>
</tr>
<tr>
<td>Hawk T1 (Rear)</td>
<td>860</td>
<td>1010</td>
<td>670</td>
<td>985</td>
<td>1230</td>
</tr>
<tr>
<td>Hawk T2 (Front)</td>
<td>845</td>
<td>990</td>
<td><strong>660</strong></td>
<td>1000</td>
<td>1200</td>
</tr>
<tr>
<td>Hawk T2 (Rear)</td>
<td>845</td>
<td>990</td>
<td>660</td>
<td>1000</td>
<td>1200</td>
</tr>
<tr>
<td>King Air 200</td>
<td>865</td>
<td>1010</td>
<td>685</td>
<td>990</td>
<td>1200</td>
</tr>
<tr>
<td>King Air GT</td>
<td>865</td>
<td>990</td>
<td>680</td>
<td>995</td>
<td>1250</td>
</tr>
<tr>
<td>Merlin Mk 3/3A</td>
<td>860</td>
<td>1020</td>
<td>680</td>
<td>990</td>
<td>1240</td>
</tr>
<tr>
<td>Puma</td>
<td>860</td>
<td><strong>965</strong></td>
<td>680</td>
<td>990</td>
<td>1240</td>
</tr>
<tr>
<td>RW MRCO (various)</td>
<td></td>
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<td></td>
<td></td>
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</tr>
<tr>
<td>Sea King Mk 3/3A</td>
<td>860</td>
<td>1125</td>
<td>680</td>
<td>1000</td>
<td>1240</td>
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<tr>
<td>Sentinel</td>
<td>865</td>
<td>990</td>
<td>660</td>
<td>985</td>
<td>1200</td>
</tr>
</tbody>
</table>

Note 1: Additional requirement: Sitting Knee Height 635 mm max.
Note 2: FR critical control – Winch Sever

Page: 268
Publication date: 01/08/16
<table>
<thead>
<tr>
<th>Aircraft</th>
<th>Min.</th>
<th>1st Min.</th>
<th>2nd Min.</th>
<th>3rd Min.</th>
<th>1st Max.</th>
<th>2nd Max.</th>
<th>Notes</th>
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</thead>
<tbody>
<tr>
<td>Sentry 855</td>
<td>855</td>
<td>1085</td>
<td>680</td>
<td>990</td>
<td>1240</td>
<td>720</td>
<td>FR critical control – U/C Lever</td>
</tr>
<tr>
<td>Shadow</td>
<td>845</td>
<td>1020</td>
<td>670</td>
<td>980</td>
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<td>710</td>
<td>Note 1</td>
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<td>Squirrel HT</td>
<td>840</td>
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<td>670</td>
<td>990</td>
<td>1200</td>
<td>630</td>
<td>FR critical control – Fuel Shut-Off</td>
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<tr>
<td>Tornado GR4</td>
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<td>1035</td>
<td>695</td>
<td>1000</td>
<td>1250</td>
<td>720</td>
<td>FR critical control – U/C Lever</td>
</tr>
<tr>
<td>Tristar</td>
<td>815</td>
<td>1005</td>
<td>670</td>
<td>970</td>
<td>1230</td>
<td>670</td>
<td>FR critical control – No1 Fire Handle</td>
</tr>
<tr>
<td>Tucano</td>
<td>850</td>
<td>1025</td>
<td>670</td>
<td>1000</td>
<td>1215</td>
<td>700</td>
<td>FR critical control – Radio Note 3</td>
</tr>
<tr>
<td>Tutor</td>
<td>800</td>
<td>1000</td>
<td>665</td>
<td>980</td>
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<td>700</td>
<td>Additional requirements – Note 4</td>
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<td>Typhoon</td>
<td>855</td>
<td>1010</td>
<td>695</td>
<td>1000</td>
<td>1250</td>
<td>670</td>
<td>FR critical control – No1 Fire Handle</td>
</tr>
<tr>
<td>VC-10</td>
<td>864</td>
<td>1010</td>
<td>660</td>
<td>1000</td>
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<td>Note 1</td>
</tr>
<tr>
<td>Vigilant Glider</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Note 3</td>
</tr>
<tr>
<td>Viking Glider</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Note 3</td>
</tr>
<tr>
<td>Voyager</td>
<td>815</td>
<td>1005</td>
<td>670</td>
<td>970</td>
<td>1230</td>
<td>670</td>
<td>Note 1</td>
</tr>
</tbody>
</table>

**Bold** = Limits outside RAF pilot entry standard.

**Notes:**

1. **Aircrew to have QFI check on flying aircraft for the first time to ensure full and free movement of all controls, ability to effect emergency egress and confirm absence of snagging with controls or aircraft structures. Aircrew should be referred to CFMO for formal cockpit assessment (iaw Annex A) if borderline/fail to ensure data captured for future career management.**

2. **Boeing design data:**
   
   a. **Pilots**: minimum buttock-knee of 559 mm and a maximum functional reach of 973 mm.
   
   b. **Loadmasters**: sitting height 835 – 969 mm, buttock-knee length 549 – 658 mm, buttock-heel length 1106 – 1277 mm and functional reach 726 – 1012 mm.

3. **Aircrew, students and passengers without anthropometric data may fly these aircraft after a check by a pilot qualified on type (normally a QFI/Gliding Instructor) to ensure full and free movement of all controls, ability to effect emergency egress and confirm absence of snagging with controls or aircraft structures. Aircrew should be referred to CFMO for formal cockpit assessment (iaw Annex A) if borderline/fail to ensure data captured for future career management (Full cockpit assessment not applicable to passengers).**

4. **Additional Typhoon RTS anthropometry data requirements (to be assessed at RAF CAM on Typhoon OCU course):**

   - Eye Sitting Height: 705 – 895 mm
   - Sitting Knee Length: 470 – 630 mm
   - Bideltoid Breadth: 400 – 530 mm
   - Sitting Hip Breadth: 310 – 470 mm
   - Torso Hoop: 1500 – 1800 mm
   - Stomach Depth: 190 – 325 mm
   - Thigh Circumference: 470 – 700 mm
   - Buttock Popliteal: 430 – 550 mm
LEAFLET 4-05 ANNEX C: ARMY AIR CORPS ANTHROPOMETRIC LIMITS

**SELECTION**

<table>
<thead>
<tr>
<th></th>
<th>Sitting Height (mm)</th>
<th>Buttock-Knee Length (mm)</th>
<th>Buttock-Heel Length (mm)</th>
<th>Functional Reach (mm)</th>
<th>Nude Body Weight (kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Min</td>
<td>Max</td>
<td>Min</td>
<td>Max</td>
<td>Min</td>
</tr>
<tr>
<td>Pilot</td>
<td>865</td>
<td>1005</td>
<td>560</td>
<td>660</td>
<td>1000</td>
</tr>
<tr>
<td>Crewman</td>
<td>------</td>
<td>960</td>
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<td>------</td>
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**TRAINING**

<table>
<thead>
<tr>
<th>Aircraft</th>
<th>Sitting Height (mm)</th>
<th>Buttock-Knee Length (mm)</th>
<th>Buttock-Heel Length (mm)</th>
<th>Functional Reach (mm)</th>
<th>Nude Body Weight (kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Min</td>
<td>Max</td>
<td>Min</td>
<td>Max</td>
<td>Min</td>
</tr>
<tr>
<td>Grob Tutor</td>
<td>850</td>
<td>1025</td>
<td>------</td>
<td>670</td>
<td>1000</td>
</tr>
<tr>
<td>Squirrel</td>
<td>845</td>
<td>1020</td>
<td>------</td>
<td>670</td>
<td>980</td>
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**ROTARY**

<table>
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<tr>
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<th>Buttock-Knee Length (mm)</th>
<th>Buttock-Heel Length (mm)</th>
<th>Functional Reach (mm)</th>
<th>Nude Body Weight (kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Min</td>
<td>Max</td>
<td>Min</td>
<td>Max</td>
<td>Min</td>
</tr>
<tr>
<td>Apache AH Mk1</td>
<td>865</td>
<td>1020</td>
<td>560</td>
<td>660</td>
<td>1000</td>
</tr>
<tr>
<td>Bell 212</td>
<td>845</td>
<td>1020</td>
<td>------</td>
<td>670</td>
<td>980</td>
</tr>
<tr>
<td>Gazelle</td>
<td>830</td>
<td>1005</td>
<td>560</td>
<td>660</td>
<td>960</td>
</tr>
<tr>
<td>Lynx Mk 7&amp;9</td>
<td>845</td>
<td>1005</td>
<td>560</td>
<td>660</td>
<td>1000</td>
</tr>
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<td>Wildcat</td>
<td>845</td>
<td>1005</td>
<td>560</td>
<td>660</td>
<td>1000</td>
</tr>
</tbody>
</table>

**FIXED WING**

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<thead>
<tr>
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<th>Buttock-Knee Length (mm)</th>
<th>Buttock-Heel Length (mm)</th>
<th>Functional Reach (mm)</th>
<th>Nude Body Weight (kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Min</td>
<td>Max</td>
<td>Min</td>
<td>Max</td>
<td>Min</td>
</tr>
<tr>
<td>Islander/D4K</td>
<td>800</td>
<td>960</td>
<td>------</td>
<td>------</td>
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LEAFLET 4-05 ANNEX D: ROYAL NAVY ANTHROPOMETRIC LIMITS

SELECTION

<table>
<thead>
<tr>
<th></th>
<th>Sitting Height (mm)</th>
<th>Buttock-Knee (mm)</th>
<th>Buttock-Heel (mm)</th>
<th>Functional Reach (mm)</th>
<th>Nude Body Weight (kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Min</td>
<td>Max</td>
<td>Min</td>
<td>Max</td>
<td>Min</td>
</tr>
<tr>
<td>Pilot / Observer</td>
<td>865 990 1005</td>
<td>660</td>
<td>1000</td>
<td>1200</td>
<td>720 740</td>
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</tbody>
</table>

Blue = Anthropometry limits acceptable only for non-ejection seat / rotary wing candidates.

<table>
<thead>
<tr>
<th></th>
<th>Height (mm)</th>
<th>Vertical Functional Reach (mm)</th>
<th>Nude Body Weight (kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Min</td>
<td>Min</td>
<td>Min</td>
</tr>
<tr>
<td>Aircrewman</td>
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<td>1975</td>
<td>60</td>
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TRAINING

<table>
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<th></th>
<th>Sitting Height (mm)</th>
<th>Buttock-Knee (mm)</th>
<th>Buttock-Heel (mm)</th>
<th>Functional Reach (mm)</th>
<th>Nude Body Weight (kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Min</td>
<td>Max</td>
<td>Min</td>
<td>Max</td>
<td>Min</td>
</tr>
<tr>
<td>Grob Tutor</td>
<td>850 1025</td>
<td>670</td>
<td>1000</td>
<td>1215</td>
<td>700</td>
</tr>
<tr>
<td>Squirrel</td>
<td>845 1020</td>
<td>670</td>
<td>980</td>
<td>1220</td>
<td>710</td>
</tr>
<tr>
<td>Bell 212</td>
<td>845 1020</td>
<td>670</td>
<td>980</td>
<td>1220</td>
<td>660</td>
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ROTARY

<table>
<thead>
<tr>
<th></th>
<th>Sitting Height (mm)</th>
<th>Buttock-Knee (mm)</th>
<th>Buttock-Heel (mm)</th>
<th>Functional Reach (mm)</th>
<th>Nude Body Weight (kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Min</td>
<td>Max</td>
<td>Min</td>
<td>Max</td>
<td>Min</td>
</tr>
<tr>
<td>Sea King</td>
<td>860 1125</td>
<td>680</td>
<td>1000</td>
<td>1240</td>
<td>660</td>
</tr>
<tr>
<td>Lynx</td>
<td>845 1005</td>
<td>560 660</td>
<td>1000</td>
<td>1200</td>
<td>740</td>
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<tr>
<td>Merlin</td>
<td>860 1020</td>
<td>680</td>
<td>990</td>
<td>1240</td>
<td>710</td>
</tr>
<tr>
<td>Wildcat</td>
<td>845 1005</td>
<td>560 660</td>
<td>1000</td>
<td>1200</td>
<td>740</td>
</tr>
</tbody>
</table>

\[ Aircrew, students and passengers without anthropometric data may fly this aircraft after a check by a pilot qualified on type (normally a QFI) to ensure full and free movement of all controls, ability to effect emergency egress and confirm absence of snagging with controls or aircraft structures. Aircrew should be referred to TAS Cons Av Med for formal cockpit assessment (see Annex A) if borderline/fail to ensure data captured for future career management (Full cockpit assessment not applicable to passengers).

99 Requirement for crashworthy seating.

SK 3/3A pending RN anthropometry.

Lynx 7/9 pending RN anthropometry.

Merlin 3/3A pending RN anthropometry.

Army Wildcat pending RN anthropometry.
### FIXED WING

<table>
<thead>
<tr>
<th>Model</th>
<th>Sitting Height (mm)</th>
<th>Buttock-Knee (mm)</th>
<th>Buttock-Heel (mm)</th>
<th>Functional Reach (mm)</th>
<th>Nude Body Weight (kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Min</td>
<td>Max</td>
<td>Min</td>
<td>Max</td>
<td>Min</td>
</tr>
<tr>
<td>King Air 350</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Tucano</td>
<td>815</td>
<td>1005</td>
<td>---</td>
<td>---</td>
<td>670</td>
</tr>
<tr>
<td>Hawk T1 F</td>
<td>855</td>
<td>1014</td>
<td>---</td>
<td>---</td>
<td>660</td>
</tr>
<tr>
<td>Hawk T1 R</td>
<td>860</td>
<td>1010</td>
<td>---</td>
<td>---</td>
<td>670</td>
</tr>
<tr>
<td>Hawk T2 F</td>
<td>845</td>
<td>990</td>
<td>---</td>
<td>---</td>
<td>660</td>
</tr>
<tr>
<td>Hawk T2 R</td>
<td>845</td>
<td>990</td>
<td>---</td>
<td>---</td>
<td>660</td>
</tr>
<tr>
<td>F-35</td>
<td>Data awaited.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

104 Ejection seat limits.

105 Aircrew to have QFI check on flying aircraft for first time to ensure full and free movement of all controls, ability to effect emergency egress and confirm absence of snagging with controls or aircraft structures. Aircrew should be referred to TAS Cons Av Med for formal cockpit assessment (iaw Annex A) if borderline fail to ensure data documented for future career management.
LEAFLET 4-05 ANNEX E: EJECTION SEAT WEIGHT LIMITS

<table>
<thead>
<tr>
<th>RAF Entry Standard (nude weight)</th>
<th>Min(^1) (Kg)</th>
<th>Max(^2) (Kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pilot and WSO</td>
<td>59.5</td>
<td>94.1</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Aircraft</th>
<th>Seat Type</th>
<th>Min (Kg)</th>
<th>Max (Kg)</th>
<th>Min(^1) (Kg)</th>
<th>Max(^2) (Kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Typhoon</td>
<td>16A</td>
<td>61.2</td>
<td>133.5</td>
<td>51.0</td>
<td>111.0</td>
</tr>
<tr>
<td>Hawk T1/T1A</td>
<td>10B</td>
<td>66.2</td>
<td>120.0</td>
<td>56.5</td>
<td>105.7</td>
</tr>
<tr>
<td>Hawk T2</td>
<td>10LH</td>
<td>67.0</td>
<td>108.4</td>
<td>59.5</td>
<td>91.9</td>
</tr>
<tr>
<td>Tornado GR4</td>
<td>10A</td>
<td>67.5</td>
<td>135.0</td>
<td>56.1</td>
<td>109.1(^3)</td>
</tr>
<tr>
<td>Tucano T1</td>
<td>8LC</td>
<td>68.4</td>
<td>108.2</td>
<td>59.4</td>
<td>96.5</td>
</tr>
</tbody>
</table>

Notes:

1. Min Boarding Wt – Min AEA Wt (summer, smallest size).
2. Max Boarding Wt – Max AEA Wt (winter wet, largest size).
3. Wearing of the Survival Waistcoat would reduce the Max indicative Nude Wt by approx 5 Kg

In all cases it is the boarding weight that is critical. Aircrew who exceed the indicative nude weight are to be managed in accordance with Leaflet 4-05, paragraph 13.
### LEAFLET 4-05 ANNEX F: NON-EJECTION SEAT AIRCRAFT – RTS WEIGHT LIMITS

<table>
<thead>
<tr>
<th>Aircraft (alphabetical)</th>
<th>Weight Limit (kg)</th>
<th>Rationale</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Min</td>
<td>Max</td>
</tr>
<tr>
<td>C-17</td>
<td>60.4 (pilot)</td>
<td>113.6</td>
</tr>
<tr>
<td></td>
<td>55.5 (ALM)</td>
<td></td>
</tr>
<tr>
<td>Chinook</td>
<td>101.6</td>
<td></td>
</tr>
<tr>
<td>Merlin</td>
<td>120-130</td>
<td></td>
</tr>
<tr>
<td>Sea King</td>
<td>104.3</td>
<td></td>
</tr>
<tr>
<td>Sentry</td>
<td>77.1</td>
<td></td>
</tr>
<tr>
<td>Tutor</td>
<td>35</td>
<td>122</td>
</tr>
<tr>
<td>VC-10</td>
<td></td>
<td>77.1</td>
</tr>
<tr>
<td>Vigilant Glider</td>
<td>35</td>
<td>110</td>
</tr>
<tr>
<td>Viking Glider</td>
<td>35</td>
<td>110</td>
</tr>
<tr>
<td>Hurricane</td>
<td>68</td>
<td>125</td>
</tr>
<tr>
<td>Spitfire</td>
<td>68</td>
<td>125</td>
</tr>
<tr>
<td>Chipmunk</td>
<td>68</td>
<td>125</td>
</tr>
</tbody>
</table>

Other aircraft will be added as new RTS data are published.

Groups will provide guidance on managing risk, as required, for occupants who exceed aircraft seat design/qualification testing limits.

---

**Note:** Weight limit refers to boarding mass/parachute suspended mass as applicable.
Algorithm 1
OASC Aircrew Selection Anthropometry

Record Anthropometry (Ht, Wt, BK, BH, SH & FR)

Within generic selection limits for aircrew Branch

REJECT Anthropometrically unsuitable for selection

Anthropometrically suitable for selection
Record Anthropometry
Ht, Wt, BK, BH, SH, FR
(+ any additional measure dictated by aircraft type)

Within all dimensional Anthropometric limits for current/planned aircraft

Refer to CFMO
(Advise unfit flying pending CFMO review)
See Algorithm 3

Borderline - within 10 mm of any dimensional limit

Refer to CFMO
(Remains fit flying pending CFMO review)
See Algorithm 3

Outside limits for any other aircraft

Annotate anthropometry printout
With out-of-limits aircraft

Remove Code 050 on DMICP
(if previously awarded)

Apply Code 050 on DMICP

Give 2 copies of anthropometry report to the individual
(Logbook + F5000)
Scan copy of anthropometry report and e-mail to Manning to upload in e-dossier (Air-COSPers-Mann Fg Anthro Mtbx)
[If outside indicative nude weight for seat (ejection seat ac only), advise SMO]
Algorithm 3
CFMO Actions on Receiving Out of Limits or Borderline Anthropometry Report

CFMO receives anthropometry report

Consider need to ground pending cockpit assessment (safety critical)

Arrange cockpit assessment for current/planned aircraft type iaw Annex A (d/w 22 Trg Gp if in training).

Satisfactory cockpit assessment

- Y: Record any out-of-limits aircraft on the cockpit assessment form and award Code 050 on DMICP if applicable.
- N: Unfit to fly aircraft type. Advise relevant Gp HQ.

Forward copies of report to:
- Individual (log book)
- Flying supervisor (F5000)
- Manning (Air-COSPers-Mann Fg Anthro Mbx)
LEAFLET 4-05 ANNEX H: DEFINITION OF ANTHROPOMETRIC MEASURES USED TO ASSESS AIRCREW – FOR LOCALLY PERFORMED ANTHROPOMETRY

Sitting Height

1. Sitting erect with head clear of rear wall while facing forward with shoulders relaxed. Elbows held lightly to side with hands on mid-thigh. Measure from surface of stool to datum probe/block (held at right angles to the measuring tape/rule) at vertex (highest point on head).

Buttock-Knee Length

2. Sitting erect with back and buttocks firmly against an upright wall and with thighs parallel to the floor and feet flat on the floor. Measure from wall to datum probe/block (held at right angles to the measuring tape/rule) in light contact with the patella. Where there is disparity between limbs record the longest measurement.

3. For Cat 1/2 passenger anthropometry performed at unit level with non-specialised measuring equipment a buttock-knee measurement within 30 mm of the maximum is to be noted as borderline and the passenger assessed as temporarily ‘unfit’ pending satisfactory cockpit assessment or formal assessment on a calibrated rig (OASC or RAF CAM) – Lft 4-05, paragraph 9.

Buttock-Heel

4. Subject sitting on the floor with back and buttocks pushed back against the wall. Both legs straight. Measure from the wall (beware of skirting board) to datum probe/block (held at right angles to the measuring tape/rule) in light contact with heel. If there is disparity between the legs, record the lowest reading if near the aircraft minimum B-H measurement, or the highest reading if near the aircraft maximum B-H measurement.

Functional Reach

5. Sitting erect with the back, buttocks and both scapulae against wall and with arms extended horizontally and with forefinger and thumb opposed (pinch grip with thumb in line with extended arm). Measure from the wall to the datum probe/block (held at right angles to the measuring tape/rule) at the tip of the thumb. In the event of disparity between right and left, record the lowest value. Care must be taken to measure with the scapulae in contact with the wall.
LEAFLET 5-01: CLINICAL ASSESSMENT

Sponsor: CA Medicine

INTRODUCTION

1. Section 5 contains system based leaflets to help medical examiners assess the fitness of individuals with a variety of medical conditions, both on entry to the Service and throughout the individual's Service career. The leaflets are not exhaustive, but detail policy on the assessment and treatment of common and important conditions in the RAF.

FURTHER READING

2. Advice on the medical assessment of military personnel is also contained in JSP 950 which should be read in conjunction with this AP. If neither reference gives specific advice on assessment of a given condition, advice is generally available from the relevant military secondary care consultant. Occupational health advice concerning individual patients should be obtained from the ROMDs Occupational health advice on more general matters, particularly concerning the implementation of policy can be obtained from SO1 Casework (RAF) and SO1 Med Pol(RAF). Specific advice concerning the employment of aircrew should be directed to the relevant RAF Consultant or to the CFMO (RAF).

HISTORY AND EXAMINATION

3. History taking and examination methods should follow standard practices. A comprehensive history, thorough examination and accurate record keeping are essential in all cases as the findings may be disputed many months after the examination.

CANDIDATES FOR SERVICE

4. New entrants to the RAF undergo intensive training, which is physically arduous and mentally taxing. To meet this challenge, individuals must be of robust constitution, with no extant medical condition or pre-existing injury that adversely affects functional capacity. After training and during Service, personnel may operate in climatic extremes in austere and/or hostile environments and possibly remote from comprehensive medical care. An accurate description of a person’s physical and mental capacity represented by the PULHEEMS profile is vital, before, during, and throughout employment. Therefore, those individuals listed below are not considered suitable for Service in the RAF:

   a. Those predisposed to illness.
   
   b. Those with conditions requiring periodic and/or regular medical care, or review.
   
   c. Those who have a pre-existing condition where deterioration might occur.

5. Additionally, the RAF operates with minimal manning margins so that illness, especially in key personnel, may have an immediate and even profound impact upon units; furthermore, flexibility of employment, in the event of illness, is limited. These constraints place considerable reliance upon screening during the entry medical examination to ensure that recruits, who are accepted, start their training with the best chance of success and subsequently serve as fit, healthy and dependable individuals.
LEAFLET 5-02: CARDIOVASCULAR SYSTEM

Sponsor: RAF Consultant Advisor in Cardiology

INTRODUCTION

1. This leaflet gives details on the assessment and management of recruits and serving personnel with common and important cardiovascular disorders. Specialist advice is available from military consultant physicians but aircrew should be referred to RAF consultants. Guidance regarding history, examination and assessment of cardio-vascular risk factors is detailed at Leaflet 5-02 Annex A.

HYPERTENSION

2. **Clinical Concerns.** The level of BP is a powerful predictor of cardiovascular and cerebro-vascular disease; the higher the level, the greater the risk. BP levels above 150 mm Hg systolic and 95 mm Hg diastolic usually indicate hypertension; but rather lower levels, above 140/90, in young adults should cause concern. See also Leaflet 3-04 Annex K107. The phenomenon of “white coat hypertension” is recognized as a response to heightened arousal and anxiety. However, it is not benign, being associated with both the later development of established "essential hypertension" and also a higher level of cardiovascular risk than normal controls. Therefore personnel suspected of having “white coat hypertension” should be assessed by means of 24 hr ambulatory blood pressure monitoring. An average reading of 130/85 or lower over the 24 hr period is acceptable. If a single 24 hr ambulatory reading is in excess of average 130/85, a second measurement should be taken at least one week later. If either of these readings are satisfactory, the diagnosis of “white coat hypertension” may be made to support the decision not to offer treatment. If at subsequent screening blood pressure is again found to be raised, 24 hr ambulatory blood pressure monitoring should be repeated, with a single satisfactory result again being adequate. Serving personnel whose hypertension has not responded to conservative measures alone (e.g. weight reduction and exercise) may require drug treatment. Failure to control the hypertension effectively, multiple risk factors or adverse effects from treatment should prompt specialist referral.

3. **Employment Limitations.**
   
   a. **Recruit.** Recruits with established or treated hypertension are considered unfit for service in the RAF (P8).
   
   b. **Serving Personnel.** In the absence of other significant risk factors and in the absence of adverse drug effects an unrestricted JMES can be considered.
   
   c. **Aircrew and controllers.** Uncontrolled hypertension is incompatible with flying or aircraft control duties. Furthermore, aircrew are to be grounded when drug treatment is initiated or substantially altered (see Leaflet 5-19 for flying limitations). Complications of hypertension generally preclude flying. Aircrew flying limitations following approved treatments are detailed in Leaflet 5-19.

HYPERLIPIDAEMIA

4. **Clinical Concerns.** Hyperlipidaemia is a potent risk factor for ischaemic heart disease (IHD) and, if familial, often requires prolonged treatment and follow-up. Lipoprotein analysis is used to separate the various causes of hyperlipidaemia. Secondary causes of hyperlipidaemia should be considered and treated as appropriate.

5. **Employment Limitations.**
   
   a. **Recruit.** Although not routinely measured, recruits with confirmed hyperlipidaemia are considered unfit for service in the RAF (P8).
b. **Serving Personnel.** Individuals may require limitations dependent on the evidence of IHD or PVD. Provided that there is good control and no evidence of end-organ damage an unrestricted JMES may be possible.

c. **Aircrew.** Severe hyperlipidaemia may be incompatible with solo pilot duties (A3) and grounding (A4) may be required if there is evidence of coronary disease. The opinion of CA Med (RAF) should be sought for aircrew with associated cardiovascular risk factors. A satisfactory response to treatment and demonstrated absence of end-organ damage is compatible with an unrestricted JMES. When aircrew require drug treatment, the policy detailed in [Leaflet 5-19](#) is to be followed.

## CORONARY ARTERY DISEASE (CAD)

### 6. Clinical Concerns. These include:

a. CAD may be an incidental finding without symptoms or may present with clinical manifestations secondary to ischaemic heart disease (IHD). Clinical presentations may include angina, myocardial infarction, heart failure, arrhythmia and sudden death.

b. CAD is unpredictable and may be catastrophic. CAD may result in spontaneous onset of IHD symptoms such as chest pain, dyspnoea or palpitations that may lead to incapacitation and distraction.

c. The likelihood of CAD (and therefore IHD) increases with age, especially beyond the fifth decade. Early detection of clinically significant CAD (stenosis of ≥50%) or presentation of IHD may result in the requirement for more aggressive primary or secondary prevention and more stringent employment restrictions.

d. In the UK, individuals suffering an acute coronary syndrome (ACS)\(^{108}\) should expect to receive appropriate ACS management. ST elevation myocardial infarction (STEMI) will normally prompt coronary intervention (usually percutaneous coronary intervention with stenting (PCI)) within 120 minutes\(^{109}\). Nearly half of the potentially salvageable myocardium is lost within 1 hour of the coronary artery being occluded, and two-thirds are lost within 3 hours. However the benefit for PCI has been shown to extend to 3 hours, following thrombolysis\(^{110}\). Therefore, when considering suitability for deployment following a confirmed ACS episode, the time-to-coronary-intervention should be considered i.e. such individuals should only deploy to areas with a reasonable expectation of PCI within 3 hours.

### 7. Employment Limitations.

a. **Recruit.** Recruits with known pre-existing CAD (<30% luminal narrowing of a major epicardial vessel) may be considered fit for entry subject to review by R&S DOM. Recruits with any history of ischaemic heart disease are considered unfit for service in the RAF (P8).

b. **Serving Personnel.** A diagnosis of IHD requires medical downgrading. P7 MND with appropriate limitations, depending on the level of symptoms, should be awarded during initial treatment and investigations. Individuals are to be awarded the limitations ‘Unfit service outside base areas’ (MedLim 5002) and ‘Unfit strenuous physical exertion’ (MedLim 6000) ; other limitations such as, ‘Unfit to drive LGV’ (MedLim 1403) may also be appropriate. Some individuals will require invaliding. Individuals who follow successful cardiac rehabilitation will usually be awarded the limitation ‘Unfit service outside base areas’ (MedLim 5002) and ‘Unfit strenuous physical exertion’ (MedLim 6000). MedLim 6000 may be removed provided they fulfil all of the following criteria:

- Asymptomatic on exercise (Standard Bruce Protocol Stage 4, off all anti-anginal medication (e.g. nitrates or beta-blockers) and on secondary prevention medication only (e.g. aspirin, statins and ACE inhibitors).

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\(^{108}\) Acute coronary syndrome includes unstable angina, non ST Elevation MI (nSTEMI) and ST elevation MI (STEMI).

\(^{109}\) NICE Clinical Guideline 167; 2013.

(2) There is no evidence of significant residual cardiac dysfunction (Ejection Fraction ≥50%, no residual ischaemia on perfusion imaging, no significant scar burden on cardiac MRI etc.) in those who have had MI and those who have undergone successful coronary artery bypass grafting or stenting (not angioplasty alone).

(3) Aggressive modification of risk factors for CAD such as excessive weight, hypertension, smoking, Diabetes Mellitus and hyperlipidaemia.

(4) Acceptable findings on review of the angiogram performed at the time of diagnosis or index event. The extent, severity, and location of stenoses throughout the coronary circulation should be assessed. There should be no evidence of significant “bystander” coronary disease. All lesions >30% are considered relevant in aircrew. Access to the original angiographic images may be required.

(5) Acceptable resting, exercise and 24 hour ECGs and echocardiogram i.e. no significant arrhythmia or regional wall motion abnormality. A myocardial perfusion scan performed at least 6 months after the index event or intervention may also be required to exclude silent ischaemia. Access to the original perfusion images may be required.

c. In borderline cases, where the above criteria are not fully met but it is considered that MedLim 6000 is overly restrictive, consideration may be given to a lesser restriction. Specific guidance should be obtained from a Service consultant occupational physician. All personnel having suffered a confirmed ACS should be restricted to base areas only (MedLim 5002). Where appropriate, ground crew may be required by the Service to follow a schedule of review similar to that outlined for aircrew.

d. **Aircrew.** CAD stenosis of ≥50% or IHD is normally a bar to flying duties due to the potential of unheralded angina, infarction and arrhythmia. The aviation environment e.g. hypoxia, hyperventilation and high Gz, may precipitate such events through increased myocardial oxygen consumption. On suspicion of the diagnosis of CAD, aircrew must be immediately grounded. In exceptional circumstances aircrew may be considered for a return to restricted flying duties after 9 months if, on review by a Service cardiologist with Av Med training, they fulfil all the criteria at para 7b. Aircrew fulfilling these criteria may be awarded A3 ‘Unfit solo pilot, must fly with a pilot suitably qualified on type’ (MedLim 2000) / ‘Unfit solo (aircrew category will be specified in Med Docs)(MedLim 2001); ‘Unfit sustained accelerations exceeding +2.5 Gz’; ‘Unfit pressure breathing’; ‘Unfit flight above FL 400’ (MedLim 2004) in addition to the limitations specified for ground crew. To maintain this flying category, aircrew must be reviewed as follows:

1. Three monthly review with a Service cardiologist for the first 18 months post event, then at 2 years and annually thereafter.

2. Resting ECG at each review, and exercise ECG, 24 hour ECG and echocardiogram annually.

3. Myocardial perfusion scan (MPS or pCMR\textsuperscript{111}) at 3 years then on alternate years. Alternative assessment such as stress echocardiography, DSE\textsuperscript{112} or CT angiography may be considered acceptable in individual cases, but where there is any doubt regarding the patency of coronary vessels, traditional angiography will likely be required.

4. Angiography at 3 years to assess anatomical progression of disease may be required. This should be determined following assessment by a Service cardiologist with Av Med training.

e. If the aircrew patient develops any symptoms, or if abnormalities in any test or measurement are observed, the patient is to be immediately grounded pending review at the RAF Clinical Aviation Medicine Service (CAMS) clinic.

\textsuperscript{111} MPS - myocardial perfusion scintigraphy, pCMR – perfusion cardiac MRI.

\textsuperscript{112} DSE – dobutamine stress echocardiography
Summary of review schedule

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<th>Initial</th>
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<th>15m</th>
<th>18m</th>
<th>2Y</th>
<th>3Y</th>
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<th>6Y</th>
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* At least 6 months post  
** Review of original angiogram  
*** May be required on a case by case basis. CT coronary angiography may be acceptable in some cases.

PERIPHERAL ARTERY DISEASE

8. Peripheral artery disease (PAD) causing claudication or rest pain almost always indicates extensive arterial disease. Specialist investigation is always required. Occasionally a completely correctable cause is found (e.g. popliteal cyst). Where investigations have demonstrated normal coronary and cerebral vasculature in aircrew, a return to flying may be possible. Personnel are to be awarded the limitation ‘Unfit for service outside base areas’ (MedLim 5002).

VENOUS THROMBO-EMBOLIC DISEASE

9. Clinical Concerns. Venous thrombo-embolic disease is a common and dangerous condition. Venous thrombosis causes pain and swelling in the affected limb and may give rise to pulmonary emboli causing chest pain, shortness of breath, hypoxia, cardiac arrhythmias and may be fatal.

10. Employment Limitations.

   a. Recruit. Recruits with a history of thrombo-embolism are normally considered unfit for service in the RAF (P8). A single uncomplicated deep vein thrombosis (DVT), particularly with a defining cause and with a full recovery may be acceptable but should be assessed by a military consultant general physician.

   b. Serving Personnel. Following appropriate emergency treatment, anticoagulants are usually prescribed for 6 months, or indefinitely for recurrent disease. All personnel are to be awarded the limitation ‘Unfit for service outside base areas’ (MedLim 5002) whilst on oral anti-coagulant treatment. However, provided assessment is satisfactory and the patient is off treatment, an unrestricted category may be possible.

   c. Aircrew. Aircrew are to be grounded (A4) whilst taking anticoagulants. Resumption of unrestricted flying duties should be possible after completion of treatment for a single uncomplicated DVT. Recurrent DVT is rarely compatible with a return to flying duties. A single pulmonary embolism (PE) may be compatible with eventual award of A3 ‘Unfit solo pilot – must fly with a pilot suitably qualified on type’ (MedLim 2000). Recurrent PE is to be assessed A4. Significant residual limb damage (oedema, pain, ulceration) may prevent flying.

THROMBOPHILIA

11. Clinical Concerns. There is no generally agreed definition of thrombophilia but the term is used to describe patients who are at significantly increased long-term risk of venous thrombo-embolism (VTE) (e.g.
deep venous thrombosis or pulmonary embolism). Guidance regarding causes, investigation and advice is detailed at Leaflet 5-02 Annex B. Advice in relation to military air travel is detailed at Leaflet 5-02 Annex C.

12. **Employment Limitations.**

    a. **Recruit.** Recruits with a history of inheritable (familial) thrombophilia are not automatically debarred from service in the RAF. Those with a personal history of VTE have the highest risk, and are to be found unfit (P8). Recruits with known asymptomatic heritable thrombophilia but no adverse family history may be accepted (P2 L2). Those with known asymptomatic heritable thrombophilia and a positive or unknown family history of VTE, or those with acquired thrombophilia, require a Service Specialist opinion.

    b. **Serving Personnel.** Serving personnel are to be awarded a L2 medical marker if heritable thrombophilia is discovered incidentally. Those suffering a VTE should be dealt with as per the policy for VTE above.

    c. **Aircrew.** Aircrew in whom a diagnosis of thrombo-embolic disease is made are to be dealt with on a case-by-case basis. Details of their haematological status are to be obtained from their haematology consultant and their flying category is then to be decided after discussion with CFMO (RAF) and the CA in Medicine (RAF).

**VALVULAR HEART DISEASE**

13. **General.** Recruits with valvular heart disease of any aetiology will normally be considered unfit for service in the RAF (P8). Serving personnel are to be referred to a military consultant in general medicine for specialist diagnosis, follow-up and assessment of appropriate limitations. Aircrew with suspected valve disease are to be referred to a RAF consultant physician. All personnel with valve defects require antibiotic prophylaxis against infective endocarditis prior to dental or surgical procedures as detailed at Leaflet 5-02 Annex A.

14. **Specific Valve Disorders.**

    a. **Mitral Valve Prolapse (MVP).**

        (1) **Recruits.** If uncomplicated, functionally acceptable and requiring no treatment, MVP may be compatible with P2. Referral to a Physician is required. See JSP 950 Part 6 Chapter 7.

        (2) **Serving Personnel.** MVP detected in serving personnel always requires specialist assessment. Individuals with marked MVP are to be awarded the limitations 'Unfit service outside base areas' (MedLim 5002) and 'Unfit strenuous physical exertion' (MedLim 6000). Some cases of minor degree with normal ECG and no symptoms may retain a full JMES.

        (3) **Aircrew.** Individuals with marked MVP are to be awarded A3 ‘Unfit solo pilot – must fly with a pilot suitably qualified on type’ (MedLim 2000), ‘Unfit sustained accelerations exceeding +2.5Gz’ and ‘Unfit pressure breathing’ (MedLim 2004). Some cases of minor degree, with normal ECG and no symptoms, may retain a full flying JMES. Severe MVP, or MVP with complications, is a cause for permanent grounding (A4).

    b. **Aortic Valve Disease.**

        (1) **Recruits.** Recruits with a diagnosis of aortic valve disease are considered unfit for service in the RAF (P8).

        (2) **Serving Personnel.** Aortic valve disease detected in serving personnel always requires specialist assessment. Individuals are to be awarded the limitations 'Unfit service outside base areas' (MedLim 5002) and 'Unfit strenuous physical exertion' (MedLim 6000). Some individuals with mild aortic regurgitation (AR) may retain a full JMES.

        (3) **Aircrew.** Individuals with progressive AR (minimal haemodynamic effect) and very minor degrees of Aortic Stenosis (AS) are to be awarded ‘Unfit solo pilot – must fly with a pilot suitably qualified on type’ (MedLim 2000), ‘Unfit sustained accelerations exceeding +2.5Gz’ and ‘Unfit pressure breathing’ (MedLim 2004). Haemodynamically significant AR and significant
AS are causes for permanent grounding (A4). Some cases of mild AR may retain a full flying JMES.

c. **Artificial Valves.** Personnel with mechanical artificial valves require lifelong anticoagulant treatment; they are permanently unfit for aircrew duties (A4), are ‘Unfit for service outside base areas’ (MedLim 5002) and often require other limitations. A tissue graft, not requiring anticoagulation, is most unlikely to be compatible with return to flying duties. Conservative valve surgery requires individual assessment.

**CONGENITAL HEART DISEASE**

15. Congenital heart disease is generally incompatible with entry to the Service. Presentation at entry often follows surgical correction in childhood, or, if mild, may be detected for the first time. All forms require specialist assessment by a RAF consultant in general medicine before entry can be considered.

**PATENT FORAMEN OVALE**

16. **Clinical Concerns.** Prevalence studies have shown evidence of patent foramen ovale (PFO) in 17 – 27% of individuals; as such, it can be considered a normal variant. Post mortem studies revealed probe patent PFOs in 20 – 34% of individuals with decreasing prevalence with age. PFOs provide a potential right to left shunt for air bubbles if personnel experience decompression illness (DCI). There is a 5-fold increase in the relative risk of DCI for sub-aqua divers with a PFO; however, it is less clear whether there is an increase in relative risk in hypobaric DCI.

17. **Employment Limitations.**

   a. **Recruit.** Candidates with a history of an incidental finding of a PFO in the absence of any cardiovascular complications are considered fit for service in the RAF.

   b. **Serving Personnel.** In the absence of any cardiovascular complications, personnel may retain a full JMES although they should be cautioned about the risk of DCI if they participate in recreational sports diving.

   c. **Aircrew.** Aircrew candidates, or serving aircrew, who are discovered to have a PFO as an incidental finding are to be referred to a Service consultant physician for cardiac assessment. In the absence of other cardiovascular pathology, they may be awarded/retain a full JMES but should be cautioned about the risk of DCI in recreational sports diving. They may continue to undergo hypoxia experience through hypobaric chamber exposure at RAF CAM. Aircrew who are found to have a PFO during investigation for symptomatic DCI are to be referred to CA Av Med (RAF) for investigation and will be ‘Unfit solo pilot – must fly with a pilot suitably qualified on type’ (MedLim 2000), ‘Unfit routine cabin exposure > 18,000 ft (MedLim 2004) and ‘Unfit hypobaric chamber exposure (MedLim 2004). Hypoxia awareness training will be delivered at RAF CAM using reduced oxygen breathing devices at ground level. Aircrew who have had successful trans-catheter closure of a PFO may have these restrictions removed but will be awarded the restriction ‘Unfit exposure to GZ >2.5G’ (MedLim 2004) due to concerns over the shifting of the closure device in the heart septum.

**CARDIOMYOPATHIES**

18. **Clinical Concerns.** In dilated, hypertrophic and restrictive (including sarcoid - see Leaflet 5-03) cardiomyopathy there is a risk of progressive haemodynamic deterioration, emboli and sudden death, even in patients who have previously been asymptomatic.

19. **Employment Limitations.**

   a. **Recruit.** Recruits with cardiomyopathies are considered unfit for service in the RAF (P8) further detail is contained in JSP 950, Part 6, Chapter 7.

   b. **Serving Personnel.** All personnel require specialist assessment. Individuals are to be awarded the limitation the limitations ‘Unfit service outside base areas’ (MedLim 5002) and ‘Unfit strenuous physical exertion’ (MedLim 6000). Other limitations may also be required (e.g. ‘Unfit to undertake service driving’ (MedLim 1401). Controllers are to be awarded the limitation ‘Fit to control only when another qualified controller is on duty and in close proximity’ (MedLim 2101). Invaliding will be required in some cases.
c. **Aircrew.** Confirmed cardiomyopathy is rarely compatible with flying duties.

**MYOCARDITIS**

20. **Clinical Concerns.** Myocarditis is not uncommon but is frequently asymptomatic and probably often missed. Abnormal ECGs are common during acute infection and other illnesses, and may represent transient myocarditis. All individuals require specialist management. Complete recovery may occur even after severe illness, but a chronic or downhill course, possibly needing transplantation, may occur.

21. **Employment Limitations.**

   a. **Serving Personnel.** If myocarditis is suspected or diagnosed, the patient is unfit for any duty and must be referred urgently to the care of a cardiologist. Individuals are to be awarded the limitation ‘Unfit for service outside base areas’ (MedLim 5002) pending full recovery. In rare cases where cardiac transplantation is required a return to sedentary ground duties in the UK may be allowed (A4 L5 M5 E5). Invaliding may be required.

   b. **Aircrew.** Aircrew are to be grounded until full recovery is confirmed.

**CARDIAC ARRHYTHMIAS**

22. **Introduction.** The significance of cardiac arrhythmia varies from benign normal variants to life threatening abnormalities, with a significant group having a risk of incapacitation, sometimes unheralded. There have been major, and rapid, advances in understanding of causation, drug therapy and electrophysiological treatment in recent years. A policy document such as this cannot define every individual circumstance. Significant cases of arrhythmia are to be referred to an appropriate Service consultant physician for further assessment and tertiary referral as required. The many types of arrhythmia may be broadly classified into:

   a. **Bradyarrhythmias.** The ventricular rate is slow (<60 bpm) and the slower the rate the more likely the arrhythmia will be symptomatic.

   b. **Tachyarrhythmias.** The ventricular rate is fast (>100 bpm) and when fast and sustained is more likely to be symptomatic.

23. **Employment Limitations.**

   a. **Recruits.** JSP 950, Part 6, Chapter 7.

   b. **Serving Personnel.** Whilst investigations are ongoing all Service personnel are to be awarded the limitation ‘Unfit for service outside base areas’ (MedLim 5002); other restrictions may be necessary where sudden impairment of consciousness may affect safety (e.g. driving, work in confined space, work at heights).

   c. **Controllers.** In addition to the limitations at sub paragraph b, controllers personnel are to be awarded the limitation ‘Fit to control only when another controller is on duty and in close proximity’ (MedLim 2101).

   d. **Aircrew.** In addition to the limitations at sub paragraph b, aircrew are to be grounded.

**BRADYCARDIAS**

24. **Sinus bradycardia.** Sinus bradycardia is common in athletes and regular exercisers. Rates of 30-40 bpm may be seen during rest or sleep. Marked bradycardia in older, less fit persons may be due to conduction system disease or to drugs. ‘Pauses’ of 2.5 seconds or more between beats are often pathological and should be investigated. ‘Wandering pacemaker’ and various forms of junctional rhythm are quite common and usually innocent in young people.

25. **Atrio-Ventricular Conduction Disturbance.** Specialist evaluation is required in all those individuals with heart block.
a. Clinical Concerns. Third degree heart block is always significant and requires specialist evaluation. The significance of lesser degrees of heart block must be assessed individually.

b. Employment Limitations: Personnel with clinically significant heart block are to be assessed as follows:

   (1) Serving Personnel. All individuals are to be awarded the limitation ‘Unfit for service outside base areas’ (MedLim 5002); other limitations may also be necessary where sudden impairment of consciousness may affect safety (e.g. driving, work in confined spaces, work at heights).

   (2) Controllers. Individuals are to be awarded the limitation ‘Fit to control only when another suitably qualified controller is on duty and in close proximity’ (2101).

   (3) Aircrew. Aircrew are to be grounded.


   a. Right Bundle Branch Block (RBBB). Incomplete RBBB is a common finding in young adults and does not warrant investigation or restriction of duties. Complete RBBB may be associated with coronary heart disease and progressive conduction system disease; but less frequently than with LBBB. It is also associated with hypertension, congenital heart disease, valvular heart disease, myocarditis, cardiomyopathy, pulmonary embolus and cor pulmonale.

      (1) Recruits: Ground crew recruits with a normal echocardiogram are fit for service. Aircrew and controller recruits require referral to CAMS for assessment as per serving aircrew and controllers.

      (2) Serving Personnel: Initially, all Service personnel are to be made unfit service outside base areas; further restrictions may be required, depending on occupation. Those with isolated RBBB and a normal echocardiogram may be awarded an unrestricted JMES.

      (3) Aircrew and controllers: Initially, aircrew and controllers are to be made unfit service outside of base areas and unfit flying/controlling. They should then be referred to the Clinical Aviation Medicine Service (CAMS) for assessment.

      (4) The following requirements must be met before considering a return to flying/controlling duties:

         (a) Asymptomatic.

         (b) Echocardiogram - no structural or functional heart disease, no chamber dilatation and left ventricular ejection fraction >50%.

         (c) Exercise ECG - Bruce protocol to maximal effort or symptom limited for > 9 min with no rhythm or conduction abnormalities (other than RBBB).

         (d) 24h ECG – no significant rhythm or conduction abnormalities (other than RBBB).

         (e) Investigation of coronary arteries – if clinically indicated.

      (5) Aircrew and controllers under age 40y, fulfilling the criteria above, may be awarded an unrestricted JMES. They will require review at CAMS every 5 years, to include resting, exercise and ambulatory ECGs.

      (6) Aircrew and controllers over age 40y, fulfilling the criteria above, may be permitted to return to restricted duties i.e. unfit service outside of base areas and to fit to fly only with pilot suitably qualified on type/fit to control only when another controller is on duty and in close proximity. They will be reviewed at CAMS after 1 year with resting, exercise and ambulatory ECGs after which an unrestricted JMES may be possible. They will require review at CAMS every 5 years, to include resting, exercise and ambulatory ECGs.
b. **Left Bundle Branch Block (LBBB).** Left bundle branch block, including exercise-induced LBBB, is associated with coronary heart disease and progressive conduction system disease. It is also associated with hypertension, valvular heart disease, myocarditis and cardiomyopathy.

1. **Recruits:** Recruits are to be made permanently unfit service.

2. **Serving Personnel:** Initially, all Service Personnel are to be made unfit service outside base areas. Further restrictions may be required, depending on occupation. They should then be referred for cardiological assessment.

3. The following requirements must be met before considering a return to duties;
   a. Asymptomatic.
   b. Echocardiogram - no structural or functional heart disease, no chamber dilatation and left ventricular ejection fraction >50%.
   c. Exercise ECG - Bruce protocol to maximal effort or symptom limited for > 9 min with no rhythm or conduction abnormalities (other than LBBB).
   d. 24h ECG – no significant rhythm or conduction abnormalities (other than LBBB).
   e. Investigation of coronary arteries – if clinically indicated or over age 40y.
   f. Electrophysiology studies – may be necessary in those with first-degree heart block.

4. Service Personnel, fulfilling the criteria above, will require annual review with resting and exercise ECGs for the first 3y plus an echocardiogram and ambulatory ECG at 3y after which, if there is no evidence of underlying heart disease, an unrestricted JMES may be awarded. They will require review every 5 years, to include resting, exercise and ambulatory ECGs.

5. **Aircrew and controllers:** Initially, aircrew and controllers are to be made unfit service outside of base areas and unfit flying/controlling. They should then be referred to the Clinical Aviation Medicine Service (CAMS) for assessment and follow up (as per ground crew). If after initial assessment there is no evidence of underlying heart disease a return to restricted duties may be possible i.e. unfit service outside of base areas and to fit to fly only with pilot suitably qualified on type/fit to control only when another controller is on duty and in close proximity. If after 3y there is still no evidence of underlying heart disease, an unrestricted JMES may be awarded.

**TACHYCARDIAS**

27. Tachycardias are subdivided into supraventricular tachycardias and ventricular tachycardias.

**SUPRAVENTRICULAR TACHYCARDIAS:**

28. **Atrial Fibrillation (AF).** Atrial Fibrillation (AF) is the commonest arrhythmia, affecting 1-2% of the general population. The prevalence of AF increases with age (0.5% in 40-50y olds to 5-15% in 80y olds). It may occur as a single episode, related to infection, hyperthyroidism or alcohol consumption, but is more often paroxysmal (recurrent episodes <7d), persistent (>7d) or permanent (>1y). AF is associated with hypertension, structural and ischaemic heart disease, diabetes mellitus, hyperthyroidism, chronic kidney disease, obesity, sleep apnoea and chronic obstructive pulmonary disease. Lone AF is a term now rarely used and no longer distinguished from other forms of AF for the purposes of this policy. Aeromedical concerns of AF include fall in cardiac output, thrombo-embolism and the adverse effects of treatment.

a. **Employment Limitations:**
   (a) **Recruits:** All recruits with a history of AF are to be made permanently unfit service (P8).
(b) **Ground crew**: As soon as the diagnosis is suspected, all ground crew are to be made unfit service outside base areas. An unrestricted JMES may be possible for those who either:

i. Suffer a single episode of AF, have no evidence of structural or ischaemic heart disease and remain in sinus rhythm (SR) without treatment for 2 years, or.

ii. Have successful Catheter Ablation Therapy (CAT) and remain in SR and no treatment for 2 years.

iii. All other types of AF require permanent downgrading with restrictions including unfit service outside of base areas. Further restrictions may be required, depending on occupation.

(c) **Aircrew and controllers**: As soon as the diagnosis is suspected, aircrew are to be grounded and controllers made unfit controlling. Both should then be referred to the Clinical Aviation Medicine Service (CAMS).

(d) The following requirements must be met before considering a return to flying/controlling duties;

i. Initial and ongoing symptoms - mild and not incapacitating or distracting.

ii. Thyroid function tests - normal.

iii. Echocardiogram - no structural or functional heart disease, no chamber dilatation and left ventricular ejection fraction >50%.

iv. Exercise ECG - Bruce protocol to maximal effort or symptom limited for > 9 min with no rhythm, conduction or ischaemic changes.

v. 24h ECG – SR with no wake-time pauses >2.5s; Sustained AF with no marked variability in rate (RR interval 0.3-3.5s) and <2% ventricular aberrants without complex forms; Paroxysmal AF restricted to sleep-time.

vi. Other cardiac tests - may include extended ambulatory ECG monitoring, electrophysiology studies and assessment of coronary arteries.

vii. Low thrombo-embolic risk - must not be taking warfarin.

viii. Taking acceptable drugs.

(e) Aircrew, regardless of the type of AF or treatment, who fulfil the above criteria at 6m, may be considered for a restricted flying category i.e. ‘Unfit solo but fit to fly with pilot suitably qualified on type’, ‘Unfit aircraft types exceeding +2.5Gz’ and ‘Unfit service outside base areas’. Similarly, controllers satisfying the same criteria may be awarded a restricted controlling category i.e. fit to control only when another controller is on duty and in close proximity and unfit service outside base areas. Review at CAMS for both groups will initially be every 6m with 24h ECG, for a minimum of 2y.

(f) An unrestricted JMES may be possible for aircrew and controllers who suffer a single episode of AF, have no evidence of structural or ischaemic heart disease and remain in SR without treatment for 2 years, particularly, when precipitating factors have been identified and managed e.g. infection, hyperthyroidism or alcohol.
(g) Catheter ablation therapy for AF is associated with approximately a 5% per annum recurrence rate at 2 years and beyond, therefore, aircrew undergoing such treatment will be unfit solo flying and controlling. However; if after two years they remain well, in SR and on no medication they may have the limitation of ‘Unfit service outside base areas’ removed. The A3 limitation ‘as or with’ will remain.

29. **Atrial Flutter.**

a. **Clinical Concerns.** The main concerns are the potential for 1:1 AV conduction (i.e. extreme tachycardia) and the fact that flutter is usually associated with underlying heart disease.

b. **Employment Limitations:**

1. **Service Personnel.** Individuals are to be awarded the limitation ‘Unfit for service outside base areas’ (MedLim 5002); other restrictions may be necessary where sudden impairment of consciousness may affect safety (e.g. driving, work in confined spaces, work at heights).

2. **Controllers.** Atrial Flutter is disqualifying for solo aircraft controlling duties. A return to restricted controlling duties (e.g. ‘Unfit solo controlling’ and ‘Unfit service outside base areas’) may be possible after successful RF flutter circuit ablation therapy in individuals with otherwise normal hearts.

3. **Aircrew.** Atrial Flutter is disqualifying for all flying duties. A return to restricted flying duties (e.g. ‘Unfit solo pilot/WSO’, ‘Unfit flying in aircraft types exceeding +2.5Gz’ and ‘Unfit service outside base areas’ may be possible after successful RF flutter circuit ablation therapy in individuals with otherwise normal hearts.

30. **Re-Entrant Supraventricular Tachycardia.**

a. **Clinical Concerns.** Clinical concerns include:

1. The presence of an AV accessory pathway facilitates re-entrant tachycardia of sudden and unpredictable onset and which may be associated with high heart rates.

2. May be distracting.

3. May be associated with reduced cardiac output, haemodynamic symptoms, reduced exercise and G-tolerance.

b. **Employment Limitations.**

1. **General.**

   a. Re-Entrant Supraventricular Tachycardia is disqualifying for all flying duties and for solo aircraft controlling duties. Individuals are to be awarded the limitation ‘Unfit for service outside base areas’ (5002); other restrictions may be necessary where sudden impairment of consciousness may affect safety (e.g. driving, work in confined spaces, work at heights).

   b. A return to limited duties may be possible if electrophysiological studies, with successful RF ablation therapy if required, indicate that there is no future risk of incapacitating arrhythmia.

2. **Service Personnel.** Provided the conditions of sub-paragraph 30b(1)(b) are met, a return to an unrestricted JMES is appropriate.
(3)  **Controllers.** Provided the conditions of sub-paragraph 30b(1)(b) are met, a return to an unrestricted controlling JMES is appropriate.

(4)  **Aircrew.** Provided the conditions of sub-paragraph 29b(1) are met, a return to an unrestricted flying JMES is appropriate.

31. **Wolff-Parkinson-White (WPW) Syndrome.**

a. **Clinical Concerns.** The presence of an A-V accessory pathway whose potential for facilitating incapacitating re-entrant tachycardia is unknown without full electrophysiological assessment.

b. **Employment Limitations.**

(1)  **Service Personnel.** Individuals are to be awarded the limitation ‘Unfit for service outside base areas’ (MedLim 5002); other restrictions may be necessary where sudden impairment of consciousness may affect safety (e.g. driving, work in confined spaces, work at heights). Post-electrophysiological study (EPS) and confirmation of benign pathway characteristics an unrestricted JMES is appropriate. Post successful RF ablation an unrestricted JMES is appropriate.

(2)  **Controllers:** WPW is disqualifying for selection to aircraft controlling duties. However, in a trained controller and with CA Med's (RAF) recommendation, a return to limited duties may be possible if the following criteria are met:

   (a)  New finding with no history of tachyarrhythmia.

   (b)  Satisfactory evaluation with exercise ECG and 24 hr Holter.

(3)  Post-electrophysiological study (EPS) and confirmation of benign pathway characteristics an unrestricted controlling JMES is appropriate. Post-successful RF ablation an unrestricted controlling JMES is appropriate.

(4)  **Aircrew.** WPW is disqualifying for selection to flying duties. However, in a trained aviator and with CA Med's (RAF) recommendation, a return to limited duties may be possible if the following criteria are met:

   (a)  New finding with no history of tachyarrhythmia.

   (b)  Satisfactory evaluation with exercise ECG and 24 hr Holter.

(5)  Post-electrophysiological study (EPS) and confirmation of benign pathway characteristics an unrestricted flying JMES is appropriate. Post-successful RF ablation an unrestricted flying JMES is appropriate.

**VENTRICULAR ARRHYTHMIAS.**

32. **Ectopics.** Single ventricular ectopic (VE) beats are common. Frequent VE are arbitrarily defined as 3 or more ectopics per minute. A single VE on a standard ECG recording over 12 seconds may be ignored. If 2 or more VEs occur, a rhythm strip must be obtained.

a. **Clinical Concerns.** All cases except single VEs as above require full specialist evaluation. Greater frequency (such as bigeminy, trigeminy, multifocality, doublets), are more likely to have an adverse administrative outcome.
b. Employment Limitations:

(1) **Service Personnel.** Individuals are ‘Unfit service outside base areas’ (MedLim 5002) and other restrictions may be necessary where sudden impairment of consciousness may affect safety (e.g. driving, work in confined spaces, work at heights etc).

(2) **Aircrew and controllers.** Continuation of flying or aircraft controlling duties depends on the exclusion of underlying heart disease. Lengthy follow-up may be required.

TACHY-ARRHYTHMIAS.

33. **Clinical Concerns.** All cases require full specialist evaluation.

34. Employment Limitations:

a. **Service Personnel.** Ventricular Tachyarrhythmia is disqualifying for flying duties and for solo aircraft controlling duties. A return to limited duties may be possible in a healthy individual with no demonstrable heart disease who has had a non-sustained, asymptomatic and self limiting salvo of ventricular tachycardia, e.g. during exercise or G-induced stress.

35. **Brugada Syndrome**

a. **Introduction.** Brugada Syndrome was first described in 1992; it is a condition that affects the sodium channels in the myocardial membrane and is associated with sudden cardiac death due to polymorphic ventricular tachycardia and ventricular fibrillation. It has a prevalence rate of 5/10,000 and is commonest in SE Asia. The condition occurs in structurally normal hearts, although there is occasional overlap with arrhythmogenic right ventricular cardiomyopathy (ARVC). The ECG in Brugada Syndrome shows changes in the ST segment and T waves; there are 3 Types differentiated by the precise forms of ECG abnormality. Investigation of the syndrome may involve an ajmaline challenge to assess conversion of Types 2 and 3 to Type 1 which may be indicative of greater risk of death.

b. **Clinical Concerns.** 20% of patients develop supraventricular arrhythmias and VF. The mean age of cardiac death is 40 years and this usually occurs at night. Patients with spontaneous Type 1 changes and a history of syncope are at higher risk of cardiac arrest.

c. **Employment Limitations and Assessment.**

(1) **Recruits.** Recruit candidates with a diagnosis of Brugada Syndrome are to be assessed unfit for service in the RAF (P8).

(2) **Serving Personnel.**

(a) **Type 1.** Personnel with symptomatic or asymptomatic Type 1 Brugada Syndrome are to be awarded the limitation ‘Unfit for service outside Base Areas’ (MedLim 5002). Electrophysiological studies may be indicated to determine the need for an implantable cardiac defibrillator (ICD). Aircrew are to be awarded A4.

(b) **Types 2 and 3.** Personnel with Type 2 or Type 3 Brugada Syndrome and a positive ajmaline challenge are to be awarded the limitation ‘Unfit for service outside Base Areas’ (MedLim 5002). Personnel with a negative ajmaline challenge may retain an unrestricted JMES but will require echocardiography, cardiac MRI and 24 hr ECG monitor to exclude ARVC. Aircrew with Type 2 or Type 3 Brugada Syndrome and a positive ajmaline challenge are to be awarded A4. Aircrew with a negative ajmaline challenge may retain an unrestricted JMES but will also require investigation to exclude ARVC.
LEAFLET 5-02 ANNEX A: CARDIOVASCULAR SYSTEM - HISTORY AND EXAMINATION

1. Standard history taking should be directed at past medical history and relevant symptoms as detailed below:
   a. History of cardiac murmur, cardiac investigation and/or specific cardiac diagnosis.
   b. History of cardiac surgery/transcatheter interventional technique.
   c. Drug treatment, e.g. prophylaxis against infective endocarditis.
   d. Effort intolerance, palpitation, syncope, cardiac pain.
   e. Acute rheumatism (rheumatic fever, chorea) now very rare; all cases require specialist referral.
   f. Family history of premature or sudden cardiac death (HOCM, Marfan’s).

2. A history of possible or actual heart disease should be corroborated by obtaining reports, copies of hospital discharge summaries, and hospital letters from the candidate’s general practitioner. These papers should be forwarded with the FMed 144 if referral for specialist opinion regarding fitness for entry is considered appropriate.

3. On auscultation, many candidates have a cardiac systolic murmur, usually of the characteristic ‘physiological’ type. Candidates for aircrew, Aircraft control duties must be referred for specialist opinion. Other candidates should be referred if there is the least question that the murmur is not physiological. A diastolic murmur is always pathological and necessitates referral. Systolic sounds or clicks, giving a triple rhythm effect, may be the only evidence of bicuspid aortic valve (2% of male population) or mitral valve prolapse (see below).

4. When recording blood pressure, the diastolic pressure is at the disappearance of the Korotkov sounds (stage 5). If Korotkov sounds remain audible down to 0 mm Hg, the level at which the Korotkov sounds become muffled should be recorded (stage 4) e.g. 130/70/0 mm Hg. Care should be taken to avoid artefacts arising from use of faulty/uncalibrated sphygmomanometers or incorrect cuff sizes.

5. Routine electrocardiograms (ECGs) are required as part of the initial and subsequent routine assessment of aircrew and air-traffic controllers (see Lflt 3-01). Exercise ECGs require specialist medical monitoring and are not performed routinely - they are not to be attempted in stn medical centres. Recording of ECGs for clinical purposes may be appropriate but are not to be transmitted over the RAF ECG Management System without the prior agreement of a consultant physician who is willing to read it.

ASSESSMENT OF CARDIOVASCULAR RISK FACTORS

6. Assessment of cardiovascular risk factors is an important consideration when conducting any cardiovascular assessment. Genetic, environmental and other factors remain important contributors to cardiovascular disease throughout a Service person’s career and it is essential that these be reduced or avoided wherever possible. In particular, the following should be addressed:
   a. Action should be taken to control abnormal blood lipids (see below). Blood lipids are measured routinely on aircrew and air-traffic controllers but should be considered for all personnel every 5 years, especially when other risk factors for ischaemic heart disease are present.
   b. Tobacco, especially cigarette and cigar smoking, is a major but completely avoidable risk factor for coronary and other cardiovascular diseases. As it contributes to so many other lethal or disabling conditions as well, the tobacco habit should be strongly discouraged in all personnel but particularly in aircrew.
   c. Physical inactivity and excess body weight contribute to cardiovascular disease. Frequent vigorous exercise, a lean physique and a ‘prudent’ diet, restricting saturated fat, should be encouraged.
d. A ‘safe’ alcohol intake of 21 U/wk for men and 14 U/wk is often quoted. However, even these quantities of alcohol may contribute to being overweight, hypertension, gout and other disorders in susceptible individuals.

e. Candidates with multiple cardiovascular risk factors should be referred for specialist assessment.

**Traditional risk factors for CVD**

<table>
<thead>
<tr>
<th>Risk factor</th>
<th>Intervention</th>
<th>Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lifestyle</td>
<td>Diet, exercise</td>
<td>Normal BMI</td>
</tr>
<tr>
<td>Smoking</td>
<td>Counselling</td>
<td>Cessation</td>
</tr>
<tr>
<td></td>
<td>Nicotine replacement therapy</td>
<td></td>
</tr>
<tr>
<td>Lipid profile</td>
<td>Statin if 10 yr CVD risk&gt;20% (Joint British Society Guidelines)</td>
<td>Total cholesterol &lt; 4 mmol/l or a reduction of 25% from baseline, which ever is the greatest</td>
</tr>
<tr>
<td></td>
<td></td>
<td>LDL cholesterol &lt; 2 mmol/l or a reduction of 30% from baseline, which ever is the greatest</td>
</tr>
<tr>
<td>Blood pressure</td>
<td>ACEi or ARB</td>
<td>&lt; 140/90</td>
</tr>
<tr>
<td></td>
<td></td>
<td>&lt; 130/80 if diabetic or significant proteinuria¹¹³</td>
</tr>
<tr>
<td>Diabetes</td>
<td>Diabetic treatment</td>
<td>HbA1c 6.5-7.5%</td>
</tr>
</tbody>
</table>

¹¹³ proteinuria>1g/d or urine protein / creatinine ratio >100g/mol
LEAFLET 5-02 ANNEX B: THROMBOPHILIA

1. **Introduction.** There is no generally agreed definition of thrombophilia but the term is used to describe patients who are at significantly increased long-term risk of venous thromboembolism (VTE) (e.g. deep venous thrombosis or pulmonary embolism). Such individuals can be identified by clinical and/or laboratory criteria. These include a history of VTE which has arisen spontaneously (or after minimal provocation), has first occurred at a young age, or is recurrent. Laboratory criteria which are met in only 50% of patients are based on an identifiable abnormality of the haemostatic system associated with an increased risk of VTE. It should be recognised however that many people with a laboratory abnormality never experience a venous thrombosis.

2. The source for the information contained within this leaflet is the British Heart Foundation in association with the British Cardiac Society which compiled the information with the advice of a wide spectrum of doctors, including general practitioners.

**THE CAUSES OF THROMBOPHILIA**

3. **Heritable Thrombophilia.** Many of the causes of a long term increased risk of venous thrombosis have been associated with an heritable abnormality of one of the following plasma proteins:

<table>
<thead>
<tr>
<th>Plasma Protein</th>
<th>Increased risk of thrombosis</th>
<th>Prevalence in patients with VTE (%)</th>
<th>Prevalence in normal population (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Factor V Leiden heterozygous*</td>
<td>3-8 x</td>
<td>25-0</td>
<td>5.0</td>
</tr>
<tr>
<td>Prothrombin G20210A</td>
<td>3 x</td>
<td>6</td>
<td>2.0</td>
</tr>
<tr>
<td>Antithrombin deficiency</td>
<td>25-50 x</td>
<td>1</td>
<td>0.02</td>
</tr>
<tr>
<td>Protein C deficiency</td>
<td>10-15 x</td>
<td>3</td>
<td>0.3</td>
</tr>
<tr>
<td>Protein S deficiency</td>
<td>10 x</td>
<td>3</td>
<td>2.0</td>
</tr>
<tr>
<td>Dysfibrinogenaemia</td>
<td>Variable</td>
<td>Low</td>
<td>Rare</td>
</tr>
</tbody>
</table>

* Factor V Leiden homozygous individuals have an 80 x risk of VTE

In addition to the above single gene abnormalities, plasma factor VIII and homocysteine levels are partly regulated by heritable factors and are associated with an increased incidence of venous thrombosis.

4. **Acquired Thrombophilia.** The principle acquired thrombophilia abnormality is the antiphospholipid antibody which can be associated with both venous and arterial thrombosis. The antiphospholipid antibody can be 'primary' when it is only associated with venous (or arterial) thrombosis (and is also associated with recurrent first trimester abortions). The antibody is described as ‘secondary’ when it is found in conjunction with other conditions e.g. collagenosis, SLE. This antibody is characterised either by its ability to inhibit platelet dependent coagulant reactions (when it is known as the lupus anticoagulant), or as an anti-cardiolipin antibody (detected by its binding in vitro to cardiolipin).

5. In addition to the above long term factors predisposing to VTE there are many other situations when there is an increased risk of VTE, e.g. the combined contraceptive pill, HRT, obesity, malignancy and chronic inflammatory conditions. In these situations there are often several general pathological mechanisms contributing to the thrombotic tendency.
6. **Considerations Prior to Investigations.** Before laboratory investigation of a patient, or family, is undertaken the following considerations need to be taken into account:

   a. The patient needs to appreciate the nature and limitations of the investigations. Furthermore it is important to know what advice should be given if an abnormality is identified.

   b. The laboratory results may be affected by other medical conditions and medication, for example, liver disease, pregnancy, the combined oral contraceptive pill or anticoagulants.

   c. The identification of a laboratory thrombophilic abnormality will not usually influence a patient’s immediate treatment for venous thrombosis but may be of value in preventing further thrombosis and in counselling other family members so as to reduce their risk of a thrombotic episode. This is particularly applicable to women who are contemplating pregnancy so as to offer the most appropriate advice to reduce the risk of pregnancy-associated venous thromboembolism (the commonest cause of pregnancy related death).

   d. It must be appreciated that for an individual who has had a spontaneous DVT there may be heritable defects that have not yet been discovered: therefore a normal thrombophilia screen does not imply either a ‘normal’ or no increased risk of thrombosis in the future or in another family member.

7. **Further Advice.**

   a. Advice should be given to reduce appropriate background ‘acquired’ risk factors, e.g. consider carefully use of the combined oral contraceptive pill or hormone replacement therapy.

   b. Individuals may need to take extra anti-thrombotic precautions in ‘high risk’ situation, e.g. after major surgery and during long journeys.

   c. Women should seek specialist advice about risks and precautions in pregnancy; if possible pre-pregnancy counselling should be offered.

   d. Consider which family members should be investigated and how this might be arranged. Patients should only be offered long-term anticoagulation or anti-platelet therapy if the benefits outweigh the potential risks of serious haemorrhage.
LEAFLET 5-02 ANNEX C: VENO THROMBOEMBOLISM (VTE) AND TRAVEL IN MILITARY AIRCRAFT

INTRODUCTION

1. Veno-thromboembolism encompasses both deep vein thrombosis (DVT) and pulmonary embolus (PE). There has been considerable publicity concerning VTE and air travel. There is evidence for the association between prolonged immobility and VTE although whether there is a specifically increased risk in air travel remains controversial. This Annex offers guidance to MOs on the question of deep VTE and travel in military aircraft.

BACKGROUND

2. While there is some evidence that long periods of immobility in cramped conditions may predispose to VTE, it is not known whether there is a true association between VTE and flying as a passenger in an aircraft. Cases of VTE after long haul flights were first reported in the early 1950s. Some studies have identified a correlation between air travel and an increased risk of DVT while others have found no evidence of an increased incidence. Recent literature reviews show an increased incidence only with flights that are in excess of 8 – 10 hours duration and, on best available evidence, the risk of VTE following flights in excess of 12 hours may be around 0.5%.

3. There is uncertainty over whether air travel per se is a causative factor, or whether sitting still in an aircraft seat, sometimes in a cramped position, is the operative factor in causation. There is conflicting evidence on whether the hypobaric and mild hypoxic environment, inherent in air travel, cause endothelial alteration or activation of the coagulation cascade. Overall it seems the current verdict on the relationship between VTE and airline travel per se remains one of ‘not proven.’

GUIDANCE

4. **General.** Military personnel, many of whom travel on long haul flights, will continue to seek guidance from their MO, as to what precautions, if any, should be taken to avoid VTE on long haul flights. Despite the lack of solid evidence, MOs are advised to recommend the simple prophylactic measures outlined below:

   a. Drink plenty of clear non-alcoholic fluids, before and during flight.

   b. Support the neck with a shaped pillow.

   c. Move about the aircraft cabin as much as possible and carry out the following exercises regularly (at least twice an hr):

      1. Regular isometric muscle contractions of the calf muscles.
      2. Tense the thigh muscles regularly and avoid crossing your legs.
      3. Bend each knee one at a time and clasp it to your chest.
      4. Stretch the arms and slowly rotate the shoulders.
      5. Slowly rotate the head, carefully stretching the neck in all directions.

   d. Where possible, wear loose fitting clothing during flight, avoiding garments that cause constriction around the abdomen, pelvis and upper thighs.
5. **Compression Stockings.** The use of below-knee, graduated compression stockings (GCS) has not been shown to reduce the chances of VTE, although it has been suggested that they may do so. They will however, improve comfort in the feet and lower legs on a long journey and they reduce the swelling in the feet and ankles brought on by fluid retention. They can be purchased commercially and re-used after hand washing; however, it is important that they provide 15 – 30 mm HG pressure at the ankle and be worn correctly. If not worn correctly, then the risk of DVT may increase.

6. **Patients at Increased Risk.** A small number of individuals may have an increased risk of VTE. As general guidance, such individuals may fall into a low or a high risk group as detailed below:

   a. **Low Risk Group.** Those individuals:
      
      (1) Who take the oral contraceptive pill.
      
      (2) With varicose veins.
      
      (3) Who are obese.
      
      (4) With recent lower limb trauma.
      
      (5) Who are pregnant or during post-natal period.

   b. **High Risk Group.** Those individuals with:
      
      (1) A previous history of VTE.
      
      (2) Malignancy.
      
      (3) Recent major surgery.
      
      (4) Cardiovascular disease.
      
      (5) Relatively rare medical conditions (such as nephrotic syndrome and antiphospholipid syndrome).
      
      (6) Genetic or acquired hyper-coagulability conditions.

   Although many of the high risk conditions will not apply to Service personnel travelling as duty passengers, they may apply to aeromedically evacuated patients. Hyper-coagulability includes Factor V Leiden and subsequent resistance to activated protein C, the most common cause of inherited venous thrombosis. This condition occurs in up to 5% of the general population and 20% of those presenting with VTE.

**ACTION**

7. In order to protect Service personnel from the potential risk of VTE, the general advice detailed within this Annex, concerning mobility, exercises and the possible use of compression stockings is sufficient for the majority of Service personnel who fly as passengers on military aircraft. The following actions are to be taken:

   a. All personnel who fly in military aircraft will be given the advice detailed at paragraphs 4-5, by the Defence Transport and Movement Agency when they join the aircraft.

   b. For the low risk group the advice given above should be made available and reinforced. There is no evidence that low dose aspirin is of prophylactic value in the low risk group and it is no longer recommended. Indeed, aspirin may be harmful.

   c. For the high risk group, careful consideration of the need to fly is to be made by the MO. If travel by air is believed necessary, then a low molecular weight heparin (LMWH) should be considered on any long haul flight for members of this group. This decision is to be made by the patient’s MO in conjunction with a hospital specialist. End stage renal impairment is a contraindication to LMWH and standard un-fractionated heparin may be safer. The advantage of the LMWH is that when used for
prophylaxis, it needs no monitoring except in pregnancy and renal failure. The risk of bleeding is very low with prophylactic doses and if bleeding occurs it can be reversed to some extent with protamine.

**ADVICE ON MILITARY FLYING**

8. The Defence Transport and Movements Agency have produced passenger advice sheets, incorporating the advice detailed in this Annex which will be issued to all personnel travelling in military aircraft. The advice will be made available to all passengers, either immediately before boarding, or immediately after boarding the aircraft.

**SUMMARY**

9. Service personnel should be reminded that VTE is unlikely and therefore general advice is all that is required in fit and relatively young individuals; the group into which most Service personnel fall. The small numbers at increased risk of VTE should be identified by their MO and given the appropriate advice. Most of these will fall into the low risk group. Those in the high risk group will need more detailed assessment, as defined at paragraph 7c. Further advice may be sought from DACOS Av Med.
LEAFLET 5-02 ANNEX D: PROPHYLAXIS AGAINST INFECTIVE ENDOCARDITIS

1. Infective endocarditis remains a dangerous disease despite modern treatment. Cases may arise on apparently trivial, often unrecognized cardiac lesions; the following cardiac conditions are recognised as being at risk of developing infective endocarditis:
   a. Acquired valvular heart disease with stenosis or regurgitation.
   b. Valve replacement.
   c. Structural congenital heart disease including surgically corrected or palliated structural conditions but excluding isolated atrial; septal defect, fully repaired ventricular septal defect or fully repaired patent ductus arteriosus and closure devices that are judged to be endothelialised.
   d. Hypertrophic cardiomyopathy.
   e. Previous infective endocarditis.

2. Prophylactic antibiotics have previously been offered to such patients undergoing dental or minor surgical procedures but there is little evidence to support this practice or the association between such interventional procedures and infective endocarditis. The diagnosis of a cardiac lesion potentially liable to infective endocarditis is most often made by a specialist. Personnel at increased risk of infective endocarditis are to be offered clear and consistent advice on prevention including:
   a. The benefits and risks of antibiotic prophylaxis and an explanation of why antibiotic prophylaxis is no longer recommended.
   b. The importance of maintaining good oral hygiene.
   c. The symptoms that may indicate infective endocarditis and that they should seek medical advice.
   d. The risks of undergoing invasive procedures including non-medical procedures such as body piercing or tattooing.

3. Antibiotic prophylaxis should not be offered in the following circumstances:
   a. Personnel undergoing dental procedures.
   b. Personnel undergoing procedures on the upper and lower gastrointestinal tracts; the genitourinary tract including urological, gynaecological and obstetric procedures including childbirth; and the upper and lower respiratory tract including ENT procedures and bronchoscopy.

4. Episodes of infection in personnel at risk of infective endocarditis are to be treated promptly to reduce the risk of endocarditis developing.
LEAFLET 5-03: RESPIRATORY SYSTEM

INTRODUCTION

1. This Lflt gives details on the assessment and management of recruits and serving personnel with common and important respiratory disorders and should be read in conjunction with the JSP 950, Part 6, Chapter. 7. When specialist advice is considered necessary, personnel are to be referred to the nearest military consultant in general medicine who may organise a tertiary referral to the RAF Consultant Advisor in Chest Diseases at the Royal Brompton Hospital’s National Heart and Lung Institute, if considered appropriate.

ASTHMA

2. Clinical Concerns.

   a. Asthma has a spectrum of presentations from a single mild and unrepeated attack, through chronic disability, to death. It has three characteristics:

      (1) Airways narrowing (usually reversible spontaneously or with treatment).

      (2) Airways hyper-responsiveness (to a wide range of stimuli).

      (3) Inflammation of the bronchi.

      Precipitating factors include occupational sensitizers (over 200 workplace materials known to induce), non-specific factors (e.g. cold air, exercise, atmospheric pollution, stress, drugs) and allergens.

   b. Temporary bronchial hyper-responsiveness may be induced by infection of the respiratory tract. Affected individuals are to be re-assessed in order that they are not labeled inappropriately as asthmatic.

   c. The severity of the condition is unpredictable and highly variable. Respiratory difficulty may be sudden, unexpected and difficult to manage. Following a symptom-free period in their teenage years, a high proportion of those who present with childhood asthma will relapse in later life which would have implications for employability and deployability.

3. Assessment. There is a wide spectrum of severity of the clinical condition and it is important to distinguish asthma from non-specific wheezing and post infective bronchial lability which may be further complicated by the inappropriate prescription of sympathomimetic inhalers to children. Assessment requires:

   a. A full clinical history and examination. Key questions to be answered are:

      (1) Is the candidate currently on any treatment for asthma?

      (2) Has the candidate had any asthmatic symptoms including nocturnal cough or exercise-induced wheezing in the past 5 years or since the age of 16 years?

      (3) Has the candidate used any inhaler (continuously or intermittently) for control of asthma or wheeze for a period > 8 weeks in the 5 years before application?

      (4) Has the candidate required oral steroids for asthma or wheeze since the age of 5 years?

      (5) Has the candidate required admission to an intensive care unit for asthma at any time in their life?

      (6) Has the candidate required a hospital admission > 24 hours for asthma or wheeze since their 5th birthday?

   b. A positive answer to any of the questions at 3a (1) – (6) will make a candidate unfit; a questionnaire for completion by candidates is at Annex A to this Lflt. Additional exclusion criteria are outlined in paragraph 4a (candidates for ground based branches and trades) and paragraph 4b (aircrew candidates). In cases where there is uncertainty, candidates may be referred to the RAF.
Asthma Clinic at Chelsea and Westminster Hospital by OC R&SDOM for further assessment, which is to include:

1. Full pulmonary function tests (spirometry and reversibility, lung volumes and transfer factor).
3. Allergy skin prick test to the basic allergen panel of house dust mite, grass, tree pollen and aspergillus; further tests may be required if the history suggests other potential allergen.
4. Exhaled nitric oxide level.
5. Total IgE.
6. An exercise test to assess whether there is a post-exercise dip in PEFR > 15%.

4. Employment Limitations. The following limitations apply:

a. Recruit. Candidates who apply for ground based branches and trades who give a positive response to any of the questions at paragraph 3a (1) – (6) are to be assessed unfit for Service in the RAF (P8). A flow diagram for the management of non aircrew candidates with a history of asthma is at Annex C. Candidates assessed at the RAF Asthma Clinic (paragraph 3b) with normal pulmonary function tests, a methacholine challenge test > 8 mg/ml\(^{114}\) and no aspects of the history or examination suggestive of exclusion criteria, ongoing symptoms or a propensity to asthma may be awarded P2.

b. Aircrew at Selection:

1. All aircrew candidates, whether direct entrant or serving, with a current or past history of asthma are to be made permanently unfit for aircrew duties.

2. Candidates with a history or past history of a single episode of wheeze in association with a respiratory tract infection after their 5th birthday are to be referred for specialist assessment in accordance with paragraph 1. Those with a negative assessment on formal testing in accordance with paragraph 3b\(^{115}\) may be acceptable for aircrew selection. A flow diagram for the management of aircrew candidates is at Annex D to this Lift. Those with demonstrable bronchial hyper-responsiveness after the infection has resolved are to be made permanently unfit for aircrew duties.

c. Serving Personnel. Whilst investigations are ongoing all service personnel (including those who experience a single episode of wheeze associated with a respiratory tract infection) are to be referred for full assessment in accordance with paragraph 1 and awarded a JMES of L3 ‘Unfit for service outside base areas’ (MedLim 5002). In addition, aircrew are to be made unfit flying duties and Ops Spt (ATC) are to be awarded the limitation ‘unfit solo controlling duties’. The following regulations are to be applied where applicable:

1. Seasonal Asthma. Individuals suffering from seasonal asthma which occurs in the summer and for periods of less than 6 months which is either mild, or is well controlled on inhaled steroids, (i.e. there are no exercise induced symptoms, no symptoms wearing a respirator and no acute severe symptoms) may be awarded an unrestricted JMES.

2. Single Episode of Acute Severe Asthma. Individuals suffering a single episode of acute severe asthma (peak flow less than 50% of normal) are to be assessed E5 ‘Unfit for service outside base areas’ (MedLim 5002) UK only, for one year. After this they may be E3 ‘Unfit for service outside base areas’ (MedLim 5002).

3. Asthmatics on Step 1\(^{116}\) and 2.

\(^{114}\) Methacholine challenge test > 16 mg/ml for applicants applying to be a Fireman.

\(^{115}\) Methacholine challenge test result is to be > 16mg/ml for aircrew candidates.

(i) **Service Personnel (including Aircrew and Ops Spt (ATC)).** Individuals are to be awarded the limitation ‘Unfit for service outside base areas’ (MedLim 5002), but may be allowed to proceed on detachments for up to 42 days. Once the condition is stable an unrestricted JMES may be possible, providing that:

(a) The individual has had no acute episodes over a period of 6 months or more.

(b) The individual has normal lung function tests (defined as a normal peak flow diary over a one month period, a FEV1/FVC ratio ≥75% and a PEFR ≥80% of predicted).

(c) The individual has had no exercise induced symptoms and no symptoms whilst wearing a respirator.

In cases of doubt, individuals are to be referred for Service specialist opinion.

(ii) **Aircrew.** In addition to the limitations detailed at sub-paragraph (a), aircrew are to be awarded the limitation ‘unfit solo pilot – must fly with a pilot suitably qualified on type’. Once the condition is stable aircrew may be awarded an A3 medical category with the limitation of ‘Unfit wet stass’ (2004), providing that the criteria in sub – paragraph (a) are met.

(iii) **Air Traffic Control.** In addition to the limitations detailed at sub – paragraph (a), individuals are to be awarded the limitation ‘unfit solo controlling’. Once the condition is stable an unrestricted JMES may be possible, providing that the criteria in sub – paragraph (a) are met.

(4) **Asthmatics on Step 3.**

(i) **Service Personnel (including Aircrew and Ops Spt (ATC)).** Individuals are to be awarded the limitation ‘unfit for service outside base areas’. Additional limitations may also be required (see below). Once the condition is stable an unrestricted JMES may be possible (L2), providing that:

(a) Step 3 was their initial treatment.

(b) The individual has had no acute episodes over a period of 6 months or more.

(c) The individual has normal lung function tests (defined as a normal peak flow diary over a one month period, a FEV1/FVC ratio ≥75% and a PEFR ≥80% of predicted).

(d) The individual has had no exercise induced symptoms and no symptoms whilst wearing a respirator.

(e) In cases of doubt, individuals are to be referred to a Service specialist.

(ii) **Aircrew.** In addition to the limitations detailed at sub – paragraph (a), aircrew are to be awarded the limitation ‘unfit solo pilot – must fly with a pilot suitably qualified on type’ and ‘unfit sustained accelerations exceeding +2.5Gz’ (code 074) and ‘unfit pressure breathing’, ‘Unfit wet stass’ (MedLim 2004). Once the condition is stable an unrestricted JMES may be possible, providing that the criteria in sub – paragraph (a) are met.

(iii) **Air Traffic Control.** In addition to the limitations detailed at sub – paragraph (a), individuals are to be awarded the limitation ‘Fit to control only when another qualified controller is on duty and in close proximity (MedLim 2101). Once the condition is stable an unrestricted JMES may be possible, providing that the criteria in sub – paragraph (a) are met.

(5) **Asthmatics on Step 4 and 5.**
i Service Personnel (including Aircrew and Ops Spt (ATC)). Individuals are to be awarded the limitation ‘Unfit for service outside base areas’ (MedLim 5002); exceptions are not permitted. Additional limitations may also be required (see below).

ii Aircrew. In addition to the limitations detailed at sub – paragraph (a), aircrew are usually to be grounded.

iii Air Traffic Control. In addition to the limitations detailed at sub – paragraph (a), individuals are to be made ‘Fit to control only when another qualified controller is on duty and in close proximity’ (MedLim 2101). In severe cases individuals may be ‘Unfit aircraft controlling duties’ (MedLim 2100).

5. Additional Limitations. In addition to the limitations above, the following limitations should be considered:

   a. All Service Personnel:

      (1) Confined Spaces. Individuals with asthma may be unfit to work in confined spaces, see Lftt 3-04, Annex K.

      (2) Climatic Limitations. An E3 climatic limitation may be required if the asthma is triggered by exposure to cold air.

      (3) Respiratory Irritants. Care must be exercised in assessing the fitness of individuals for exposure to respiratory irritants in training (i.e. CS gas). There use is not absolutely contraindicated; however, personnel with an adverse previous exposure history or poor asthma control (Steps 3, 4 and 5) should not be exposed (see Lftt 3-04, Annex C).

      (4) Strenuous Physical Exertion. Individuals with asthma may be unfit strenuous physical exertion.

   b. Aircrew:

      (1) Rapid Decompression. Asthmatics may be deemed fit provided their chest X-ray is normal, there is no measurable hyper-responsiveness, their exercise test is negative and there is no excessive diurnal variability.

      (2) STASS. A past history or diagnosis of asthma precludes wet STASS training. However, dry training presents no risk.

SPONTANEOUS PNEUMOTHORAX

6. Introduction. Over 90% of patients presenting with spontaneous pneumothorax are under 40 years of age and 75% are under 25. Tension pneumothorax develops in 5%. Recurrence rates without definitive treatment are 30% after a first occurrence, 50% following a second and 80% after a third.

7. Clinical Concerns. Acute pneumothorax may cause acute chest pain and shortness of breath. Symptoms are aggravated in flight, worsening as ambient pressure falls. Tension pneumothorax is potentially life threatening.

8. Limitations.

   a. Recruit. Candidates with a history of spontaneous pneumothorax are to be referred for specialist opinion in accordance with paragraph 1. Acceptability will depend on type of treatment given, number of occurrences and time elapsed since the last occurrence. Further detail is contained in JSP 950 Part 6, Chapter. 7.

   b. Serving Personnel. In view of the risk of recurrence, ground personnel should be downgraded A5 E5 for 1 month, followed by A4 E5 for 17 months after initial pneumothorax. A recurrent or bilateral pneumothorax is an indication for definitive treatment and such personnel should be referred in accordance with paragraph 1.
c. Aircrew. A history of pneumothorax, whether treated or not, is a bar to selection for flying duties. All serving aircrew who have had a single spontaneous pneumothorax require definitive treatment and should be referred in accordance with paragraph 1 before returning to flying duties. Because of the risk of recurrence following pleurodesis the treatment of choice is pleurectomy. Aircrew should be fit to return to flying duties with a L2 medical marker 3 months after successful pleurectomy.

TRAUMATIC PNEUMOTHORAX

9. Trauma to the chest wall can cause a leak into the pleural space which may be due to penetration of the chest wall, fractured rib(s) or blunt trauma to the lung tissue. The risk of recurrence after initial treatment is minimal in the absence of underlying lung pathology. Aircrew should be fit to return to flying duties 3 months after treatment and on complete recovery from the incident.

TUBERCULOSIS

10. Clinical Concerns. TB is a debilitating respiratory infection which is difficult to eradicate and poses a public health hazard. Apical cavities may be seen on chest radiographs.

11. Limitations.
   a. Recruit. SeeJSP 950 Part 6, Chapter 7.
   b. Serving Personnel. Ground personnel will normally have a UK only category for 18 months, covering 6 months of treatment and 12 months of review. Following this, and providing there have been no complications, they will be upgraded to L2.
   c. Aircrew. Aircrew with pulmonary TB are to be referred in accordance with paragraph 1. They will be restricted to UK for a period of 18 months. Whilst taking anti-tuberculous therapy they will be grounded but following treatment, if chest radiography and clinical examination are satisfactory, they may be graded A3, ‘Unfit solo pilot - must fly with pilot suitably qualified on type’ (MedLim 2000). Twelve months after completing chemotherapy, provided there is no evidence of recurrence, they are to be medically boarded at the RAF MB where they will normally be awarded a JMES of A1/A2 L2 M4 E1.


SARCOIDOSIS- AIRCREW

13. Clinical Concerns. Cardiac sarcoidosis, although uncommon, is associated with sudden death from cardiac arrhythmias. Pulmonary involvement causes restrictive airways disease. It may be associated with uveitis and nervous system involvement.

14. Limitations. All aircrew with suspected sarcoidosis are to be grounded and referred for specialist assessment in accordance with paragraph 1. Following confirmation of the diagnosis they are to be downgraded A4 whilst treatment continues. When off treatment, provided that there is no evidence of continuing disease activity and no cardiac involvement, patients are to be referred to the RAF MB for award of an appropriate JMES. At that stage a pilot would be ‘Unfit solo - must fly with pilot suitably qualified on type’ (MedLim 2000). A normal flying category will depend on a further year of satisfactory observation. Cardiac involvement requires permanent grounding.

BRONCHITIS, PNEUMONIA AND PLEURISY

15. Frequent childhood bronchitis suggests bronchial lability and a pre-disposition to asthma. The Recruit Asthma Screening Questionnaire at Annex A should be administered and disposal is as detailed in Annex B. Chronic bronchitis and emphysema in serving personnel makes fitness for world-wide service or unrestricted flying duties unlikely. Isolated attacks of pneumonia with full recovery are of no long term consequence. However, if the chest X-ray is abnormal, specialist referral is indicated. A history of pleurisy with an effusion is suggestive of TB. If less than 2 years prior to entry, this will entail temporary rejection. If more than 2 years prior to entry, the individual may be acceptable for air and ground duties subject to specialist assessment and normal chest radiography.
BRONCHIECTASIS

16. Patients with bronchiectasis are at increased risk of developing chest infections and should be given a JMES not above E3, 'Unfit for service outside base areas' (MedLim 5002), with the recommendation of the RAF Civil Consultant in Chest Diseases.

SMOKING CESSATION – USE OF BUPROPION.

17. **Introduction.** Smoking remains the largest single preventable cause of death and disability in the UK (Callum C. The Smoking Epidemic. London: Health Education Authority, 1988). Further details on reducing the prevalence of smoking in the Armed Forces is contained within the following publications:

   a. JSP 950 Part 7 Chapter 3 Lft 1 ‘Smoking Cessation Guidelines for Use by Health Professionals in the Defence Medical Services’.
   
   b. AP1269 Lft 8-03.
   
   c. Lft 5-19, Annex F.

18. **Bupropion (Zyban).** The drug Bupropion is of proven effectiveness but has significant side effects, which include grand mal seizures, impaired concentration, anxiety, depression and agitation. It is not recommended as a first line treatment in the Armed Forces due to its occupational implications and its adverse effects profile. Its use is incompatible with flying duties (see Lft 5-19, Annex F, for further details). **Bupropion is only to be prescribed after the conditions in AP1269 Lft 8-03 have been met.** In view of the significant occupational implications when taking Bupropion, Service personnel using the drug are unfit to deploy operationally and are to be awarded a temporary JMES of E3, 'Unfit for service outside base areas' (MedLim 5002) and ‘Unfit handling live arms’ (MedLim 9000). It should be noted that malaria prophylaxis is not to be taken with Bupropion.117

SCREENING CHEST RADIOGRAPHY

19. A chest X-ray is not a mandatory component of the medical assessment of recruits. It remains an important investigation for the screening of groups selected on clinical and other grounds. Indications may include:

   a. Persons with a history and clinical profile suggestive of cardio-respiratory disease or abnormality.
   
   b. Those with a first or second generation family history of pulmonary tuberculosis.
   
   c. First generation immigrants.
   
   d. Persons recruited from large inner city areas.

20. Serving personnel only require screening chest radiography for certain industrial hazards detailed in Lft 3-03. A pre-release chest X-ray is only required if clinically indicated.

117 It is envisaged that the use of Bupropion in serving personnel will be limited in view of it being a second line therapy, the requirement for specialised support services and the potential effects on employability. Wherever possible, clinicians are encouraged to manage smoking cessation using NRT and lower level support services which do not interfere significantly with employability.
## LEAFLET 5-03 ANNEX A: ASTHMA QUESTIONNAIRE FOR ROYAL AIR FORCE APPLICANTS

<table>
<thead>
<tr>
<th>Question</th>
<th>YES/NO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is the candidate currently on any treatment for asthma?</td>
<td>YES/NO</td>
</tr>
<tr>
<td>Has the candidate had any asthmatic symptoms including nocturnal cough or exercise-induced wheezing in the past 5 years or since the age of 16 years?</td>
<td>YES/NO</td>
</tr>
<tr>
<td>Has the candidate used any inhalers (continuously or intermittently) for the treatment of asthma or wheeze for a period &gt; 8 weeks in the 5 years prior to application?</td>
<td>YES/NO</td>
</tr>
<tr>
<td>Has the candidate required oral steroids for asthma or wheeze since the age of 5 years?</td>
<td>YES/NO</td>
</tr>
<tr>
<td>Has the candidate required admission to an intensive care unit for asthma at any time in their life?</td>
<td>YES/NO</td>
</tr>
<tr>
<td>Has the candidate required a hospital admission &gt; 24 hours for asthma or wheeze since the age of 5 years?</td>
<td>YES/NO</td>
</tr>
</tbody>
</table>

A positive response to any question means that the candidate is unfit.

All candidates will be pre-screened using the R&SDOM Medical Supplement Lft (MSL). Candidates who proceed to medical assessment will have their asthma history clarified by the medical examiner; GP reports will only be required where uncertainty about the history remains.
LEAFLET 5-03 ANNEX B: GROUND PERSONNEL ASTHMA MANAGEMENT PLAN

History of asthma/wheeze

No

Fit

Yes

Any of the 6 exclusion criteria present (Lfit 5-03 Para 3a (1)–(6))? 

No

Fit

Unsure

Refer SO1 OM

Yes

Unfit
LEAFLET 5-03 ANNEXC: AIRCREW ASTHMA MANAGEMENT PLAN

History of asthma/wheeze

Yes

More than one episode of wheeze or wheeze not associated with respiratory tract infection after 5th birthday

Yes

Unfit

No

Single episode of wheeze associated with respiratory tract infection

Yes

Any of the 6 Exclusion Criteria?

Yes

Unfit

No

Refer for investigation at the RAF Asthma Clinic

1. Normal Pulmonary Function Tests
2. Methacholine challenge test >16mg/ml 3. No History/exam suggestive of exclusion criteria, ongoing symptoms or propensity to asthma

Yes

Fit

No

Unfit
LEAFLET 5-04: GASTROENTEROLOGY

INTRODUCTION

1. Diseases of the gastrointestinal tract are not unusual in the military population. Several such disorders are chronic in nature, with unpredictable remitting and relapsing natural histories, and some have a propensity for complications which may be acutely disabling or lead to a chronic impairment of general health. A number of conditions also require some from of maintenance therapy and regular medical monitoring.

PEPTIC ULCER DISEASE

2. Duodenal ulceration (DU) is commonest amongst young males and the overall incidence may be falling slowly. The great majority of cases are associated with Helicobacter Pylori (H Pylori) gastritis. Pre-pyloric ulcers can behave very much like their duodenal counterparts and should be managed in the same way. More proximal ulcers are less common in young people and are only associated with H Pylori infection in 60-70% of cases.

3. Clinical Concerns. The disorder has a remitting/relapsing natural history, which can lead to unpredictable exacerbations of symptoms and can also be associated with disabling complications, particularly haemorrhage and perforation.

4. Employment Limitations.

a. Recruit. Candidates with a history of proven peptic ulceration, and those with a history of dyspepsia that has caused frequent disability no matter how long ago, are unfit for service in the RAF (P8). For further information see JSP 950 Part 6 Chapter 7, Lflt 6-7-5 – Annex E.

b. Service Personnel:

(1) Serving personnel are E3, ‘Unfit for service outside base areas’, following initial endoscopic diagnosis.

(2) After completion of a course of ulcer healing therapy, together with H pylori eradication treatment where appropriate, endoscopic follow up to 2-3 months should take place. Evidence of both complete ulcer healing and H pylori eradication permits upgrading to E2 in uncomplicated cases.

(3) If complicated by perforation or significant haemorrhage individuals are to be made ‘unfit for service outside base areas’, for 1 year before considering a return to an unrestricted category (subject to satisfactory endoscopic review) (E2).

c. Aircrew and controllers. In addition to the limitations detailed at sub-paragraph b (1) the following regulations apply.

(1) Aircrew are to be grounded following initial endoscopic diagnosis.

(2) Controllers are to be awarded the limitation ‘Fit to control only when another controller is on duty and in close proximity’ (MedLim 2101), following initial endoscopic diagnosis.

(3) After completion of a course of ulcer healing therapy as described at sub-paragraph 4b (2) a return to unrestricted flying/controlling duties is permitted.

(4) In cases complicated by significant haemorrhage or perforation, an unrestricted flying category can be attained after six months subject to satisfactory endoscopic review.
GASTRIC-OESOPHAGEAL REFLUX

5. Symptoms of gastro-oesophageal reflux, including heartburn and acid regurgitation, are exceedingly common in the community and the severity of the underlying disease varies widely.

6. Employment Limitations:
   a. Mild and moderate reflux oesophagitis normally responds well to acid suppression and lifestyle advice, and will not usually require alteration of an individual’s JMES.
   b. In those cases where there are significant complications such as haemorrhage, stricture formation or Barrett’s oesophagus, specialist advice should be sought.
   c. Regular follow up may be indicated in which case E3, ‘Unfit for service outside base areas’, may be appropriate.
   d. In rare cases, particular types of work may be considered as provocative to the condition (for example, prolonged bending or heavy lifting) and appropriate limitations may have to be awarded.

COELIAC DISEASE

7. Clinical Concerns. Gluten sensitive enteropathy (coeliac disease) is a disorder whose prevalence is almost certainly underestimated. In adult life it may present in a variety of ways, with chronic anaemia, non-specific abdominal discomfort, disturbance of bowel habit, arthropathy, skin rashes and psychological problems. When the diagnosis of coeliac disease is suspected on clinical grounds or as a result of antibody testing it should be confirmed by demonstration of villous atrophy on a small intestinal biopsy, with subsequent appropriate histological response to gluten withdrawal at follow-up examination.

8. Employment Limitations.
   a. Recruit. Candidates with a history of coeliac disease are unfit for service in the RAF (P8).
   b. Serving Personnel:
      (1) Most individuals will be able to lead a completely normal life on a gluten free diet.
      (2) Affected individuals are to be assessed E3, ‘Unfit for service outside base areas’, in order to ensure that they can be guaranteed access to suitable diets at all times.

INFLAMMATORY BOWEL DISEASE

9. The two common forms of inflammatory bowel disease are Ulcerative Colitis (UC) and Crohn’s disease, both of which are characterised by a chronic remitting/relapsing natural history. The unpredictable nature of these disorders, even after long periods of complete symptomatic remission, has significant implications for the JMES of service personnel.

ULCERATIVE COLITIS

10. Ulcerative Colitis (UC) can occur at any age, but most frequently between 20 and 40 years with women affected more than men. It can affect the rectum alone (proctitis), can extend proximally to involve the sigmoid and descending colon (left sided colitis), or may involve the whole colon (total colitis). In a few cases there is inflammation of the distal terminal ileum (backwash ileitis).

11. Clinical Concerns:
   a. 10% of patients have persistent chronic symptoms, although some patients may only have a single attack. Attacks may have acute presentation with severe attacks requiring careful hospital monitoring and treatment to avoid development of complications (septicaemia, toxic dilation and perforation). Severe fulminating disease still carries 15-25% mortality. Mortality is reduced if treatment is prompt and surgery performed in the first 2-3 days.
b. Relapse rates for this disorder are higher in the young and in those with extensive disease. Initial assessment should include obtaining histology for a definitive diagnosis, and assessment of the extent of disease by colonoscopy or barium enema.

c. 10% of patients with proctitis will develop extensive disease.

12. Employment Limitations.

a. Recruit. A history of inflammatory bowel disease of any type is considered a bar to selection.

b. Service Personnel:

   (1) Initially individuals are to be awarded E3 with the limitation ‘Unfit for service outside base areas’. Additional restrictions (on physical activity and workload) may be necessary in more severe cases because of frequent relapses, active disease or complications.

   (2) In the longer term a permanent category of E3, ‘Unfit for service outside base areas’, is necessary in order to recognise the requirement for constant review; the need for maintenance therapy; the occurrence of complications, and the propensity to unpredictable relapses.

   (3) Individuals in whom the initial inflammatory disease is restricted to the rectum, and who suffer no relapses over a 2-year period of observation, consideration may be given to upgrading to E2 without restrictions provided there is no evidence of active disease (biopsy proven) and they remain on maintenance treatment only.

   (4) Individuals who have undergone colectomy and ilio-anal pouch formation may be considered for upgrading to E2.

c. Aircrew and Controllers:

   (1) Initially aircrew are to be grounded and controllers are to be awarded the limitation ‘fit controlling duties, except in locations where a single controller is employed. ‘Fit to control only when another controller is on duty and in close proximity’ (MedLim 2101). Both employment groups are to be awarded the limitation ‘Unfit for service outside base areas’.

   (2) Individuals with distal disease (inflammation confined to the rectum or sigmoid colon) may be considered for a return to limited flying duties, provided they are in full clinical remission with no objective evidence of active disease and no complications or drug side effects. These individuals are to be awarded the limitations ‘Unfit solo pilot – must fly with a pilot suitably qualified on type’ (MedLim 2000), ‘Fit to control only when another controller is on duty and in close proximity’ (MedLim 2101), ‘Unfit for service outside base areas’ (MedLim 5002) but may be ‘Fit detachments outside of base areas for up to 30 days’ (MedLim 3003).

   (3) More extensive disease is associated with a higher incidence of complications and relapses, and will require permanent restrictions. Extensive or total colitis will rarely be considered compatible with continued flying duties.

   (4) Individuals in whom the initial inflammatory disease was restricted to the rectum, and who suffer no relapses over a 2-year period of observation, may be considered for upgrading to L2 without restrictions provided there is no evidence of active disease (biopsy proven) and they remain on maintenance treatment only.

CROHN’S DISEASE

13. Clinical Concerns:

   a. Crohn’s disease has a peak incidence between 20 and 40 years and has the ability to affect the entire bowel. It may present insidiously or as an emergency and approximately 80% of patients will require an operation at some time during the course of their disease.

   b. Local complications are common, as are nutritional deficiencies and anaemia. The disease can also be associated with arthropathy and iritis.
c. Some patients can cease all therapy, whilst others will require small doses of long-term steroids and/or azathioprine.

d. Although there is a high recurrence rate there are some subgroups that are at a predictably lower risk.

14. Employment Limitations.

a. Recruit. A history of inflammatory bowel disease of any type is considered a bar to selection.

b. Service Personnel:

   (1) Initially individuals are to be awarded E3 with the limitation ‘Unfit for service outside base areas’, whilst undergoing initial assessment and treatment.

   (2) Following assessment and initial treatment, individuals are to be permanently downgraded to E3, ‘Unfit for service outside base areas’, in order to recognise the requirement for frequent review; the need for maintenance therapy, the occurrence of complications and the propensity to unpredictable relapses. Other limitations should be considered as appropriate.

   (3) In exceptional circumstances and with CA Med (RAF)’s recommendation some individuals who meet the following criteria, namely localised disease, acute presentation (+/- surgical treatment) and prolonged asymptomatic follow up (>5 years) may be awarded an E2 category.

c. Aircrew and controllers.

   (1) Initially aircrew are to be grounded and controllers are to be awarded the limitation ‘Fit to control only when another controller is on duty and in close proximity’ (MedLim 2101). Both employment groups are to be awarded the limitation ‘unfit for service outside base areas’.

   (2) Provided they are in full clinical remission with no objective evidence of active disease, complications or drug side effects (see Lf lt 5-19), a return to restricted duties may be possible (‘Unfit solo pilot – must fly with a pilot suitably qualified on type’, ‘Fit to control only when another controller is on duty and in close proximity’ and ‘Unfit for service outside base areas’). Specialist advice is required and each case is to be considered on its merits.

   (3) Individuals who meet the following criteria, namely localised disease, acute presentation (+/- surgical treatment) and prolonged asymptomatic follow up (>5 years) can be awarded an unrestricted flying/controlling category.

IRRITABLE BOWEL SYNDROME

15. Clinical Concerns. Irritable bowel syndrome is an extremely common clinical syndrome with a variety of symptomatic presentations and without evidence of any demonstrable organic gastrointestinal pathology. The diagnosis is made by recognising characteristic symptom patterns and by reasonable exclusion of organic bowel pathology by appropriate and limited investigations. In many individuals symptoms are not serious and are stress related. The severity of symptoms can vary widely and over-investigation and drug therapy should be avoided.

16. Employment Limitations.

a. Recruit. Candidates with a history of irritable bowel syndrome require careful assessment. Symptoms which have resulted in significant disability, including time off school or work, and/or requiring medication within the previous two years are considered unfit for service in the RAF (P8). Those with mild and infrequent symptoms not requiring any medication may be graded P2. In cases of doubt opinion is to be sought from a Service consultant physician.

b. Serving Personnel. Most cases are compatible with the retention of an unrestricted JMES but, very occasionally, intrusive and persistent symptoms which have the capacity to interfere with the effective discharge of the individuals’ responsibilities, may require limitations to be awarded. Specialist advice is required and each case is to be considered on its own merits.
CHRONIC HEPATITIS

17. **Clinical Concerns.** The commonest causes of chronic hepatitis are autoimmune disease, chronic drug reactions and viral infections. Clinical symptoms may range from none to mild fatigue or individuals may present with the complications of cirrhosis. Prognosis is variable dependent upon exact diagnosis with an excellent response to treatment in some cases. Individuals with persistently abnormal liver function tests require full investigation, ultimately with liver biopsy to establish the histological diagnosis. The modern classification of chronic hepatitis is complex and the assessment requires specialist input.

18. **Limitations.**

   a. **Recruit.** A diagnosis of chronic hepatitis is incompatible with service and is assessed P8.

   b. **Ground Personnel.** The milder forms of disease in asymptomatic patients requiring no therapy may be compatible with an unrestricted JMES. Individuals requiring immuno-suppressive therapy or anti-viral agents will require an **E3** category, ‘Unfit for service outside base areas’.

   c. **Aircrew.** A diagnosis of chronic hepatitis is incompatible with continued flying duties until the situation has been fully assessed and stabilised. In those requiring no therapy, or who are well controlled on small doses of steroids (not greater than Prednisolone 10 mgs per day) restricted flying in a multi-crew environment may be considered. Specialist advice would be required.
INTRODUCTION

1. This leaflet gives details on the assessment and treatment of recruits and serving personnel with common and important uro-genital disorders. Specific advice on individual cases not detailed in this leaflet can be obtained from any military consultant physician or from the Consultant Adviser (CA) in Renal Medicine. Further advice is available in JSP 950 Part 6, Chapter 7, which is to be read in conjunction with this leaflet.

PROTEINURIA

2. Clinical Concerns. The main concerns regarding proteinuria are the presence of an underlying chronic disorder which may be progressive and the potential for the development of nephrotic syndrome.

3. Limitations.

   a. Recruit. As per JSP 950, Part 6, Chapter 7. Aircrew candidates are to be referred to the CA in Renal Medicine through CFMO (RAF) for opinion prior to acceptance.

   b. Serving Personnel. All serving personnel found to have significant proteinuria are to be referred for investigation.

   c. Aircrew. All aircrew with confirmed proteinuria are to be referred for urgent investigation. They should be grounded pending the results and recommendation of the consultant.

4. Treatment. Will depend on the underlying cause.

5. Discussion. The normal urinary protein excretion is up to 150 mg per day. The reagent strips in common use are reliable in assessing proteinuria. A patient with a reagent strip result consistently + or greater will have a 95% chance of an abnormal protein excretion. Persistent trace levels have a 90% chance of being normal and in the absence of any other urinary abnormality may be ignored. Prognosis of proteinuria depends on the underlying renal histology, but in general terms, proteinuria of less than 1 g per day carries an excellent long term outlook. Heavy proteinuria of approximately 5 g per day is associated with a fall in serum albumin and the development of oedema, (nephrotic syndrome). In this condition, both postural hypotension and an increased tendency to clot are common and renal function may be compromised. Patients with nephrotic syndrome are to be awarded a JMES E3, ‘Unfit for service outside base areas’ and also, if applicable to trade, ‘Unfit working at heights’ L4. Aircrew are to be grounded. Proteinuria of < 1 g per day with normal renal function, normal plasma albumin and a normal blood pressure on no medication, is compatible with an unrestricted JMES subject to regular surveillance. It is compatible with full flying duties. Proteinuria > 1 g per day, particularly if associated with haematuria, hypertension, low albumin or abnormal renal function should be E3 ‘Unfit for service outside base areas’. Aircrew who are assessed fit to fly are to be ‘Unfit solo pilot – must fly with a pilot suitably qualified on type’ and are to be seen by a consultant at least every six months.

HAEMATURIA

6. Clinical Concerns. Haematuria is not a disease but a sign of a potential underlying disorder. The cause may lie anywhere within the urinary tract. The risk of sudden incapacitation is low and is usually associated with the occurrence of clot colic. The major concern in the younger patient is the possibility of underlying chronic renal disease that may limit employability and in the older patient the increasing risk of bladder malignancy.

7. Limitations.

   a. Recruit. A history of haematuria or the discovery of haematuria at initial medical examination (see JSP 950 Part 6 Chapter 7 Lft 6-7-4. Annex F) is to result in the candidate being referred to their own General Practitioner (GP) for further investigation, and onward nephrological referral, as appropriate. Such candidates are unfit for Service in the RAF until both nephrological and urological pathologies have been excluded.
b. **Serving Personnel.** All serving personnel found to have confirmed haematuria are to be referred for investigation.

c. **Aircrew.** All aircrew with confirmed haematuria should be referred for urgent investigation. The presence of macroscopic haematuria should lead to temporary grounding until full investigation is complete.

8. **Treatment.** Dependent on cause.

9. **Discussion.** The normal urinary red cell excretion is up to 8 RBC per micro litre. The reagent strips in routine use are extremely reliable in detecting abnormal levels of red cells in the urine. The prevalence of positive reagent strips in adult males is about 2.5%. Red cell excretion may be influenced by exercise and by exposure to acceleration (G). Exercise induced haematuria disappears from the urine within 24-48 hours. Acceleration induced haematuria behaves in a similar fashion and care should be taken to test a fresh sample on aircrew after 24 hrs of non-flying to avoid unnecessary investigation. After exclusion of urological abnormalities, the majority of patients with haematuria will be found to have an underlying glomerulonephritis. Isolated haematuria i.e. in the absence of accompanying proteinuria, hypertension or reduced renal function carries an excellent prognosis. Some 85% of subjects will follow a benign course.

**GLYCOSURIA**

10. **Clinical Concerns.** The presence of glucose in the urine may signify a serious underlying metabolic disorder such as diabetes mellitus.

11. **Assessment and Limitations.**

   a. **Recruits.** Candidates with glycosuria are to be referred back to their own general practitioner for a glucose tolerance test. Candidates with a diagnosis of diabetes mellitus or glucose intolerance are considered unfit for Service in the RAF (P8). A normal blood sugar profile with glycosuria, demonstrating a reduced renal threshold is acceptable for service in all branches without restriction, providing that the glycosuria is not accompanied by amino-aciduria, low molecular weight proteinuria or phosphaturia as evidence of an underlying tubular defect.

   b. **Serving Personnel.** Serving personnel and aircrew will have undergone urine tests previously and the diagnosis of renal glycosuria is therefore less likely. The finding of glycosuria must be taken seriously and hyperglycaemia excluded. The procedure outlined in the chapter on metabolic disorders is to be followed.

12. **Discussion.** Glycosuria is due either to hyperglycaemia in the presence of normal renal glucose handling (overload glycosuria) or to abnormalities of tubular transport at normal blood sugar levels (renal glycosuria). Diabetes mellitus is the most important cause of the former and low renal threshold the commonest cause of the latter. Disorders of the proximal renal tubules such as Fanconi syndrome are also associated with a low renal threshold and require exclusion. Primary renal glycosuria is of no clinical consequence, is frequently familial and following diagnosis requires no follow up.

**GLOMERULONEPHRITIS**

13. **Clinical Concerns.** The main clinical concerns regarding glomerular disease are the development of hypertension, nephrotic syndrome or chronic renal failure.

14. **Limitations.**

   a. **Recruit:**

      (1) **Acute Glomerulonephritis.** Acute post infective glomerulonephritis is now a rare condition in the UK. Candidates who have made a complete recovery from acute glomerulonephritis (with no abnormal urinary deposits) more than 2 years earlier are fit for RAF Service in all branches and trades with an unrestricted JMES.

      (2) **Chronic Glomerulonephritis.** Candidates with chronic glomerulonephritis are unfit for Service in the RAF (P8).
b. Serving Personnel:

(1) Acute Glomerulonephritis. Serving personnel with acute glomerulonephritis are to be referred for specialist management and are to be temporarily downgraded E3, ‘Unfit for service outside base areas’. Return of normal renal function and the disappearance of casts and protein from the urine will allow return to normal JMES. Microscopic haematuria may persist for 8-10 years after acute glomerulonephritis.

(2) Chronic Glomerulonephritis. Diagnosis of chronic glomerulonephritis is to result in downgrading to L2 in view of the requirement for regular follow up. The presence of adverse features such as proteinuria > 2g per day, hypertension or declining renal function will require the limitation, ‘Unfit for service outside base areas’, E3. Progressive decline of function or an impending requirement for renal replacement therapy is to lead to a permanent category of P8.

c. Aircrew:

(1) Acute Glomerulonephritis. Aircrew are to be grounded and dealt with as for other serving personnel. Return to unrestricted flying is permitted on recovery.

(2) Chronic Glomerulonephritis. Providing that renal function is normal and no adverse features are present as detailed above, unrestricted flying is permitted. The development of hypertension, proteinuria > 2g/day or reduction in renal function may require restriction of aircraft type or aircrew role. Progressive deterioration in function will lead to a permanent JMES of P8.

15. Discussion. The commonest form of chronic glomerulonephritis is IgA nephropathy. This is a fairly benign condition and is associated with the development of chronic renal failure in only about 13-15% of cases. Isolated microscopic haematuria alone carries an excellent prognosis, but hypertension, persistent proteinuria (> 2g per day), or raised creatinine at presentation are indicators of poor outcome. Initial presentation with nephrotic syndrome also bodes ill. The majority of cases of chronic glomerulonephritis in the RAF may therefore be expected to do well. Nephrotic syndrome may be due to a variety of causes, but the commonest are minimal change (steroid responsive) disease and membranous glomerulonephritis. Steroid responsive disease has a tendency to relapse and a suitable JMES with the limitation, ‘Unfit for service outside base areas’, should be applied for at least two years after cessation of all treatment. Return to flying must be assessed by the CA in Renal Medicine. For return to unrestricted flying, the plasma albumin must be normal. Providing there is no underlying disease as a cause, idiopathic membranous glomerulonephritis will have a roughly 30% chance of complete clinical resolution, 30% of staying the same and 30% of deterioration. Close surveillance is important in order to determine the natural history. JMES will depend ultimately on which path is followed by the disease.

RENAL STONE DISEASE

16. Clinical Concerns. RSD is common in young adults. Renal colic may present without warning and result in severe, distracting and potentially incapacitating pain. Prolonged renal tract obstruction requires decompression to prevent permanent renal damage. RSD is often familial and may be associated with identifiable biochemical abnormalities. After a first stone the likelihood of forming a second is approximately 15% at one year and 50% at 10 years with the greatest rates of recurrence occurring at 2 and 8 years. Symptomatic patients should be referred urgently to their local Emergency or Urology department for confirmation of the diagnosis and initial treatment.

Radiological screening of those with RSD acknowledges the potential adverse effects of irradiation, the limitations of ultrasound and the differing risks between ground and flight based occupations.

17. Employment Limitations.

a. Recruit. JSP 950, Part 6, Chapter 7, Lft 6-7-4 Annex F.

b. Serving Personnel. Serving personnel who have an occurrence of renal colic or are diagnosed with renal stone disease are to be awarded a JMES of E3, ‘Unfit for service outside base areas’. Once stone-free, most patients can be awarded an unrestricted category. Frequent stone formers and personnel with residual stones are to remain medically downgraded unless any residual stones are deemed by a consultant physician to be unlikely
to become symptomatic. An algorithm outlining management and disposal of personnel with RSD is at Annex A. All personnel with RSD are to have metabolic investigations 3 months post diagnosis as outlined at Annex B.

c. **Aircrew.** In addition to the limitations outlined for serving personnel outlined above, aircrew are to be grounded until stone free. Aircrew with recurrent RSD, or with residual stones not amenable to treatment, are to be referred to the CA in Renal Medicine. If residual stones are considered unlikely to become symptomatic a return to restricted flying [A3, ‘Unfit solo pilot - must fly with a pilot suitably qualified on type’ (MedLim 2000)] or equivalent for other aircrew roles (MedLim 2001) should be possible.

18. **Treatment.** Service personnel with renal stones will normally have their stones removed by Extracorporeal Shock Wave Lithotripsy (ESWL). This may be carried out locally for both ground personnel and aircrew. Where any exists regarding the treatment of renal stone disease, the advice of the RAF CA in Urology or Renal Medicine is to be sought. Following metabolic investigations, which should be carried out on all patients 3 months after the passage of their stone, prophylactic treatment to prevent further stone formation may be indicated. Treatment with citrate supplements or Allopurinol is compatible with full ground or flying duties and requires only an E2 category. The use of thiazide diuretics is acceptable for ground and flying duties, but for aircrew, a four week period of assessment for side effects should be carried out prior to return to flying. Regular blood biochemistry is to be carried out as for all patients on thiazide therapy. Follow-up radiography is mandatory for aircrew at 1 and 2 years post diagnosis and 2-yearly thereafter. Where possible, abdominal x-rays limited to the renal beds are preferred. Ultrasound scans will be necessary for personnel with a history or radiolucent stones.

19. **Discussion.** Idiopathic stone disease, which makes up the vast majority of stone disease in a military population, is associated with the formation of calcium oxalate stones. These are formed due to an imbalance between stone promotion (raised urinary calcium, oxalate etc) and stone inhibition (low urinary citrate, magnesium, urinary glycoproteins etc) in a setting of urinary crystalloid saturation. Dehydration is thus an important factor, as are factors that tend to increase urinary stone promoter excretion, such as high oxalate intake (chocolate, strawberries, rhubarb and nuts) or a high calcium intake. Excess sunlight, by increasing the formation of active vitamin D will also contribute to increased calcium absorption and subsequent excretion. Patients should be made aware of these important factors and should avoid them where possible – use of a patient information leaflet is helpful in this context. If made aware of the problems of dehydration and sunlight, there is no requirement to routinely downgrade personnel with renal stones to E5. Now that lithotripsy is the mainstay of treatment for stone removal, careful follow up should identify those at risk of colic and consequent sudden incapacitation. This will demonstrate early new stone formation and will allow early referral for re-treatment. Most patients will warrant only an E2 category for their stone disease.

**CHRONIC KIDNEY DISEASE (CKD)**

20. Chronic Kidney Disease (CKD) is associated with an increased risk of Cardiovascular Disease (CVD) due to a high prevalence of traditional and renal specific risk factors. Cardiovascular risk increases as renal function declines and/or proteinuria increases. Significant proteinuria is defined as >1g/d or urine protein/creatinine ratio > 100 mg/mmol. Patients with CKD should have regular cardiovascular assessment and modification of traditional risk factors (diet, exercise, smoking, weight, blood pressure, lipids, and glycaemia) and correction of renal specific factors such as anaemia and metabolic bone disease.

21. Patients with suspected CKD should be referred to a nephrologist. Those with stage 1-2 CKD without significant proteinuria are usually managed in primary care; follow up should include annual assessment of blood pressure, renal function, lipid and glycaemic profile, proteinuria and an ECG. Those with stage 3-5 CKD and those with stage 1-2 CKD with significant proteinuria, are usually kept under secondary care review.

22. **Limitations:**

   a. **Recruits:** Candidates with CKD are unfit service.

   b. **Serving personnel:** Stage 1-2 CKD (eGFR 60+) can usually hold an unrestricted L2 JMES. Those with significant proteinuria may need to be downgraded to “base areas only”. Stage 3A CKD (eGFR 45-59) will usually be restricted to “base areas only”, particularly if there is heavy proteinuria. Stage 3B-5 CKD (eGFR<45) are restricted to “base areas only” because of the need for regular review and the potential for a rapid decline in renal function.
b. **Aircrew:** In addition to the limitations as for serving personnel, aircrew with stage 3A CKD will need an enhanced cardiovascular screen to include 2 yearly exercise ECG testing, in order to maintain an unrestricted flying category. Those with stage 3B-5 CKD will be permanently downgraded ‘Unfit solo pilot – must fly with a pilot suitably qualified on type’ with the need to continue enhanced screening being decided on a case by case basis. Any evidence of CVD will result in immediate grounding and further assessment.

**POLYCYSTIC KIDNEY DISEASE (PKD)**

23. Polycystic kidney disease (PKD) is usually inherited in an autosomal dominant fashion. This policy will deal only with autosomal dominant polycystic kidney disease (ADPKD). Patients with other forms of PKD should be dealt with on a case-by-case basis.

24. The gene mutation PKD1 accounts for 85% of ADPKD cases and usually results in end-stage renal failure (ESRF) developing in the fifth decade. Mutations of PKD2 account for the majority of the remaining cases and results in a slower rate of deterioration of renal function with patients reaching ESRF in their seventh decade.

25. The renal complications of ADPKD include haematuria, proteinuria, anaemia and chronic kidney disease. Renal cell carcinoma may occur but is no more common than in the general population, however it may be more difficult to diagnose due to the cystic disruption of the normal renal architecture. These renal complications must be dealt with individually i.a.w. the relevant sections of AP1260A.

26. Extra-renal manifestations may have significant clinical and occupational implications for both groundcrew and aircrew. These include cerebral aneurysm (10%), aortic root dilatation and cardiac valve abnormalities (30%) and possibly abdominal aortic aneurysm, especially in the presence of uncontrolled hypertension.

    a. **Recruits:** Recruits with confirmed PKD are unfit Service. Those with a positive family history of ADPKD must undergo screening renal imaging before being considered for Service.

    b. **Serving personnel:** Serving personnel are to be temporarily downgraded unfit service outside base areas and referred to a Service nephrologist. An unrestricted JMES may be awarded if the following criteria are met:

    1. Asymptomatic.
    2. Normotensive.
    3. No haematuria or proteinuria.
    5. Satisfactory renal function with eGFR>60ml/min.
    6. Satisfactory renal ultrasound scan with no evidence of stones, malignancy or complex cysts.
    7. Normal cranial magnetic resonance angiogram (MRA).
    8. Normal cardiac echocardiogram.

    All patients will require annual review with a minimum assessment of urine dipstick, blood pressure, haemoglobin and renal function. In addition renal ultrasound scan, cranial MRA, cardiac echocardiogram and abdominal aorta Doppler scan should be repeated every 5 years.

    c. **Aircrew and controllers:** In addition to the limitations for serving personnel, aircrew and controllers should initially be considered unfit flying / controlling and referred to the Clinical Aviation medicine Service. If they fulfil the criteria as per serving personnel, a return to unrestricted flying/controlling duties may be possible.
SINGLE KIDNEY/NEPHRECTOMY

27. **Clinical Concerns.** That the single kidney is both anatomically and functionally normal.

28. **Limitations:**
   a. **Recruit.** Candidates with a history of nephrectomy or absence of one kidney may be accepted with an unrestricted JMES providing that the conditions within JSP 950 Part 6 Chapter 7 Lft 6-7-4, Annex F are met.
   b. **Serving Personnel.** Personnel may continue to serve with a normal JMES.
   c. **Aircrew.** Aircrew with a single kidney may continue to fly with no restrictions providing that the remaining kidney is normal and has not been subjected to renal calculi.

29. **Discussion.** There is no longer concern regarding the long term morbidity and mortality of patients with a single kidney. Long term follow up of patients who had kidneys removed for trauma in WW II confirmed the benign natural history. Unilateral renal agenesis occurs in about 1:500 of the general population and is of no consequence. After nephrectomy, follow up may be required for certain patients where the disease process affecting the removed kidney might occur in the remaining organ. This applies to tumours such as hypernephroma and to kidneys removed for Pelvi-ureteric junction obstruction.

KIDNEY TRANSPLANTS

30. **Clinical Concerns.** Renal transplantation is part of the continuing care of patients with chronic renal failure. Facilities do not exist in the RAF for care of these patients who require long term surveillance and treatment.

31. **Limitations:**
   a. **Recruit.** Candidates with a renal transplant are permanently unfit service P8.
   b. **Serving Personnel.** Serving personnel who require renal replacement therapy are to be graded P8 unfit further service.
   c. **Aircrew.** Aircrew with a renal transplant are permanently unfit military flying duties.

32. **Request to Act as a Transplant Donor.** Requests may be made from serving personnel to act as transplant donors for close relatives. This is an executive rather than a medical matter and should be actioned in the first instance by a general application. The MO should ensure that the prospective donor has been adequately counselled. Following donation, the donor should be assessed as a patient with a single kidney and may continue to serve in all branches with a normal JMES. Aircrew will be fit full, unrestricted flying duties.

URINARY TRACT INFECTION

33. **Clinical Concerns.** Urinary tract infection may be a sign of an underlying anomaly or abnormality of the urinary tract.

34. **Limitations:**
   a. **Recruit.** Candidates with a history of recurrent infection in childhood, one infection in a young man or two in a female since puberty should not be accepted until a full report from their own practitioner confirms that they have a normal urinary tract. If an abnormality is discovered, then the case notes are to be referred to the CA in Renal Medicine for a decision on disposal.
   b. **Serving Personnel.** Simple urinary infection which responds rapidly to antibiotics requires no administrative action. Complex infections, i.e. recurrent or resistant infections and those associated with systemic upset, should be referred for full investigation and temporary downgrading may be required.
   c. **Aircrew.** Aircrew with urinary infections are to be grounded and referred for investigation.
35. Discussion. The majority of urinary infection encountered in practice occurs in sexually active females. It is rarely associated with an underlying abnormality of the urinary tract and responds to antibiotic therapy. Infection in males is less common and is more likely to be associated with an abnormality, though prostatitis is also a common cause. Stone disease must be excluded as a focus for infection. Infection in childhood may be associated with reflux nephropathy (chronic pyelonephritis). Unilateral scarring is usually compatible with a normal JMES if not associated with hypertension or significant proteinuria. Bilateral scarring will require medical downgrading to reflect the need for regular surveillance and may require the restriction, unfit for service outside base areas, in the presence of hypertension, proteinuria in excess of 1g per day or a raised serum creatinine. More complex renal anomalies will require the opinion of CA in Renal Medicine for disposal.

ENURESIS

36. Clinical Concerns. Enuresis may be a symptom of an underlying anomaly or abnormality of the urinary tract.

37. Limitations:
   a. Recruit. Despite neurological and psychological investigations being negative, those candidates with a history of diurnal urinary incontinence, or of nocturnal enuresis in the two years preceding entry are considered unfit for Service in the RAF (P8).
   b. Serving Personnel. Serving personnel are to be referred for investigation. If responsive to treatment, then service may continue with a E2 category. If incontinence continues then P8 action is appropriate.
   c. Aircrew. Aircrew with enuresis or incontinence are to be grounded and referred for investigation. Disposal will be as for other serving personnel.

38. Discussion. Enuresis is common in childhood and only 70% or so of children will be expected to be completely dry at night by the age of 7 years. The association of daytime wetting with nocturnal enuresis is more likely to be associated with underlying pathology. Persistence of enuresis into the teens is uncommon and should be investigated, though often a normal urinary tract is found and careful questioning may reveal a family history. Urinary infection and underlying urinary tract abnormalities must be excluded. Late onset enuresis may be due to underlying neurological or mechanical bladder problems or chronic infection.

TESTICULAR GERM CELL TUMOURS

39. Testicular cancer has a good prognosis and even patients who present with extensive disease have a high chance of cure. Close and prolonged follow-up is required as recurrence can occur late and if detected promptly can often still be curable with combination chemotherapy. Seminomas and teratomas require frequent follow-up, involving clinical examination, x-rays and CT scans and measurement of serum tumour markers, in the first few years after treatment.

40. Medical limitations are to be awarded in accordance with Lflt 5-17. It should be noted however, that testicular germ cell tumours are a heterogeneous group and some patients with higher risk of recurrence may require more frequent follow-up for longer periods.

41. This should be read in conjunction with leaflet 5-19, paragraph 19.
LEAFLET 5-05 ANNEX A: ALGORITHM FOR MANAGEMENT AND DISPOSAL OF SERVING PERSONNEL WITH RENAL STONE DISEASE (RSD)

Renal colic

Incidental finding of RSD

Base areas only (and ground if aircrew)

Refer to local Emergency or Urology Dept

Refer to local urologist for initial treatment

First stone\(^1\) and clinically and radiologically stone-free

No

Recurrent or residual stones

Yes

Upgrade to L2 after 6 weeks

Metabolic screen at 3 months post diagnosis\(^2\).
Forward results to CA Renal Medicine (RAF)

Keep base areas only (and grounded if aircrew)

Normal

Abnormal

Local follow-up X-rays\(^3\):
Ground crew – (optional)-at discretion of supervising consultant
Aircrew (mandatory) – at 1 and 2 years post diagnosis then 2-yearly.

Recurrent

CA Renal Medicine (RAF) review to discuss treatment options, follow-up and JMES.

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\(^1\) The presence of 2 or more stones at presentation should be managed as recurrent stones.

\(^2\) See Annex B

\(^3\) Abdominal X-rays limited to the renal beds are preferred. Ultrasound may be required for radiolucent stones. DMICP diary entries should be used to ensure timely follow-up.
LEAFLET 5-05 ANNEX B: METABOLIC INVESTIGATIONS FOR RENAL STONE DISEASE (RSD)

The investigations below should be arranged locally whilst the patient is on their normal diet. The completed Annex should then be returned to CA Renal Medicine (RAF).


Early Morning Urine (EMU): The patient should collect the entire volume of their first void and bring it to the medical centre first thing in the morning for pH testing with standard urine dipsticks. This should be repeated on 3 separate occasions. A single separate sample should be sent to the local laboratory for cystine screening.

24 Hour Urine Excretion: Daily urinary chemical composition, as detailed below, should be measured on 3 separate occasions.

RESULTS

<table>
<thead>
<tr>
<th>Unit</th>
<th>Surname</th>
<th>Date of Birth</th>
<th>Branch/Trade</th>
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<tr>
<td></td>
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<td></td>
<td>JMES</td>
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<tr>
<th>Initials</th>
<th>Service Number</th>
<th>JAMES A L M E</th>
</tr>
</thead>
</table>

Brief history of renal stone disease including date of renal colic, passage of stone and any treatment:

Patients' weight:

Stone analysis (if available):

Description

Percentage of: Calcium  Phosphate  Oxalate  Urate
<table>
<thead>
<tr>
<th>Blood Test</th>
<th>Results</th>
<th>Units/Ref Range</th>
</tr>
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<tbody>
<tr>
<td>Haemoglobin</td>
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<tr>
<td>Sodium</td>
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<td>Potassium</td>
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<tr>
<td>Chloride</td>
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<tr>
<td>Creatinine</td>
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<tr>
<td>Urea</td>
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<tr>
<td>Corrected Calcium</td>
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<tr>
<td>Phosphate</td>
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<tr>
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<th>Results (3)</th>
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<td>Female</td>
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<td>Cystine Screen</td>
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<td>-</td>
<td>-</td>
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<tr>
<td>Morning Urine pH*</td>
<td>&lt;= 5.5</td>
<td>&lt;= 5.5</td>
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</tr>
<tr>
<td>24 Hr Volume</td>
<td>&gt;2 l/d</td>
<td>&gt;2 l/d</td>
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<td></td>
</tr>
<tr>
<td>24 Hr Calcium</td>
<td>&lt;300 mg/d (7.5 mmol/d)</td>
<td>&lt;250 mg/d (6.3 mmol/d)</td>
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<td>24 Hr Oxalate</td>
<td>&lt;= 45 mg/d (0.5 mmol/d)</td>
<td>&lt;= 45 mg/d (0.5 mmol/d)</td>
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</tr>
<tr>
<td>24 Hr Uric Acid</td>
<td>&lt;= 800 mg/d (4.8 mmol/day)</td>
<td>&lt;= 750 mg/d (4.5 mmol/day)</td>
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<tr>
<td>24 Hr Citrate</td>
<td>&gt;320 mg/d (1.7 mmol/d)</td>
<td>&gt;320 mg/d (1.7 mmol/d)</td>
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</tr>
<tr>
<td>24 Hr Creatinine+</td>
<td>20 mg/kg (177 umol/kg)</td>
<td>15 mg/kg (133 umol/kg)</td>
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</tbody>
</table>

\* Consider renal tubular acidosis if pH>5.5. Risk of urate stones unlikely if pH>6.5.
\^ Hyper-uricosuria increases risk of calcium oxalate stones. Risk of urate stones unlikely if <1100 mg/d (7.1 mmol/d).
\+ Low values suggest incomplete collection or low muscle mass.

Name
Rank
Position
Date
INTRODUCTION

1. Diseases of the endocrine system are usually treatable with eventual restoration of good health. In most cases the risk of sudden incapacitation is low. Therefore, many serving personnel diagnosed as having endocrine disease may be retained in the Service, although the common requirement for regular treatment or surveillance is likely to result in a reduced medical category.

2. Nevertheless, because of the lifelong nature of most endocrine diseases and the unpredictable nature of some, all candidates for entry to the Service with a confirmed diagnosis of endocrine disease should be rejected, P8.

CONDUCT OF EXAMINATION

3. The initial diagnosis and assessment of suspected endocrine disease requires specialist opinion from a military consultant physician. Long term management will be shared between specialists and general practitioners. Specialist advice is also available from the tri-Service CA in Medicine and the Civil Consultant Advisor in Endocrinology.

DIABETES MELLITUS (DM)

4. Clinical Concerns. Disabilities and complications resulting from DM and its treatment fall into three time-frames which have different implications for operational effectiveness and employability:
   a. Sudden Incapacitation. Hypoglycaemia is an inherent risk of insulin and many other antidiabetic drugs. This risk can only be reduced, not eliminated.
   b. Medium-term Illness. Infections, metabolic derangements and fluid imbalance may cause incapacitation over several hours to a few days. In general, these risks are related to glycaemic control.
   c. Long-term Complications. Cardiovascular, renal, neurological and ophthalmic complications are a function of the duration and adequacy of control of the disease. They should be detectable before they affect employability or operational effectiveness but they may eventually cause significant disability despite treatment.

5. Diagnosis. The diagnosis of DM is based on symptoms and blood tests including HbA1c, random and fasting blood glucose levels and the oral glucose tolerance test. Unless there are symptoms, a single result should not be considered diagnostic and a repeat of the same test or concordance of another test taken at the same time is required. Typical presentation with Type 1 DM (due to insulin deficiency) or Type 2 DM (due to insulin resistance) is unlikely to cause diagnostic confusion. Specific sub-types of diabetes, including those associated with other diseases and those due to genetic defects of pancreatic beta-cell function or insulin action, may prove more problematic. In addition, DM should be distinguished from impaired fasting glucose (IFG) and impaired glucose tolerance (IGT).

6. Management. Diabetes is best managed in the community. Service patients should be managed as per national guidelines including referral to a local diabetologist when indicated. Groundcrew do not need to be seen by a Service physician before being medically boarded. Aircrew should also be managed locally but in addition referred to the Clinical Aviation Medicine Service (CAMS).

7. Treatment. Regardless of previous treatment, whenever a new antidiabetic medication is started, individuals are to be made ‘Unfit service outside base areas’ and ‘Unfit flying/controlling duties’ (as applicable), for a minimum of 3 months; additional limitations may be necessary depending on occupation. Relaxation of these restrictions will only be considered when there is evidence of adequate glycaemic control, absence of side effects of treatment and acceptable cardiovascular risk. Where two or more classes of antidiabetic medications are used, the most restrictive drug will usually determine the JMES. The glucagon-like peptide-1 analogs are administered by subcutaneous injection and may be impractical in some situations e.g. operational flying.
8. **Self-monitoring.** Self-monitoring of capillary blood glucose (CBG) is aimed at improving overall glycaemic control and reducing the risk of hypo- or hyperglycaemia both of which can result in cognitive impairment. The level of self-monitoring will be determined on both clinical and occupational grounds. Those in high-risk occupations will be required to self-test more frequently. With regard to driving, the DVLA gives guidance for Group 1 and 2 applicants and licence holders.

   a. Aircrew and controllers on acceptable treatment must check their CBG at least 1 hour before reporting for crew duty period or single Service equivalent. If the CBG is above 15mmol/l then carbohydrate ingestion should cease and flight/controlling. Their actions and disposal depend on these results:

<table>
<thead>
<tr>
<th>CBG</th>
<th>Action</th>
<th>Disposal</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt;15 mmol/l</td>
<td>Cease carbohydrate ingestion</td>
<td>Unfit flying / controlling until CBG in the range 5 – 15 mmol/l</td>
</tr>
<tr>
<td>5 – 15 mmol/l</td>
<td></td>
<td>Fit for duty</td>
</tr>
<tr>
<td>&lt;5 mmol/l</td>
<td>Ingest 10 – 15 g carbohydrate (eg glucose tablets)</td>
<td>Unfit flying / controlling until CBG in the range 5 – 15 mmol/l</td>
</tr>
<tr>
<td></td>
<td>Retest CBG within 30 min</td>
<td></td>
</tr>
</tbody>
</table>

   b. A record of all mandatory CBGs and any corrective actions must be kept by the individual and made available (along with their glucometer) at all periodic medical and specialist reviews including annual review at CAMS. Glucometers for use by aircrew and a/c controllers must be ISO 15197 compliant and have the ability to store at least 150 consecutive results.

9. **Assessment and Follow-up.** In addition to local follow-up, aircrew and controllers require initial assessment and annual review at CAMS, which will include resting ECG, urine dipstick, fasting bloods (glucose, HbA1c, lipids, U&Es and LFLTs), review of CBG results (including data-interrogation of glucometer) and review of all specialists reports including ophthalmic screening. Aircrew and a/c controllers will also require an exercise ECG on diagnosis, biennially until age of 40y then annually thereafter.

10. **Unacceptable Parameters.** Diabetics will need to be restricted in their duties e.g. unfit service outside base areas and unfit flying/controlling duties (as applicable), if at any time HbA1c>86mmol/mol (10%), systolic blood pressure>160mmHg or diastolic blood pressure>95mmHg.

11. **Employment Limitations.**

   a. Recruit: Recruits with a history of IFG, IGT or DM are permanently unfit service.

   b. Serving Personnel with suspected IFG, IGT or DM:

      (1) **Investigation.** Whilst investigations are ongoing, groundcrew are ‘Unfit service outside base areas’; additional limitations may be necessary depending on occupation. Those with IFG or IGT can expect to be awarded an unrestricted JMES. Those with DM will only be considered for an unrestricted JMES after a period of 6 months.

      (2) **Treatment with Diet, Exercise and Weight Loss.** Groundcrew who respond to lifestyle changes may be awarded an unrestricted JMES.

      (3) **Treatment with Antidiabetic Drugs:**

         i. Alpha-glucosidase inhibitors (acarbose), biguanides (metformin) and thiazolidinediones (pioglitazone) do not increase the risk of hypoglycaemia and are compatible with an unrestricted JMES.

         ii. Glucagon-like peptide-1 analogs (exenatide and liraglutide) and dipeptidyl peptidase IV inhibitors (saxagliptin, sitagliptin, and vildagliptin) do not appear to cause hypoglycaemia; however, in view of the limited data available for these new agents, groundcrew are permanently ‘Unfit service outside base areas’.

iii Insulin, sulphonylureas and meglitinides can all cause hypoglycaemia. Groundcrew are unfit service outside base areas, unfit for work at heights (>2m), unfit working with unguarded machinery, unfit to drive LGV/PCV/lift trucks, unfit for work in confined spaces and unfit handling live arms; additional limitations may be necessary depending on occupation.

c. Aircrew and controllers with suspected IFG, IGT or DM:

(1) **Investigation.** Whilst investigations are ongoing, aircrew and controllers are unfit service outside base areas and unfit flying/controlling. Those with IFG or IGT can expect to be awarded an unrestricted JMES. Those with DM will only be considered for an unrestricted JMES after a period of 6 months.

(2) **Treatment with Diet, Exercise and Weight Loss.** Aircrew and controllers who respond to lifestyle changes may be awarded an unrestricted JMES.

(3) **Treatment with Antidiabetic Drugs:**

i Alpha-glucosidase inhibitors (acarbose), biguanides (metformin) and thiazolidinediones (pioglitazone) are compatible with unrestricted flying/controlling duties; with the exception of when metformin and pioglitazone are used together in which case only a return to restricted duties is possible ie ‘Unfit solo pilot – must fly with a pilot suitably qualified on type’ / ‘Fit to control only when another controller is on duty and in close proximity’.

ii Aircrew and controllers taking glucagon-like peptide-1 analogs (exenatide and liraglutide) and dipeptidyl peptidase IV inhibitors (saxagliptin, sitagliptin, and vildagliptin) are permanently ‘Unfit service outside of base areas’ and ‘Unfit solo pilot – must fly with a pilot suitably qualified on type’ / ‘Fit to control only when another controller is on duty and in close proximity’.

iii Insulin, sulphonylureas and meglitinides are incompatible with aircrew or controller duties.

**THYROID DISEASE**

12. **Clinical Concerns.** Thyroid disease is common in the Service population, and although both over- and under-activity of the gland are treatable, there is a wide variety of presentations and natural histories. In addition, treatment, particularly for hyperthyroidism, may be protracted and/or complicated. Nevertheless, the overall prognosis for the common forms of thyroid disease is good. Restrictions on employability and activity are necessary for all branches and trades during the initial stages of treatment but the long term management can be conducted in the expectation that the individual will return to full employability. Subtle changes in cognitive function and psychomotor co-ordination accompany the better known, classic symptoms of thyroid disease and therefore individuals are only to be returned to demanding duties (including flying) when their treatment is fully stabilised and after biochemical confirmation of clinical well being has been obtained.

13. **Employment Limitations.**

a. **Recruit.** Candidates are to be assessed in accordance with JSP 950, Part 6, Chapter 7.

b. **Serving Personnel.** Whilst investigations of hypothyroidism or thyrotoxicosis are ongoing all Service personnel are to be awarded the limitation ‘unfit for service outside base areas’ and referred for full assessment.

(1) **Hypothyroidism.** Sub-clinical hypothyroidism (raised TSH with normal T₃/T₄) requires specialist referral for investigation and follow-up. Provided the assessment is satisfactory an unrestricted JMES may be possible. Long-term replacement therapy with Thyroxine is also compatible with an unrestricted JMES.

(2) **Thyrotoxicosis.** Individuals being treated with either Carbimazole or Propylthiouracil are to be awarded the limitation ‘Unfit for service outside base areas’. Additionally they are to be made
E5 ‘Fit to serve in the UK only’ (MND) for at least 6 months whilst treatment is titrated and stabilised. If symptomatic and biochemical stabilisation for six months is achieved then individuals may be E3 (MLD) with the agreement of a service approved physician. The same grading is to apply to those who are placed on ‘block and replace’ therapy. The approach to further upgrading should be cautious and should only be undertaken with the close involvement of a service approved physician. Many patients will go into a period of remission and medical treatment can be stopped. However approximately 50% of this group will experience a relapse of thyrotoxicosis within 1 year of ceasing treatment. As such, when individuals cease drug treatment they are also to be downgraded E5 ‘Fit to serve in the UK only’ (MND) for a period of at least 1 year. A history of treatment with radioactive iodine is compatible with an unrestricted medical category after specialist assessment. There is a high rate of development of hypothyroidism after this treatment, in which case individuals should be treated as for that condition. Surgery is now rarely used to treat thyrotoxicosis but is also compatible with an unrestricted JMES.

c. **Aircrew and controllers.** All aircrew and controllers with new onset of thyroid disease are to be made ‘unfit’ for flying or controlling duties and are to be referred for specialist opinion. Once treatment is stabilised and the clinical state is euthyroid, a return to limited flying / controlling duties can be considered. The approach to further upgrading should be cautious and should only be undertaken with the close involvement of a service approved physician. A return to unrestricted flying / controlling duties may be authorised after a period of specialist surveillance.

(1) **Hypothyroidism.** Sub-clinical hypothyroidism (raised TSH with normal T₃/T₄) requires specialist referral for investigation and follow-up. Provided the assessment is satisfactory an unrestricted JMES may be possible. Long-term replacement therapy with Thyroxine is also compatible with an unrestricted JMES.

(2) **Thyrotoxicosis.** Individuals being treated with either Carbimazole or Propylthiouracil are to be awarded the limitation 2000, 2001 or 2100 as appropriate and ‘Unfit for service outside base areas’. Additionally they are to be made E5 ‘Fit to serve in the UK only’ (MND) for at least 6 months whilst treatment is titrated and stabilised. If symptomatic and biochemical stabilisation for six months is achieved then individuals may be E3 (MLD) with the agreement of a service approved physician. The same grading is to apply to those who are placed on ‘block and replace’ therapy. The approach to further upgrading should be cautious and should only be undertaken with the close involvement of a service approved physician. Many patients will go into a period of remission and medical treatment can be stopped. However approximately 50% of this group will experience a relapse of thyrotoxicosis within 1 year of ceasing treatment. As such, when individuals cease drug treatment they are also to be downgraded E5 ‘Fit to serve in the UK only’ (MND) for a period of at least 1 year. A history of treatment with radioactive iodine is compatible with an unrestricted medical category after specialist assessment. There is a high rate of development of hypothyroidism after this treatment, in which case individuals should be treated as for that condition. Surgery is now rarely used to treat thyrotoxicosis but is also compatible with an unrestricted JMES (L2).

**OTHER ENDOCRINE DISORDERS**

14. Other endocrine diseases include disorders of pituitary, adrenal parathyroid or gonadal function.

15. Limitations.

a. **Recruit.** Candidates with an established diagnosis of any of these disorders are unfit for Service in the RAF (P8).

b. **Serving Personnel including Aircrew.** Although they may still be fit to serve, Service personnel with any of these endocrine disorders are likely to require medical downgrading. Precise disposition will depend on individual circumstances and will be subject to military specialist advice. The complexity and variety of many of these conditions mean that management will often be conducted through tertiary centres or with advice from civilian consultant advisers or civilian sub-specialist colleagues in MDHUs. However, civilian authorities often lack familiarity with Service requirements and working environments and, therefore, before final decisions on the JMES are made, the opinion and advice of a military consultant physician is to be obtained.
INTRODUCTION

1. Diseases of the nervous system frequently cause permanent or progressive disability which may be incompatible with fitness for active service. In addition intermittent disorders may cause a safety hazard in the performance of duties in many trades, and a predisposition may render a person unfit for certain trades. This leaflet gives details on the assessment and treatment of recruits and serving personnel with common and important neurological disorders and is to be read in conjunction with JSP 950, Part 6, Chapter 7.

2. Where indicated, specialist advice is to be sought from a consultant neurologist. Secondary referrals are only to take place once appropriate investigations and opinion has been obtained from the consultant neurologist. If appropriate, the individual may then be referred to:
   a. CA Med (RAF) for advice regarding employability of recruits.
   b. ROMD for advice regarding occupational disposal of Service personnel.
   c. The appropriate single Service Medical Board for the award of an appropriate medical employment standard.

SYNCOPE

3. Clinical Concerns.
   a. A full history should be taken including note of any prodromal symptoms, length of unconsciousness, degree of amnesia and any confusion on recovery. Candidates with symptoms suggestive of cardiovascular or neurological aetiology must be fully investigated. The results of any cardiological or neurological investigations must be normal before acceptance can be considered.
   b. Causes may be difficult to distinguish from epilepsy, especially if there has been a secondary hypoxic convulsion. Examples of factors that may indicate epilepsy as a likely diagnosis are: amnesia for >5 minutes, associated injury, tongue biting, having remained conscious but with confused behaviour and a post attack headache.
   c. Infrequent recurrent episodes may have triggers, such as venepuncture.

4. Limitations.
   a. Recruit.
      (1) Candidates with a single syncopal episode, with a definitive provoking factor, i.e. a simple faint are graded P2, fit for service.
      (2) Those who have had recurrent faints are graded P8.
      (3) Candidates with no definitive provoking factors, who have a normal cardiac and neurological examination with a normal ECG, may be graded P2, provided that 12 months have lapsed since the episode and the risk of recurrence is considered low.
   b. Serving Personnel.
      (1) A single definite syncopal episode, even when complicated by a secondary hypoxic convulsion, is compatible with an early return to unrestricted duties.
      (2) Infrequent recurrent episodes with definite triggers and well-recognised build up of warning symptoms is also compatible with an early return to unrestricted duties.
      (3) Individuals in whom there is any doubt are ‘Unfit for service outside base areas’ and ‘Unfit handling live arms’ for up to eighteen months. If there has been no recurrence after that time,
and with the CA in Neurology / CA Med( RAF)'s recommendation, the individual may be upgraded (L2).

c. Aircrew.

(1) A single definite syncopal episode, even when complicated by a secondary hypoxic convulsion, is compatible with an early return to unrestricted duties.

(2) Infrequent recurrent episodes with definite triggers unrelated to the flying task and well-recognised build up of warning symptoms is also compatible with an early return to unrestricted duties.

(3) Individuals in whom there is any doubt, are 'Unfit for service outside base areas', 'Unfit handling live arms' and 'Unfit flying/controlling' for usually up to twelve months. If there has been no recurrence after that time, and with CA in Neurology / CA Med (RAF)'s recommendation, the individual may be upgraded.

SINGLE EPILEPTIC SEIZURE/ SOLITARY FIT

5. Clinical Concerns. An unprovoked, spontaneous, non-febrile epileptic seizure is associated with an overall risk of recurrence of 50%, the risk being highest over the subsequent eighteen months.


a. Recruit.

(1) Those with a single seizure less than 10 years prior to entry are to be considered unfit for Service in the RAF (P8).

(2) Those who have had a single seizure more than 10 years before entry, and who have not been on treatment during this interval, can be graded P2 provided there is no evidence of persisting predisposition to epilepsy. In such cases, referral to the appropriate specialist (see paragraph 2) is essential.

b. Serving Personnel.

(1) Individuals are to be temporarily downgraded, 'Unfit for service outside base areas', 'Unfit handling live arms', 'Unfit driving', 'Unfit for work at heights', 'Unfit for work with unguarded machinery or high voltage electricity' and 'Unfit to work in confined spaces'. All cases are to be referred to the appropriate specialist (see paragraph 2).

(2) Serving personnel who have had a single epileptic seizure are unfit for Aircraft control, MTD, Fire Fighter, RAFP, and Gnr duties for 10 years. After this period on no treatment and with no recurrence, a return to unrestricted employment will normally be appropriate.

(3) Restrictions are to be applied for eighteen months. If there is no recurrence after that time, for all other Service personnel not listed in paragraph 6b(2) and 6c, the CA in Neurology/CA Med( RAF) may recommend upgrading to A4 L2 M4 E2 if there is no persisting increased risk of seizure.

c. Aircrew.

(1) Aircrew are unfit flying duties for 10 years, after a single seizure. All aircrew must be referred to the CA in Neurology/CA Med (RAF) and subsequently to the RAF MB for medical grading.

(2) If there is no recurrence and no treatment, during that time, and the CA in Neurology / CA Med (RAF) considers there is no persisting increased risk of seizures, the individual may be upgraded; however, pilots will only be permitted to return to an A3 flying category ['Unfit solo pilot – must fly with a pilot suitably qualified on type' (MedLim 2000) and 'Unfit rotary wing flying' MedLim 2002]).

(3) Anti-epileptic drugs are incompatible with fitness for aircrew.
EPILEPSY

7. **Clinical Concerns.**
   
a. A person who suffers from epilepsy, or has a significant increased risk of seizures, poses a potential safety hazard for himself or others if a seizure should occur whilst on duty.

b. The long-term remission of epilepsy by treatment cannot be guaranteed.

8. **Limitations.**
   
a. **Recruit.**

   (1) Candidates diagnosed as having epilepsy or who have had more than one seizure after the age of 5 are considered unfit for Service in the RAF (P8). Only in exceptional cases, as detailed in JSP 950, Part 6, Chapter 7 Leaflet 6-7-5 will an appeal be considered. All appeals are to be directed to the appropriate specialist (see paragraph 2).

   (2) Those candidates with a history of typical petit mal (absence) seizures with onset before the age of 10 years, and who have been fit free without treatment for 5 years may be graded P2.

   (3) Those with febrile convulsions before the age of 6 years, and with no subsequent seizures, may be P2.

   (4) Benign rolandic epilepsy usually stops at puberty. Candidates with a confirmed diagnosis of typical rolandic epilepsy of childhood, who have been seizure-free for 5 years (without treatment) may be graded P2.

b. **Serving Personnel.**

   (1) Individuals are temporarily downgraded, ‘Unfit for service outside base areas’, ‘Unfit handling live arms’, ‘Unfit to undertake service driving’, ‘Unfit for work at height’, ‘Unfit for work unguarded machinery’ and ‘Unfit to work in confined spaces’. All cases should be referred to the appropriate specialist (see paragraph 2).

   (2) If the epilepsy is well controlled by treatment, certain restrictions may be lifted by the RAF MB, but all personnel on treatment are to be assessed permanently ‘Unfit for service outside base areas’.

   (3) Serving personnel are permanently unfit aircrew, Aircraft control, MTD, Fire Fighter, RAFP, Gnr, any branch/trade requiring Group 2 (i.e. LGV/PSV) licences or requiring to work in confined spaces, see Leaflet 3-04 Annex K.

   (4) The decision on fitness to continue in other trades is to be made on an individual basis by the appropriate Medical Board. The risk to the affected individual, and others, needs to be carefully assessed for example, work at height, unguarded machinery, dangerous substances and reliability of affected individuals for safety procedures.

c. **Aircrew.**

   (1) Aircrew are assessed to be permanently unfit flying duties. All aircrew must be referred to the appropriate specialist (see paragraph 2) and subsequently to the RAF MB for medical grading.

   (2) Anti-epileptic drugs are incompatible with fitness for aircrew.

MIGRAINE

9. **Clinical Concerns.** Migraine is a common disorder and indicates that an individual has a constitutional predisposition to recurrent attacks which are often unpredictable. Migraine can cause a safety hazard in aircrew or Controllers and cases in these branches/trades must be referred to the appropriate specialist (see paragraph 2).
10. **Limitations.**

   a. **Recruit.** Candidates with a history of migraine are permanently unfit for aircrew and controller. They may be fit for entry into other branches/trades if the applicant has suffered only infrequent, mild attacks over the preceding two years or more. Those with persisting, frequent attacks, or who are receiving treatment for migraine, are unfit for Service in the RAF (P8). When doubt exists, advice should be sought from R&S DOM, RAF Cranwell.

   b. **Serving Personnel.** Controllers must be referred to the CA in Neurology / CA Med (RAF). If attacks are infrequent / mild personnel may be allowed to continue controlling duties working in the proximity of another controller ("Fit to control only when another controller is on duty and in close proximity"). If attacks are severe, personnel are to be assessed ‘Unfit for aircraft controlling duties’ until in satisfactory remission. Personnel of other ground branches/trades are normally fit to work without restriction if attacks are mild and infrequent. Frequent or severe attacks unresponsive to treatment will require employment restrictions and may, exceptionally, result in the award of P8.

   c. **Aircrew.** Pilots who suffer even a single migrainous headache\(^{119}\) are to be referred to the appropriate specialist (see paragraph 2) for assessment, and are to be awarded an appropriate JMES to make them temporarily unfit flying duties. Following specialist review, if a diagnosis of migrainous headache or of migraine is made, pilots will normally be unfit solo flying, but provided attacks are infrequent and mild, may be allowed to continue flying as or with a co-pilot suitably qualified on aircraft type. If a definite precipitant for the attacks of migraine has been identified and if avoidance of which has prevented a recurrence for at least 2 years, the restriction on flying duties may be removed by the appropriate sS Medical Board. Other members of aircrew may be allowed to continue flying, with or without specific restrictions, depending on role, but frequent severe attacks will cause temporary or permanent unfitness for all aircrew duties.

11. **Action Required.** Aircrew and controllers must be temporarily removed from all flying/controlling duties pending assessment by the appropriate specialist (see paragraph 2).

**HEAD INJURY**

12. **Clinical Concerns.** A severe head injury often causes permanent damage to the brain, and is associated with an increased risk of cognitive, psychiatric and neurological disorders. Traumatic brain injury (TBI) is a major cause of epilepsy accounting for 20% of symptomatic epilepsy. The development of seizures in the military population has significant implications both clinically and for advising the executive on occupational factors and consequences of sudden incapacitation. Mild and moderate TBI also have potential to produce a reduction in performance; this is especially relevant to the aircrew population. In 2009 a working group (WG) was formed and included the DCA in Neurology, the three sS Consultant Advisors in Aviation Medicine and the CFMO. The WG felt that that there needed to be further clarification and uniformity when dealing with head injury and a review of the latest evidence was conducted\(^{120}\). A new Tri-Service HI Policy has now been produced (Annex A). This is to be followed for all aircrew and controllers; however, it is an extremely useful and comprehensive guide on a range of head injuries which can be relevant to all trades.

13. **Limitations.**

   a. **Recruit.** Candidates with a past history of severe head injury who show any evidence of persisting intellectual, psychiatric or neurological disability are considered unfit for Service in the RAF (P8). Where there is considered to be a high risk of post-traumatic epilepsy, candidates are to be graded P8 until 5 years have elapsed without onset of seizures, and by which time the risk will have fallen to that of the general population. Those with a history of neurosurgery, for whom it is believed that an exception may be justified, will not be accepted without Service consultant physician/surgeon or neurologist opinion. Candidates for aircrew who give a history of a past severe head injury must be referred to the appropriate specialist (see paragraph 2) before being assessed as fit.

   b. **Serving Personnel.** A severe head injury may temporarily or permanently prevent full safe employment in certain trades. The advice of the appropriate specialist (see paragraph 2) should be sought if recovery is delayed or incomplete.

\(^{119}\) Including an acephalgic migrainous episode with neurological, visual or other symptoms consistent with migrainous event

\(^{120}\) This coincided with a paper produced by Christensen et al in 2009 looking at 1.6 million people for 19.5 million person years and 78,572 cases of TBI.
c. **Aircrew.** Please refer to Leaflet 5-07 Annex A – Head Injury Policy.

14. **Treatment.** Referral to DMRC, Headley Court is often beneficial in more severe cases, as is referral, at an early stage, to the appropriate specialist (see paragraph 2) for treatment of neurological complications for example, epilepsy.

15. **Discussion.** Before deciding on fitness to return to duty after a severe head injury, a person must be judged to have no significant residual disability. This may require a multi-disciplinary assessment, and in the case of aircrew who have suffered a severe head injury, this multi-disciplinary assessment is to be supervised by the appropriate specialist (see paragraph 2) and is obligatory before a final decision by the RAF MB.

**BOXING**

16. **Clinical Concerns.** There is evidence that there are short term changes in saccadic latency in individuals who have participated in boxing bouts. Saccadic latency is the time from the presentation of a target to the eye to the time when the eye starts to move to bring the image into the area of maximum visual acuity on the retina. This has potential flight safety implications for both aircrew and controllers due to the impact on information processing and target acquisition. Accordingly, aircrew and controllers who have participated in a boxing bout are unfit flying or solo controlling, respectively, for 48 hours after the completion of the bout. Before returning to flying duties they must also be seen by a Military Aviation Medical Examiner (MAME) who is to assess for history of head injury and undertake basic ophthalmic, neurological and ORL examination and testing to determine fitness for return to flying. If there is any suspicion that the individual has suffered from a head injury then the MO is to follow the HI policy as detailed at Leaflet 5-07 Annex A.

**CEREBROVASCULAR ACCIDENT**

17. **Clinical Concerns.** The occurrence of a cerebrovascular accident is frequently symptomatic of associated disorders (for example, hypertension, cardiac disease, arterio-sclerosis, intracranial structural vascular disease) and causes significant morbidity. It is also often associated with a high risk of recurrence and a poor prognosis.

18. **Limitations.**

   a. **Recruit.** A history of cerebrovascular accidents in candidates is rare; in such cases, where there is little risk of future complications or recurrence and no significant residual disability, the candidate may be accepted as fit for entry.

   b. **Serving Personnel.** Transient cerebral ischaemic attacks (TIAs) or thromboembolic strokes are frequently due to underlying arterio-sclerosis when there is a high cumulative risk of recurrence or other vascular disease. Depending on recovery, the minimum restriction on future employment is to be permanently ‘unfit for service outside base areas’. Stroke in young adults is often associated with a better prognosis and the final JMES should be decided on an individual basis.

   c. **Aircrew.** Except in specific circumstances where the individual risk of recurrence is low, TIAs and thrombo-embolic strokes require aircrew to be permanently grounded.

19. **Action Required.** In all cases referral to a consultant physician or the appropriate specialist (see paragraph 2) is required for investigation/treatment and JMES recommendation.

**INTRACRANIAL HAEMORRHAGE**

20. **Clinical Concerns.** Spontaneous intracranial haemorrhage is usually due to hypertension, arterio-sclerosis, a structural vascular abnormality (i.e. an aneurysm or arteriovenous malformation), or a coagulation defect. In the acute stage it may be life threatening, and if the underlying cause is not treated successfully the risk of recurrence is often high.

21. **Limitations.**

   a. **Recruit.** Fitness is dependent on the cause and adequacy of treatment. There must be a negligible risk of recurrence or future complications.
b. **Serving Personnel.** Final fitness depends on the degree of recovery and success of treatment in reducing the risk of recurrence or complications.

c. **Aircrew.** Fitness to return to flying duties depends on cause, recovery and removal of risk of recurrence or development of complications. All cases should be referred to the appropriate specialist (see paragraph 2) prior to the award of an appropriate JMES by the RAF MB.

**DEMYELINATION OF CENTRAL NERVOUS SYSTEM (INCLUDING MULTIPLE SCLEROSIS)**

22. **Clinical Concerns.** An episode of acute disseminated encephalomyelitis is usually a monophasic illness, and provided the individual recovers sufficiently, the prognosis is good. However in the acute stage it can be difficult to distinguish from a progressive demyelinating disease such as multiple sclerosis which is likely to relapse and/or progress to more severe disability.

23. **Limitations.**

a. **Recruit.** A past history of optic neuritis or other neurological syndrome associated with a high risk of development of multiple sclerosis is to be referred to the CA in Neurology/CA Med RAF. An applicant with a diagnosis of multiple sclerosis is to be assessed unfit for Service in the RAF (P8).

b. **Serving Personnel/Aircrew.** All cases of presumed or definite demyelination / multiple sclerosis are to be referred to the appropriate specialist (see paragraph 2) for advice on treatment and a JMES recommendation.

24. **Treatment.** Treatment with Beta Interferon and Glatiramer Acetate is available within the Services where appropriate, but the decision on the appropriateness of this treatment must be made by the appropriate specialist (see paragraph 2).

**PERIPHERAL NEUROPATHY**

25. Acute inflammatory demyelinating polyneuropathy (Guillain-Barre Syndrome) is a potentially life threatening disease, and suspected cases must be referred urgently to the nearest neurology centre for treatment. Sub-acute/chronic polyneuropathy can be physically disabling and often requires sophisticated neurological assessment and long term treatment. Cases should be referred to the appropriate specialist (see paragraph 2).

**NEUROLOGICAL TUMOURS**

26. The effect a tumour may have on a person's fitness will depend on many factors such as whether it is malignant or benign, intracranial (supratentorial or infratentorial) or spinal. Advice on individual cases is to be sought from the appropriate specialist (see paragraph 2) or a consultant oncologist.

**FACIAL PALSY**

27. Idiopathic Bell's palsy does not necessarily require referral. If there is doubt about diagnosis or underlying cause refer to the appropriate specialist (see paragraph 2) or ORL.

28. **Limitations.**

a. **Recruit.** In the acute phase, candidates are to be assessed temporarily unfit pending recovery. Mild residual palsy is acceptable on the advice of a military ORL consultant.

b. **Serving Personnel.** Personnel are to be assessed temporarily unfit exposure to dust unless the eye is adequately protected.

c. **Aircrew.** The condition is temporarily disabling therefore aircrew are to be grounded and referred to the appropriate specialist (see paragraph 2).

**HYDROCEPHALUS**
29. Candidates for Service with a history of hydrocephalus with or without a drainage valve in situ are to be assessed unfit for Service in the RAF P8. Any other history of hydrocephalus will require assessment by the CA in Neurology/CA Med (RAF).
Introduction

1. Head injuries are common, but vary considerably in cause, extent and severity. Minor, low energy blows to the head may result in only superficial injury, for example a simple laceration of the scalp. Such injuries are unlikely to be a concern beyond the healing of any wound, with no neurological effects. However, more significant injuries may result in skull fracture, loss of consciousness, amnesia and brain injury. These will have serious effects on aviation fitness and may require permanent grounding or unfit controlling / RPAS operation. Between these extremes lies a range of injury that may or may not have implications for flight safety.

2. ‘Head injury’ is a non-specific term that encompasses all clinically evident external injuries above the neck, from bruising to severe facial injury. Such injuries may or may not be associated with Traumatic Brain Injury (TBI). This Annex deals with TBI, because it is the alteration in function associated with even mild TBI that is of concern to flight safety.

Definitions

3. TBI has been defined as ‘an alteration in brain function manifest as confusion, altered level of consciousness, seizure, coma or focal neurological deficit resulting from blunt or penetrating force to the head’\(^{121}\).

4. Mild TBI (mTBI) is synonymous with concussion. In mild TBI, subtle behavioural and neuropsychological changes may be the only symptoms.

Principles

5. The aim of assessing post-TBI patients is to determine the future risk of serious complications and the appropriate occupational disposal, including any appropriate limitation to flying or controlling status. The intent is to preserve flight safety without unnecessarily limiting the individual patient.

Considerations

6. **Extent of any functional neurological sequelae.** Any neurological sequelae will potentially affect the ability to function in an aviation environment. The functional effects of any such sequel must be carefully assessed, with specialist neurological review, before returning aircrew to flying duty (or controllers/RPAS operators to their duties). Permanent sequelae are likely to lead to permanent disqualification from flying.

7. **Risk of Post-Traumatic Seizure (PTS).** TBI has long been known to cause epilepsy and, in general, the risk of developing epilepsy following TBI is proportional to the severity of the original injury. However, this is difficult to determine because not all TBI patients develop epilepsy, and in those that do, onset may be delayed for many months or years. Features of TBI that indicate the degree of risk of future PTS include:

<table>
<thead>
<tr>
<th>Loss of consciousness</th>
<th>Skull fracture</th>
</tr>
</thead>
<tbody>
<tr>
<td>Post-Traumatic Amnesia</td>
<td>Intra-cranial haemorrhage</td>
</tr>
<tr>
<td>Cerebral contusion</td>
<td>Intra-cerebral haemorrhage</td>
</tr>
<tr>
<td>Focal neurological dysfunction</td>
<td>History of early epileptic seizure (within 7 days of injury)</td>
</tr>
</tbody>
</table>

The presence, degree or absence of these features allow classification of the risk of a PTS for individual patients, which then informs the correct occupational course of action with respect to grounding and subsequent return to duty, if that becomes possible.

8. **Presence of any neuropsychological effects.** Even without an obvious head injury, mTBI can produce a range of symptoms. These normally manifest immediately after the event before resolving within minutes to hours, although in some patients they persist for longer periods. Mild TBI can affect general psychological performance and a pilot’s ability to operate an aircraft and is therefore a potential flight safety hazard. To make a diagnosis of concussion/mTBI all three of the following criteria must be met:\[122:\]

a. A history of related head injury or involvement in a blast.

b. Glasgow Coma Scale (GCS) no lower than 13 at thirty minutes post-injury.

c. One or more of the following:

1. **Alteration of consciousness (AOC) or mental state.** This may present as a variety of transient physical, cognitive or emotional symptoms, as tabulated below.

2. **Loss of consciousness (LOC).** For no more than 30 minutes duration post-injury.

3. **Post-traumatic amnesia (PTA).** For no more than 24 hours duration post-injury.

4. **Transient neurological abnormalities.** Examples include focal signs or seizures.

Table 1. A comprehensive list of symptoms and signs potentially associated with mTBI (concussion)

<table>
<thead>
<tr>
<th>Physical</th>
<th>Cognitive</th>
<th>Behavioural &amp; Emotional</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feeling / looking dazed*</td>
<td>Confusion*</td>
<td>Problems controlling emotions</td>
</tr>
<tr>
<td>Headaches</td>
<td>Disorientation*</td>
<td>Agitation</td>
</tr>
<tr>
<td>Dizziness</td>
<td>Difficulty concentrating*</td>
<td>Irritability</td>
</tr>
<tr>
<td>Balance disorders</td>
<td>Slowed mental processing</td>
<td>Anxiety</td>
</tr>
<tr>
<td>Nausea and/or vomiting</td>
<td>Problems with memory</td>
<td>Aggression</td>
</tr>
<tr>
<td>Fatigue</td>
<td>Degraded judgement</td>
<td>Depression</td>
</tr>
<tr>
<td>Sleep disturbance</td>
<td></td>
<td>Impulsiveness</td>
</tr>
<tr>
<td>Blurred vision</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sensitivity to light/noise</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hearing difficulties</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Numbness and tingling</td>
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</tr>
</tbody>
</table>

* Common symptoms

Up to 50% of mTBI sufferers may experience such symptoms, but they normally resolve within a few weeks. Unless they are severe, or continue for more than 3 weeks, no action is required, although aircrew will be unfit to fly during this time. Where diagnostic confusion exists appropriate specialist clinical input should be sought.

9. **Aviation Risk Factors.** Whilst the healing of injuries such as skull fractures and the assessment of any continuing neurological deficit will be part of the general management of the case, the assessment of any PTS risk and neuropsychological effects will require additional consideration.

\[122\] For a diagnosis of concussion/mTBI, symptoms must be specifically related to a precipitating event and must not be due to drugs, alcohol, medications or other illness or injury, psychological trauma or language difficulties.

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Injury Classification

10. The table at Appendix 1 to this Annex outlines the Tri-Service classification of seizure risk following mTBI (in aircrew), grouping the cases into minor, mild, moderate and severe categories by risk. Columns b and c detail the features that determine the category for each case.

   a. N.B. Above the minor group, the presence of any single feature in a higher group will move the patient up to that group, even if all of the other features indicate a lower severity.

11. Boxing. Taking part in boxing has potential flight safety implications for aircrew due to the potential impact on information processing and target acquisition – see AP1269A Lft 5-07. Consequently, aircrew that have participated in a boxing bout are unfit flying for 48 hours after the completion of the bout – whether there is loss of consciousness, any other symptoms or not. Should aircrew taking part in boxing suffer any definable head injury or neuropsychological symptoms, their return to flying must be based on the criteria in this policy.

Medical Management and Risk Assessment

12. History. It is essential that sufficient detail of the injury and its effects are obtained to allow classification. If available, statements from witnesses should be obtained in order to augment the patient's history of events, using form F Med 138. Cases admitted to hospital should have adequate detail but, if it is absent, medical officers should obtain the necessary information before the Medical Board. An FMed 1041 may also be requested (following appropriate consent) in order to further capture subtle changes in personality and performance (see para 16).

13. Initial Flying Restriction. All aircrew that suffer a mTBI must be removed from flying duties immediately pending further assessment. In the cases that are 'Mild', or worse, this should be by formal medical board action in accordance with sS procedures. Flying logbooks must be amended to show the A4 medical category, in accordance with para 24 to Lft 3-01.

14. Neuropsychiatric Assessment. The non-specific effects of mTBI will only need formal assessment if symptoms persist for over 3 weeks. However, this assessment should not be delayed until immediately prior to a return to flying. Patients need to be monitored in the early weeks and, if assessment is required, they should be referred to DMRC Headley Court. Further information is available from the MTBI Team at DMRC by telephone on 01372 381119, by e-mail DMRC-mTBI@mod.uk or from the website http://www.mTBI.mod.uk/index.php.

15. Investigations.

   a. Radiology. Any CT or MRI investigation should be reported by a neuro-radiologist because such a specialist might be able to exclude some apparent pathology, or detect some lesions that might not be apparent to other radiologists. If necessary, this can be arranged through DCA Neurology.

   b. EEG. The value of the EEG test in predicting PTS has not been proven, so this should not be conducted unless there is a clinical indication, or unless requested by DCA Neurology.

16. Occupational Reports.

   a. Occupational Performance. As above, Form Med 1041 can be used to formally seek the views of line managers. An FMed 1041 must be provided by the individual’s line manager prior to review for return to flying following mild and moderate cases, to ensure that any behavioural changes that have occurred are evident to the medical officer.

   b. Flying Assessment. After more than 6 months grounding pilots will require a formal refresher course, so their performance will be formally assessed before returning to flying. However, minor cases might not need a refresher and so a simulator review and/or QFI/QHI check ride should be considered.

   c. Aircraft controlling and RPAS operation. An FMed 1041 is of equal utility when deciding the occupational fitness of controllers and RPAS operators (especially Class 3)
following TBI. Many of the symptoms and signs at Table 1 are prejudicial to flight safety for these branch and trades, and so should be positively excluded by all means possible.

**Return to Flying Duty**

17. **Minor to Severe Categories.** Aircrew may return to flying duties, or commence training, no sooner than the time periods from the injury indicated in the table at Annex A (column d for trained aircrew and column e for selection cases and those under initial training). A minimum level of assessment is required prior to upgrading or the award of a flying medical category; this is shown in the table but further tests should be conducted when a clinical indication exists.

18. **Head Injury without TBI.** As previously stated, this policy is concerned with the effects that mTBI might have on flight safety. However, there will be a group of patients that suffer a head injury without evidence of TBI; these may be returned to flying in a shorter time period than the minor group. Therefore, in the absence of any findings, symptoms or signs and at the discretion of the managing MAME, the individual may be returned to flying at less than 7 days. Any suggestion of TBI places the individual into the minor category and they will require the mandatory minimum period of grounding of 7 days, or until their symptoms have resolved and they have undergone any testing that is indicated.

19. **Criteria for return to flying at less than 7 days.** ‘Minor’ cases that were alert and orientated from the moment of injury; that have had no alteration or loss of consciousness; that have suffered no PTA and no neurological abnormality (even transient); that have had no symptoms consistent with concussion/mTBI following the injury and that remain asymptomatic, may be returned to flying at less than 7 days post injury at the MAME’s discretion. The medical officer must satisfy himself or herself that the history demonstrating the absence of symptoms or signs is reliable.

**Medical Category on Return to Flying**

20. This policy was developed following review of the latest evidence on determination of PTS risk and also the likely hazard if a flight crew member had a seizure in the air. The latter review demonstrated that shorter periods of grounding with the pilot returning to flying in an A3 category (with an ‘as or with co-pilot’ limitation) are not acceptable for any form of fast jet or rotary wing flying, due to the potential hazard presented by incapacitation in the air123. The presence of an additional pilot would be unlikely to prevent an accident in this type of military flying. Consequently, although this policy introduces longer periods of grounding than in the past, the individual would be expected to return to flying with an unrestricted medical category.

21. However, by exception and subject to single Service clearance, the crew of multi-engine, multi-pilot, large cockpit, fixed wing platforms may be returned in an A3 limited medical category. In such cases an appropriate minimum period of grounding must be agreed by the sS CA Av Med and DCA Neurology.

**Return to Aircraft Controlling and RPAS Operation**

22. In general, the research and evidence based applies equally to the occupational disposal of both controllers and RPAS operators, with the following caveats.

a. **Controllers.**

   (1) **Minor TBI.** Controllers with a minor degree of TBI (serial 1 of the table at Appendix 1 to this Annex) should be managed as per aircrew, and are unfit controlling for 7 days. Column (f) applies before return to duty.

   (2) **Mild TBI.** Depending on the nature and severity of their symptoms, controllers with mild TBI (Serial 2) may be allowed to return to effective duty, with the limitation ‘Fit to control only when another suitably qualified controller is on duty and in close proximity

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123 The chance of another pilot recovering the aircraft if the subject pilot has a seizure during FJ or RW flight is believed to be remote due to the high speed and tandem cockpit design in the former and small cockpit and low level flight configuration in the latter.
(code 2101). This limitation is for a minimum of 6 months, following which the clearance requirements at Column (f) are to apply before return to unrestricted duty.

(3) **Moderate or greater TBI.** Controllers with a moderate or greater TBI (Serial 3 – 5) are to be managed as per aircrew, being unfit controlling for the periods stated in Columns (d) and (e). The clearance requirements at Column (f) are to be applied.

b. **RPAS operators.** RPAS operations are sub-divided into Class I – III by NATO (see Lflt 4-02 Annex C). Although mTBI is relevant to all operators, the flight safety risk increases from Class I to Class III operations. Class III operators are to be managed to the same standard as controllers; other operators are to have their flight safety risk carefully assessed and managed in accordance the principles as laid down in this Annex.
### THE CLASSIFICATION AND ASSESSMENT OF AIRCREW AND POTENTIAL AIRCREW POST-HEAD INJURY

<table>
<thead>
<tr>
<th>Ser</th>
<th>Classification</th>
<th>Definition</th>
<th>Aircrew Medical Category</th>
<th>Controller</th>
<th>Clearance Requirement</th>
</tr>
</thead>
</table>
| 1   | Minor          | • Any neuro-psychological/mTBI symptoms (see paragraph 7).  
• No loss of consciousness (LOC)  
• No PTA  
• No neurological deficit  
• No skull fracture  
| Trained | 7 days  
N.B. Assessments at Column f must be completed, if clinically indicated.  
N.B. Return prior to 7 days - see paragraphs 16-17. | A4  
7 days  
28 days | Unfit controlling 7 days  
A4  
28 days | Occupational Reports:  
Consider simulator assessment  
Consider QFI/QHI check ride  
Medical Clearance:  
Unit MO  
Concussive/mTBI symptoms must have resolved |
| 2   | Mild           | • LOC < 30 minutes  
• PTA < 30 minutes  
• No neurological deficit  
• No skull fracture  
| Trained | 6 months | A4  
6 months  
1 year | A4  
L4  
M4  
E3  
‘Fit to control only when another qualified controller is on duty and in close proximity(MedLim 2101) – 6 months | Occupational Report:  
Mandatory FMed 1041  
Consider simulator/QFI/QHI assessment  
Medical Clearance:  
Avn Med review |
| 3   | Moderate       | • LOC 30 mins to <24 hours  
• PTA 30 mins to <24 hours  
• No neurological deficit  
• Skull fracture  
| Trained | 6 months | A4  
5 months  
3 years | A4  
L4  
M4  
E3  
Unfit controlling duties  
6 months | Occupational Reports:  
Mandatory FMed 1041  
Consider simulator/QFI/QHI assessment  
Medical Clearance:  
Avn Med review  
DCA Neurology opinion if required |
| 4   | Severe         | • LOC > 24 hours  
• PTA > 24 hours  
• Focal neurological deficits (non-permanent)  
• Brain contusion  
• Intracranial haemorrhage  
• Depressed Skull fracture  
| Trained | Not normally returned to flying | Permanently unfit aircrew / controller | | Exceptional cases may be considered for return to flying from 3 years post-injury.  
DCA Neurology and CA Avn Med opinions are mandatory. |
| 5   | Very Severe    | • Penetrating Injury  
• Permanent neurological deficit  
| | Permanently unfit aircrew | | |

124 In ‘minimal’ cases, return to flying may be authorised by a unit SMO that is qualified to at least IMO/NEMO level or by Military Aviation Medicine Examiners (MAME).

125 Formal refresher course should be required following loss of flying currency for greater than 6 months.

126 Avn Med reviews must be conducted by a sS avn med consultant.

105 Following 6 months of being unfit controlling duties specialist review must be sought prior to returning to duty.
INTRODUCTION

1. Musculoskeletal disease and injury are the most common conditions seen in RAF Primary Care. A small minority of these have inflammatory joint or connective tissue disease and these patients usually require referral to a consultant rheumatologist. The severity of these conditions range from mild and self-limiting to the immediately life threatening, and many have functional limitations which may require adjustment to the Joint Medical Employment Standard (JMES). Cumulative evidence suggests that early treatment to suppress inflammation or correct deformity retards disease progression and minimises the functional consequences. Treatment can therefore improve functional capacity, quality of life and life expectancy. Many of the diseases are compatible with an unrestricted JMES and very few require the award of P8. Throughout the following chapter all controllers are to be regarded as aircrew for treatment purposes as the medication issues are the same.

2. **Conduct of Examination.** Many of the diseases have extra-articular features and the examination must not be confined to the locomotor system. A full general medical screening is always required and urine should be tested for protein and blood.

3. **Specialist Resources.** The RAF Consultant Adviser in Rheumatology and Rehabilitation (RAF CA in R&R) can be contacted at the Defence Medical Rehabilitation Centre (DMRC) where there is a centralised referral system. There are also outpatient services at the Defence Rheumatology Centre (DRC) St Thomas’ Hospital, London and the MDHU Peterborough. Outpatient services are also available at the Regional Medical Centre RAF Lossiemouth and at the Regional Rehabilitation Units at RAF Cranwell, RAF Halton and RAF Honnington.

ANKYLOSING SPONDYLITIS

4. **Clinical Concerns.** Cramped conditions may increase stiffness in the short term and may exacerbate the eventual disability. Significant spinal rigidity, particularly cervical, can cause restriction in all round vision and is incompatible with ejection. Emergency egress from both vehicles and aeroplanes may be compromised. Cold environments may increase stiffness and lead to rigidity in the longer term. Iritis occurs in up to 25% of cases and is often associated with more severe spinal disease. Peripheral arthritis is a common feature.

5. **Limitations.**
   a. **Recruit.** Candidates with pre-existing ankylosing spondylitis are considered unfit for Service in the RAF (P8).
   b. **Serving Personnel.** Mild to moderate disease is usually compatible with an unrestricted L2 category. Moderate to severe disease may require the award of L3 ‘Unfit strenuous physical exertion’ or L4 ‘Unfit for work in confined spaces’. Climatic restrictions (E3) may be appropriate in some cases where cold environments are to be avoided.
   c. **Aircrew.** An unrestricted flying category can be retained where there is good spinal mobility. Aircrew should attend annual review by the Consultant Advisor in Rheumatology and Rehabilitation. Persistent symptoms (especially whilst flying) may require a specific aircraft type limitation. Irreversible loss of cervical mobility, spinal osteoporosis or spondylitic cervical x-ray changes are incompatible with ejection seat aircraft and may be render the aircrew member unfit to fly aircraft with parachute escape systems. Annual review will take into account disease duration, axial and peripheral mobility, secondary osteoporosis and extra-articular features. If there is significant axial or peripheral stiffness an in-cockpit functional assessment will be required – such cases should be discussed with CFMO who will arrange the assessment. Functional assessment will need to be repeated at intervals to ensure disease progression does not compromise the aircrew member’s fitness to operate the aircraft safely.

6. **Further Action.** Specialist rheumatological review is necessary. Investigations should include FBC, ESR, CRP, appropriate imaging (to include sacroiliac joints), and an ECG for aircrew and those employed in hostile environments.
7. **Treatment.** Treatment is based on a regular exercise routine and all patients should normally be admitted to the ASPIRE Group at the DMRC for education concerning self-management. Therapy with non-steroidal anti-inflammatory agents is useful both for symptoms and for maintaining mobility. Flying duty and solo controlling should be suspended for 7 days following first exposure to each NSAID. Disease modifying drugs may be required for associated peripheral arthritis (see Rheumatoid Arthritis below).

8. **Discussion.** The prevalence of ankylosing spondylitis is approximately 0.1% with the sex ratio of 4:1 in favour of males. The primary pathology is an inflammatory enthesis. The course of ankylosing spondylitis is highly variable and can be characterised by spontaneous remissions and exacerbations, particularly in early disease. The outcome is generally favourable because the disease is often relatively mild or self-limited, and the majority of patients remain fully employed. Only rarely does ankylosing spondylitis show persistent disease activity that results in early and severe disability. Individual prognosis is difficult to predict but adverse features include severity of disease, peripheral joint involvement, development of extra-articular features, stage of disease at time of diagnosis and start of appropriate therapy. Cervical spine involvement is particularly disabling. Chest rigidity is common leading to a restrictive type ventilation abnormality. Uncommon complications such as cardiac defects and pulmonary fibrosis are relatively rare and usually only occur in patients with severe disease and other extra-articular complications such as iritis. A rigid (ankylosed) osteoporotic spine is susceptible to fracture.

**GOUT**

9. **Clinical Concerns.** Acute gout is characterised by its rapidity of onset. Pain can be exquisite and there is swelling and redness of the affected joint. An acute attack can develop over 2 to 4 hours and can incapacitate the individual. This has obvious operational significance particularly for aircrew and those employed in hostile environments. Several factors are recognised as precipitants of acute gout. These include trauma, cold exposure, dehydration, alcohol and inter-current disease. Sustained hyperuricaemia can have adverse effects on renal function. Occasionally gout is secondary to neoplastic disease.

10. **Limitations.**
   a. **Recruit.** Candidates with a history of gout are assessed unfit for Service in the RAF (P8).
   b. **Serving Personnel.** Once appropriate treatment has been instituted, limitations are not required but an E2 category should be awarded.
   c. **Aircrew and controllers.** Unrestricted flying / controlling is permitted after appropriate treatment has been instituted and symptoms have settled.

11. **Further Action.** Referral to a rheumatologist is required. A full blood count and renal/biochemical profile should be obtained including at least 3 plasma urate assays. If possible diagnosis should be confirmed by synovial fluid analysis and associated disorders such as obesity, hypertension, hyperlipidaemia and vascular disease addressed.

12. **Treatment.** Acute gout requires rest and full dose NSAIDs. The decision to introduce drugs to normalise hyperuricaemia depends on the frequency of attacks of acute gout, the degree of hyperuricaemia and the presence or otherwise of reversible factors. Urate lowering drugs should not normally be used after just a single attack of gout but should be considered after the second or third attack and where prophylactic measures have failed. Allopurinol is usually the anti-hyperuricaemic of first choice but in common with all other uric acid lowering drugs should not be used until an attack of gout has settled, and then only with initial NSAID cover. Aircrew are to be grounded, controllers are made unfit “solo controlling” for the first 4 weeks of anti-hyperuricaemic treatment.

13. **Discussion.** Prophylactic measures should always be used before resorting to open ended anti-hyperuricaemic treatment. Uric acid levels are often low during an attack which may be misleading. Sustained uncomplicated asymptomatic hyperuricaemia should not be treated unless plasma urate levels are very significantly raised (> 0.65 mmol/l).

**RHEUMATOID ARTHRITIS**

14. **Clinical Concerns.** Rheumatoid arthritis is a severe inflammatory disorder characterised by widespread joint pain and stiffness. Stiffness may be generalised, worse in the morning and there are often
systemic features such as weight loss. Cervical spine involvement is common in advanced disease and could lead to cervical cord compression if subject to violent movements or exposure to high G or ejection. Monitoring of maintenance therapy and specialist review may interfere with deployability. The disease is marked by a variable course involving exacerbations and remissions of inflammatory activity. Many cases are chronic and progressive, resulting in severe disability.

15. **Limitations.**

   a. **Recruit.** Candidates with Rheumatoid arthritis are normally considered unfit for Service in the RAF (P8). A history of juvenile chronic arthritis in remission should prompt referral to a Service rheumatologist through OC R&SDOM RAF Cranwell.

   b. **Serving Personnel.** An unrestricted JMES with a E2 category may be appropriate in mild cases. Often some form of limitation will be required to reflect disability, ongoing disease activity and drug therapy.

   c. **Aircrew.** Unrestricted flying may be possible when there is no disability provided that maintenance therapy is compatible with aircrew duties (see Lflt 5-19). Particular attention is directed at assessment of the cervical spine and it may be necessary to avoid ejection seat aircraft.

16. **Further Action.** Early referral to a Service rheumatologist is required. Investigations such as FBC, acute phase markers, biochemical screen, auto-antibody profile and appropriate imaging should be made available.

17. **Treatment.** Successful management requires prompt diagnosis and early treatment with disease modifying drugs. There is an initial therapeutic window of opportunity to prevent erosive change. NSAIDs are used for symptom control but have no disease modifying activity. They have a number of well known gastrointestinal, respiratory and renal side effects which should be considered before prescription. Hazardous duty, including flying / solo controlling should be suspended for 7 days following first exposure to each NSAID prescribed. Dehydration should be avoided whilst taking NSAIDs because the renal response to dehydration/hypovolaemia is impaired.

   a. **Disease modifying anti-rheumatic drugs** (DMARDs) include Sulphasalazine, Methotrexate, Leflunomide, Cyclosporin, Azathioprine and Gold. All of these drugs have potentially serious side effects and therefore require regular monitoring and downgrading to E3 ‘Unfit for service outside base areas’. For most drugs this will apply throughout the period of treatment. In the case of Sulphasalazine, routine monitoring may be stopped after 12 months and if disease control is satisfactory then an E2 category might be considered, after consultation with a Service consultant in Rheumatology. None of the drugs require permanent withdrawal from flying duties but because of the risk of early toxic side effects and slow onset of action, flying duties should be suspended for the first 2 months and only reinstated following confirmation of fitness to fly by the RAF MB.

   b. **Hydroxychloroquine** is less toxic (if less effective) and requires 28 days cessation of flying / unfit solo controlling and the limitation ‘unfit for service outside base areas’. Aircrew taking Hydroxychloroquine are to have annual ophthalmic screening whilst on treatment.

   c. **Steroids** prescribed in low dose (10 mgs or less daily) as maintenance therapy may be compatible with a limited flying category (‘Unfit solo pilot - must fly with a pilot suitably qualified on type’) or close proximity controlling (‘Fit to control only when another controller is on duty and in close proximity’). Higher doses are incompatible with hazardous duties (including aircrew duties / solo controlling) because of the many adverse effects, particularly neuro-psychiatric, and blunting of the normal stress response. See Lflt 5-19 for further information on the use of steroids.

   d. **Anti-TNF therapy** may be considered as single or combined (with other DMARDS) therapy for patients intolerant of or with unsatisfactory response to standard DMARDS. Patients started on anti-TNF therapy should be temporarily downgraded P7 MND with the potential to be upgraded E3 MLD (base areas only) after 12 months, subject to satisfactory Service Rheumatology and Occupational Medicine opinions.
Monitoring of patients on DMARDS and anti-TNF therapy should be in accordance with published best practice guidelines from DMRC Headley Court which also details contraindications, cautions, potential side effects and JMES recommendations.

18. Discussion. Rheumatoid arthritis has a prevalence of 1% with a sex ratio in favour of females of 3:1. Key early decisions are to distinguish rheumatoid arthritis from other causes of symmetrical poly-arthritis and to determine prognosis. Between 40 and 50% have ‘aggressive’ rheumatoid arthritis with persistent synovitis, joint destruction and disability. There are a number of factors which indicate an unfavourable prognosis. Demographically these include an older age group and female gender. Clinically these are an insidious onset, longer duration of disease at initial visit, greater number of joints affected and presence of extra articular features especially nodules. Other adverse features are a strongly positive rheumatoid factor, high ESR/CRP, erosive change on x-ray and a number of genetic markers which include HLA-DRB1 and subgroups of HLA-DR4. Approximately 20% of patients have a single limited episode of synovitis and 30% relatively benign disease. Any suggestion of significant cervical involvement requires flying and ground limitations and should be investigated by MRI scan. Clinically relevant extra articular features are uncommon but careful examination of the heart and lungs is mandatory especially in the ‘aggressive’ group. Uncontrolled inflammatory disease is associated with significant cardiovascular morbidity. Screening and treatment of other modifiable CV risk factors is therefore important. Anaemia is common and should be sought at each review because of its flying/functional implications. Any patient with an established diagnosis of rheumatoid arthritis should come under regular rheumatology review regardless of disease activity.

REACTIVE ARTHRITIS

19. Clinical Concerns. Typically a lower limb large joint asymmetric arthropathy which most commonly involves the knee. Significant disability and functional limitation in the early stages with up to 20% progressing to aggressive destructive disease. Approximately one third develop Reiter's syndrome with inflammatory ocular and mucocutaneous lesions. Extra-articular involvement such as carditis and renal disease is rare.

20. Limitations.

a. Recruit. Candidates with reactive arthritis are usually considered unfit for Service in the RAF (P8). Those with a history of reactive arthropathy who have remained asymptomatic for more than five years prior to entry, may be acceptable subject to the advice of a Service consultant in R&R.

b. Serving Personnel. Temporary downgrading to E3, ‘Unfit for service outside base areas’, is required whilst the disease is active. Approximately 75% resolve within the first 6 months and most should regain an unrestricted JMES with an E2 category. Recurrences are frequent (particularly in the sexually acquired group) but the asymptomatic period can last for several years. Aggressive persistent disease can occur in up to 20% of cases and will require a JMES which reflects disability, ongoing disease activity and drug therapy.

c. Aircrew and controllers. Unrestricted flying / solo controlling is possible in most cases following resolution of the initial episode. Extra-articular lesions such as inflammatory eye disease are of particular importance and should prompt immediate specialist referral as appropriate. HLA-B27 positive patients are at a greater risk of developing spondylitis which is usually mild but may be significant enough to affect the flying category (see ankylosing spondylitis above).

21. Further Action. Early referral to a military rheumatologist is required. General investigations such as FBC, ESR, CRP, biochemical screen and MSU should be available at initial review. Appropriate cultures and serology should be employed to detect triggering infections originating in the throat, uro-genital and gastrointestinal tract. Patients require a chest X-ray to rule out sarcoidosis which can occasionally have a very similar presentation. Aircrew and Controllers require an ECG to rule out cardiac complications. Other routine investigations are not required.

22. Treatment. Antibiotic treatment should be given if a microbe is isolated or suspected. In the case of a sexually transmitted trigger treatment should also be offered to the patient’s partner. Most cases respond to rest and NSAIDs. First exposure to any of the NSAIDs requires a 7 day cessation of flying / solo controlling. Chronic aggressive arthritis will require disease modifying anti-rheumatic drugs such as


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Sulphasalazine and Methotrexate. (See rheumatoid arthritis for JMES limitations). Joint injection with corticosteroid requires a minimum 7 day cessation of flying and the limitation ‘Fit for sedentary duties only’. Inflammatory eye disease requires ophthalmic opinion and treatment. This will require at least a temporary cessation of flying (see Lflt 5-14).

23. **Discussion.** Reactive arthritis complicates sexually transmitted genital tract infection and certain bacterial gut infections in up to 3% of cases. Prognosis is generally good with the overwhelming majority becoming symptom free before 6 months. However, recurrences are frequent and can be triggered not only by new infections but also non-specific factors such as stress and the exposure to environmental extremes. The arthropathy associated with sexually acquired disease has a particular tendency to recur with further episodes in up to 50% of cases (at 10 years) in some series. Patients with aggressive disease tend to have early multiple joint involvement, extra-articular features and HLA-B27 positivity.

**SYSTEMIC LUPUS ERYTHEMATOSUS**

24. **Clinical Concerns.** Systemic Lupus Erythematosus (SLE) is a serious multi-system disease with diverse clinical and laboratory manifestations and a variable course and prognosis. Involvement of vital organs, particularly the kidneys and central nervous system, has a significant morbidity and is incompatible with operational deployment. A sub-group with limited disease confined to the skin and musculoskeletal system may be fully functional. Photosensitivity may limit deployment and require a zonal restriction. Non-specific systemic features, such as severe fatigue, are a common feature. Raynaud’s phenomenon may limit cold exposure.

25. **Limitations.**

   a. **Recruit.** Candidates with SLE are considered unfit for Service in the RAF (P8).

   b. **Serving Personnel.** SLE is occasionally compatible with an unrestricted E2 category but more often than not downgrading is required to reflect disability, ongoing disease activity and drug therapy. In severe disease the award of P8 will be required.

   c. **Aircrew and controllers.** An unlimited flying / solo controlling category may be possible if the disease is mild and restricted to the skin (with no photosensitivity) and the musculoskeletal system. Moderate to severe disease, especially when there is major internal involvement, is incompatible with a flying category and may have implications for solo controlling.

26. **Further Action.** Specialist referral to a Service rheumatologist. Investigations will depend upon the pattern of organ involvement but should include FBC, ESR, biochemical screen and auto-antibody profile (to include Ds DNA) and urinalysis.

27. **Treatment.** Mild disease restricted to the skin and musculoskeletal system often responds to Hydroxychloroquine. This can be prescribed subject to temporary withdrawal of flying category / suspension of solo controlling for the first 28 days of exposure and annual ophthalmic assessment. An E2 category would be appropriate for most mild cases. More severe disease requiring immunosuppression with steroids, Azathioprine and Cyclophosphamide, will generally require withdrawal of a flying category.

28. **Discussion.** An autoimmune disease of unknown aetiology with diverse clinical and laboratory features. UK prevalence 0.02% with a sex ratio of 9:1 in favour of females. Immunologic aberrations give rise to excessive auto-antibody production, some of which cause cytotoxic damage, while others participate in immune complex formation resulting in inflammation. Clinical manifestations may be constitutional or result from inflammation of organ systems which may be involved singularly or in combination. Involvement of kidney and central nervous system account for a significant morbidity and there is a 10% mortality at 5 years. A number of auto-antibodies can be detected but the most useful for diagnostic purposes is the Ds DNA with a frequency of up to 90% and a high specificity.

**OTHER CONNECTIVE TISSUE DISEASES**

29. **Clinical Concerns.** These include systemic sclerosis, inflammatory muscle disease and the inflammatory vascular diseases. Most present with general systemic features such as malaise, fever and weight loss. Most have musculoskeletal involvement whilst there are more specific manifestations which help to distinguish the individual connective tissue diseases. Symptoms and signs are often of such severity that deployment or aircrew duties cannot be considered.
30. **Limitations.**

a. **Recruit.** Candidates are normally considered unfit for Service in the RAF (P8).

b. **Serving Personnel.** 'Undifferentiated' syndromes are well described with symptoms confined to the musculoskeletal system. Anti-nuclear antibodies are often detected in low titre and symptoms are often mild with no functional impairment. Such cases can retain an unrestricted JMES with an E2 category. Moderate to severe disease requires JMES modification to reflect disability, ongoing disease and drug therapy.

c. **Aircrew and controllers.** Unrestricted flying / solo controlling is occasionally possible in mild 'undifferentiated' disease after assessment by the RAF CA in R&R.

31. **Further Action.** Referral to a rheumatologist is required. Base line investigations such as FBC, ESR, CRP, renal/biomechanical screen and auto-antibody profile are required by all. Further investigations will depend on the nature and severity of the underlying disorder.

32. **Treatment.** Mild 'undifferentiated' syndromes may be successfully treated with intermittent NSAIDs or long term Hydroxychloroquine. NSAID treatment requires cessation of flying for 7 days after first exposure to each drug. Hydroxychloroquine requires 28 days cessation of flying / solo controlling following first exposure and annual ophthalmic review. Immunosuppression (corticosteroids/cytotoxic agents) may be required but would be incompatible with aircrew duties or ground duties involving strenuous physical exertion.

33. **Discussion.** Although the connective tissue diseases have enough features in common to ensure their acceptance as a clinical family, they differ in many aspects and do not have any consistent pathological or immunological features. A common negative feature is the lack of a proven aetiological agent. There is a wide variation in the spectrum of clinical severity which varies from mild non progressive musculoskeletal disease to a rapidly fatal course with some of the vasculitides. Outcome is dependent upon early diagnosis and the institution of appropriate treatment. A high level of clinical suspicion is necessary and early referral to a rheumatologist is essential. A common early presentation is Raynaud’s phenomenon, especially in scleroderma and mixed connective tissue disease where it is present in over 90% of the cases (see Raynaud’s phenomenon below).

**RAYNAUD’S PHENOMENA**

34. **Clinical Concerns.** Abnormally prolonged episodic peripheral vasospasm in response to cold, physical and emotional stimuli. This is often painful with numbness and paraesthesia which is not only distracting but may significantly blunt motor skills. The condition may be associated with a connective tissue disease. Raynaud’s Phenomena mimics Hand-Arm Vibration Syndrome (HAVS), see Lft 3-04 Annex F, hence a careful occupational history is required prior to diagnosis.

35. **Limitations.**

a. **Recruit.** Candidates are considered unfit for Service in the RAF (P8).

b. **Serving Personnel.** Primary Raynaud’s may respond to simple measures such as stopping smoking and improved (layered) clothing. This may then be compatible with an unrestricted JMES with a E2 category. More severe primary and secondary Raynaud’s phenomena usually require some adjustment of the JMES to reflect the severity of the syndrome, underlying disease (if any) and drug therapy. The E3 limitation ‘Unfit exposure to excessive cold’ may be required.

c. **Aircrew and controllers.**

   (1) **Primary Raynaud’s.** Primary Raynaud’s phenomenon is compatible with an unrestricted category provided that symptoms are well controlled. A requirement to avoid cold conditions may limit deployability.

   (2) **Secondary Raynaud’s.** Secondary Raynaud’s phenomenon is often associated with severe underlying disease and limitations almost always apply, dependent upon the severity of the vasospasm and the underlying disorder.
36. **Further Action.** All patients require a measurement of acute phase markers (ESR/CRP) and anti-nuclear antibody. A young female with negative tests, mild symptoms and who is otherwise healthy does not require alteration of the JMES or specialist referral. Severe symptoms/signs, late onset (>20 years) and positive tests require specialist review and appropriate further investigation.

37. **Treatment.** Mild disease is usually successfully treated by simple measures. Complete abstinence from smoking is especially important. INM have the capability to do thermography testing which may help when deciding deployability; this is available on a Tri-Service basis for both air and ground crew. Moderate disease requires treatment with drugs which enhance peripheral vasodilatation such as Nifedipine and Prazosin (see Lft 5-19). Severe Raynaud’s may require intravenous therapy with Prostaglandin E1 or Prostacyclin which is incompatible with flying duties; the award of P8 may be necessary.

38. **Discussion.** Raynaud’s phenomenon is common and has been reported to occur in 10% of the population especially young women, with clusters in certain families. It usually follows a benign course and may improve with time. A small proportion will go on to develop one of the connective tissue diseases. A number of factors have prognostic significance for the evolution to a connective tissue disorder. These include late onset (>20 years) positive anti-nuclear antibody, raised acute phase markers and severe disease.

**NECK PAIN**

39. **Clinical Concerns.** Neck pain of musculoskeletal origin is common with a lifetime prevalence of up to 67% and yearly prevalence of 37% in the general population. Work involving exposure of the neck to regular mechanical activity has been associated with an increased risk of neck and shoulder pain. Non-specific neck pain has a postural or mechanical component. Other types of acute neck pain are attributable to cervical radiculopathy, torticollis, and whiplash type disorders. Neck pain usually resolves within days or weeks but can cause severe disability in 5%, and in some populations, neck related disorders account for as much time off work as low back pain. Chronic neck pain is considered a multidimensional phenomenon and subsequent disability is associated with neck pain intensity and duration. The proportion of patients developing chronic symptoms depends on cause, but is thought to be about 10% overall; however, up to 40% of people with whiplash may report symptoms after 15 years.

40. **Limitations**
   
a. **Recruit.** A candidate with persistent symptoms or limited cervical mobility should be graded P8. Those with a previous non-bony neck injury should be graded P8 until free of symptoms for one year when undertaking exercise comparable with military training.

b. **Serving Personnel.** A period of temporary downgrading may be necessary following development of acute neck pain. Persistent symptoms and / or signs warrant referral for diagnosis followed by rehabilitation and pain clinic review as soon as possible. Affected personnel should avoid contact sports that may aggravate the condition. Significant continuing disability may result in a recommendation for medical discharge.

c. **Aircrew.** The aetiology of neck pain may vary between fast jet and rotary, front and rear aircrew. Persistent and/or distracting symptoms necessitate grounding. Head-borne mass, ergonomics, aircrew behaviour patterns and high +Gz manoeuvres may have a role in the development of neck pain and mitigation of the effect of these should be sought. As a preventative strategy, aircrew should be encouraged to participate in the Aircrew Conditioning Programme (ACP) (see AP3342 Section 4 Leaflet 407) which is designed to enhance pilot performance through reducing fatigue and strain injuries. It involves specialist instruction in exercises to engender a culture of career-long neck and upper quadrant maintenance, to maintain a neutral cervical spine position under load, and to reduce compensation strategies during loading. Fast jet and rotary aircrew presenting with neck pain should be managed according to the algorithm at Annex A. Asymptomatic radiologically identified cervical spondylosis is compatible with unrestricted flying. However, limitation of cervical movement may affect lookout and a cockpit check is recommended.

41. **Treatment.** Red flags indicating serious underlying pathology must be sought at initial presentation and require appropriate urgent referral (see Directorate of Defence Rehabilitation guidance on the management of red flags for neck pain - Defence Intranet). Psychosocial contributors should be sought and addressed as soon as possible (see Directorate of Defence Rehabilitation guidance on the management of yellow flags in patients with neck pain - Defence Intranet). The goals of treatment are to minimise symptoms, maximise function and encourage self management. Referral to a PCRF for management should
be made if symptoms persist in conjunction with analgesia and general advice. Review of work related factors should be undertaken. Referral to a RRU, pain clinic and/or DMRC may be considered for further investigation and treatment (see Management of Neck Pain - Directorate of Defence Rehabilitation Best Practice Guidelines, Defence Intranet). Neck and arm pain due to cervical radiculopathy occasionally requires spinal surgical management, but the majority of these cases resolve with conservative management.
Aircrew presents with neck pain related to flying

Red Flags
- Recent trauma
- Neurological symptoms or signs
- Night pain
- Intractable pain
- History to suggest cervical instability

Yellow Flags
- Reduced activity levels
- Past history of prolonged incapacity due to pain
- Compounding workplace stressors
- Disproportionate reliance on health professionals

Red flags to MAME for assessment, investigation and referral as required.

Yellow flags can be accepted onto pathway but should be discussed with MAME within 2w.

First presentation?

Likely to be fit continued flying?

READ code PCS15090A13
Aircrew neck pain/cervicalgia – initial consultation

Treatment Options - PCRF
- Information
- Mobilisation / manipulation
- Stretches
- Flexibility
- Postural re-education
- Strength training
- Acupuncture (iaw AP1269 Lft 6-02 para 43)

Management Options - MAME
- Assess impact on flying; consider appropriate limitations
- Analgesia and anti-inflammatory drugs as indicated
- PCRF referral
- Patient information leaflets
- Review helmet use / type (eg Mk 10 versus Mk 4)
- Assess for yellow flags
- Referral (eg red flags)
Joint PCRF/MAME review after maximum 6 weeks

Resolution of symptoms?

Y

Functional Neck Check

MAME review after 1 month or 10 hr flight

N

1) Further review of flying limitations
2) Downgrade (mandatory if further referral required)
3) Intensive rehabilitation & consideration of RRU referral
4) Analgesia/anti-inflammatory drugs as required
LEAFLET 5-08 ANNEX B: FUNCTIONAL NECK CHECK FOR FAST JET AIRCREW

1. Aircrew returning to flying duties after neck injury or with recognised neck restrictions should have formal assessment of their capability in role. The assessment should be conducted by suitably qualified and experienced persons e.g. Senior Operator / Instructor. The outcome of the assessment should be recorded within the aircrew flying records and on the Medical Information System. Aircrew should be reviewed after one month or 10 hours flying, whichever occurs first. The following activities serve as a checklist:

On the Ground

2. Should be dressed for role and capable of satisfactory completion of the following tasks:
   a. aircraft walk round inc inspection of underside of fuselage
   b. demonstrate technique for moving head whilst under G loading
   c. view all gauges, screens and avionics that are relevant to role
   d. access all controls, avionics and switching that are relevant to role
   e. lookout check, from 7 O'clock through to 5 O'clock, through canopy
   f. must have harness secured as per normal flight.
   g. with and without NVG

When Flying

3. Should be dressed for role, in representative positions within the cockpit and capable of satisfactory completion of the following tasks:
   a. ability to keep sight of other aircraft whilst in formation
   b. ability to conduct lookout in ‘check 6’ position
   c. ability to conduct lookout in representative positions and postures whilst wearing NVG

Typhoon and Hawk Aircrew

4. Are advised to:
   a. fly non combat sorties initially
   b. progress through an offensive air combat sortie
   c. complete a defensive air combat sortie prior to returning to full flying

Follow up consultation with Military Aviation Medicine Examiner (MAME) after one month or 10 hours of flight.
LEAFLET 5-08 ANNEX C: FUNCTIONAL NECK CHECK FOR ROTARY / MULTI-ENGINE AIRCREW (inc REARCREW)

1. Aircrew returning to flying duties after neck injury or with recognised neck restrictions should have formal assessment of their capability in role. The assessment should be conducted by suitably qualified and experienced persons e.g. Senior Operator / Instructor. The outcome of the assessment should be recorded within the aircrew flying records and on the Medical Information System. Aircrew should be reviewed after one month or 10 hours night flying, whichever occurs first. The following activities serve as a checklist:

Cockpit Crew

2. Should be dressed for role\textsuperscript{128} and capable of satisfactory completion of the following tasks:
   a. aircraft walk round inc inspection of rotor head and underside of fuselage
   b. lookout check, from 7 O'clock through to 5 O'clock, through chin windows and above
   c. must have harness secured as per normal flight.
   d. with and without NVG
   e. view all gauges, screens and avionics that are relevant to role
   f. access all controls, avionics and switching that are relevant to role
   g. conduct rapid emergency egress from cockpit or cabin exits iaw aircraft egress drills

Rearcrew

3. Should be dressed for role\textsuperscript{128}, in representative positions within the cabin and capable of satisfactory completion of the following tasks (where applicable to role):
   a. monitoring aircraft separation (blades, tail and landing gear) from lateral obstructions and ground in the final approach configuration whilst wearing NVG
   b. lookout in representative positions and postures whilst wearing NVG
   c. monitoring and controlling USL whilst wearing NVG
   d. winch operation including recovery of persons or stores
   e. fast rope dispatch and recovery
   f. control and activation of crew served weapons
   g. restraint of internal loads
   h. data input and monitoring of required avionics whilst wearing NVG

Follow up consultation with Military Aviation Medicine Examiner (MAME) after one month or 10 hours of night flight.

\textsuperscript{1} Consider immersion suit with ALCP / BALCS + stole if relevant to role.
LEAFLET 5-08 ANNEX D: AIRCREW DIRECT ACCESS PHYSIOTHERAPY

Background

1. Flight-related neck pain can lead to impaired operational performance, reduced JMES and, possibly to long-term degenerative injury. Non-reporting of neck pain and musculoskeletal injuries by aircrew is a known longstanding problem within all stages of the flying career. Reasons for non-reporting previously cited by aircrew include lack of confidence in the availability of occupational understanding within physiotherapy departments, fear of formalising the inability to fly and the forced interruption into the flying programme.

2. Aircrew Direct Access Physiotherapy (ADAP) will provide the opportunity to empower aircrew to be able to self-manage their individual needs. In general, direct access programmes are associated with no increased demand for services; greater levels of attendance; increased completion of treatment and lower costs. ADAP encourages aircrew to seek treatment from a specialist that is aviation medicine trained and reduces the risk that aircrew will seek treatment from a non-Service source. For aircrew, a key benefit is that lower levels of work absence are required. Experience with pilot programmes suggest there are high levels of service-user satisfaction and confidence. The goal of the ADAP service is for treatment of flight-related neck and back pain to become a part of aircrew culture analogous to physiotherapy within an athlete team.

Responsibility

3. Responsibility for decisions concerning fitness to fly rest with the MAME. Success of ADAP relies on good lines of communication with the MAME / SMO, the OC of Sqns and the Primary Care Rehabilitation Facility (PCRF). The following principles should be applied:

   a. Aircrew should be seen in ADAP clinics either in designated treatment rooms within the Sqn Buildings or in the PCRF

   b. As a minimum, weekly PCRF ADAP meetings must be conducted with a MAME, in which each ADAP patient contact is discussed

   c. A record of the ADAP MAME discussion should be entered on DMICP under the Health Administration readcode ‘PCRF Rehabilitation Review’

Competency

4. The following competencies are required for physiotherapists providing an ADAP service:

   a. A minimum of 3 years musculo-skeletal post-graduate physiotherapy experience

   b. Completion of RAF CAM Aviation Medicine course

   c. Experience of working on a flying unit for a minimum period of 6 months

Encouraging ADAP uptake

5. Providers of an ADAP service may wish to consider the following strategies to enhance ADAP uptake:

   a. Regular informal meetings with Sqn OC and Execs

   b. Regular informal visits to the Sqns

   c. Regular attendance at Stn daily CAGs

   d. Deployment on exercise with the Stn Sqns

   e. Air experience flight on Sqn aircraft where possible

   f. Interaction with the Aircrew Conditioning Programme on Stn
ASSESSMENT OF DERMATOLOGICAL CONDITIONS

1. Dermatological disorders are often chronic relapsing conditions with periods of normality of varying duration. In the assessment of candidates for service it is therefore essential to take a thorough dermatological history and not rely on examination findings alone. When in doubt about a candidate’s fitness, a report should be obtained from the individual’s GP or consultant dermatologist.

2. Acute non-exanthematous and non-communicable diseases which ordinarily run a benign, self-limiting course need not affect medical grading provided that they do not result in disability or interfere with general health. Skin disorders associated with underlying systemic disease should prompt careful examination and should be assessed accordingly.

3. Some dermatological conditions, whilst not causing problems in a temperate environment, are apt to become active and incapacitating under tropical or arctic conditions. Therefore, an individual is unsuitable for service outside temperate climates if he has a significant chronic or recurrent history of diseases such as:
   a. Severe pustular, or chronic indurated cystic, acne.
   b. Recurrent boils or carbuncles.
   c. Atopic eczema.
   d. Cheiropompholyx if no cause, such as fungal infection, can be found and removed.
   e. Seborrhoeic dermatitis
   f. Eczematoid dermatitis and lichenification.
   g. Contact dermatitis due to textiles.
   h. Photosensitive dermatoses.
   i. Dermatitis herpetiformis.
   j. Severe hyperhydrosis.
   k. Severe ichthyosis (arctic conditions).
   l. Severe prurigo.
   m. Psoriasis, unless mild.
   n. Acne rosacea.
   o. Sycosis barbae.
   p. Urticaria or angioneurotic oedema.

In all cases it is the history of chronic or recurrent attacks that constitutes the disability for service in tropical environments. Simple, mild attacks, with full recovery, are acceptable for worldwide service. Chronic or recurrent skin disease, particularly eczema or contact dermatitis may render an individual unfit to work in confined spaces. (See Lft 3-04 Annex K).
MANAGEMENT OF SPECIFIC DERMATOLOGICAL CONDITIONS

ACNE VULGARIS

4. **Clinical Concerns.** Acne lesions may interfere with the ability to wear webbing, shoulder harnesses and various items of aircrew equipment.

5. **Limitations:**
   a. **Recruit.** Candidates with significant active acne are unfit for Service in the RAF (P8) and should be referred to a civilian dermatologist for treatment with Isotretinoin. Where treatment is successful, the candidate may be reviewed for entry 6 months after cessation of treatment. Candidates must be able to wear a respirator and webbing.
   b. **Serving Personnel.** Serving personnel requiring oral retinoids should be referred to a consultant dermatologist to initiate treatment.
   c. **Aircrew.** Oral retinoids are not to be given to aircrew (see Lflt 5-19).

PSORIASIS

6. **Clinical Concerns.** Mild psoriasis does not usually interfere with service life. There is a risk of moderate to severe exacerbation when individuals are put under emotional or physical stress.

7. **Limitations:**
   a. **Recruit.** Candidates with evidence of psoriasis on any part of the body, other than discrete areas only on the elbows and knees are unfit for Service in the RAF (P8). Exemptions may be considered when the skin has been clear from any episodes of psoriasis without treatment, for a period of at least five years. This exemption should only occur after discussion with OC R&SDOM who may recommend seeking an opinion from a Service appointed consultant dermatologist.
   b. **Serving Personnel.** Serving personnel requiring retinoid therapy are to be referred to a consultant dermatologist to initiate treatment.
   c. **Aircrew.** Oral retinoids are not to be given to aircrew (see Lflt 5-19).

ECZEMA/DERMATITIS

8. **Clinical Concerns.** The main problem in service conditions is widespread eczema or dermatitis affecting the hands and feet.

9. **Limitations:**
   a. **Recruit.** Candidates with active atopic eczema that has been present in the previous five year are unfit for Service in the RAF (P8). Candidates with non-specific mild eczema (including discoid eczema) if present are unfit for Service in the RAF (P8). Previous episodes or treated cases who have been clear for at least 12 months may be acceptable. Candidates with a past history of eczema (defined as eczema which has affected the flexures, or eczema occurring under the age of five) are likely to develop hand/foot dermatitis in service conditions, especially if working with oils, greases, detergents etc. It is therefore important that candidates suffering from or having had atopic eczema are excluded for occupations where hand dermatitis is likely.
   b. **Serving Personnel.** Extensive skin disease is not compatible with operational military service; limited skin disease may be acceptable. Further details are contained in JSP 950, Part 6, Chapter 7.

10. **Pigmented Skin Lesions.** All pigmented lesions that may be malignant are to be referred to the appropriate specialist for excision. When malignancy is considered unlikely, but excision is still indicated, histology is to be obtained in all cases.
11. **Cutaneous Leishmaniasis.** Cutaneous Leishmaniasis may be acquired following service in the tropics. Cases usually present weeks to months later as chronic superficial skin ulceration, unresponsive to conventional antimicrobial therapy. If untreated or misdiagnosed, the condition may result in extensive tissue damage and scarring. Untreated South American forms may relapse after many years as mucocutaneous leishmaniasis, causing destruction of the facial area. Although in-patient treatment is required, no permanent JMES change is required following successful completion of treatment. Diagnosis involves skin biopsy, and specialised culture of skin specimens for Leishmania parasites. All suspected cases are to be referred to the Birmingham Heartlands Hospital in accordance with AP1269 Lft 8-05. Cases are to be reported using FMed 85.

12. **Wearing of Beards.** A recommendation for personnel to be exempt from shaving on medical grounds can only be made by the DCA in Dermatology or a Consultant Occupational Physician. The need for continued exemption is to be reviewed every 2 years. Cases in which beards can be worn permanently fall into the following categories:

   a. Those who can achieve a satisfactory respirator seal by the use of petroleum jelly, such as Vaseline, during exercises and who could, in wartime, tolerate the need to shave. MOs are to ensure that these individuals are graded L2.

   b. Those whose medical condition precludes any shaving at all. MOs are to ensure that these personnel are graded L3 ‘Unfit non-aircrew respirators’ (MedLim 9302).

   c. **Aircrew.** In the case of aircrew, the beard may not affect the protective neck seal function of the aircrew respirator, but may affect the function of the oxygen mask assembly. Bearded aircrew are not to use Vaseline to effect a respirator seal during exercises. Additionally, it should be borne in mind that aircrew who are not flying may still need to use of a non-aircrew respirator.

13. Where a beard is worn for medical reasons it is still to comply with the requirements of AP 1358 ‘Uniform Dress & Appearance Regulations for the Royal Air Force’ Chap 1 Para 0152 and Para 0153.

**AIRCREW CONDITIONS**

14. **Mask Dermatitis.** Aircrew may develop mask dermatitis after prolonged wearing of oxygen masks. This may result from sensitivity to the agents used in cleaning them or from irritation of an underlying skin condition (e.g. seborrheoa). Consideration should be given to changing the cleaning products used, limiting the wearing time, and treatment of underlying conditions. Resistant cases should be referred locally for consultant dermatology opinion.

15. **Drug Treatment.** See Lft 5-19.
INTRODUCTION

1. This leaflet is limited to the assessment of individuals with blood-borne infections – HIV and Hepatitis B and should be read in conjunction with AP 1269, Lflt 9-03, SGPL 08/08 HIV/AIDS in the Armed Forces – Guidance for Service Healthcare Workers and SGPL 03/08 Immunological Protection of Military Personnel.

2. Further advice on the assessment and management of conditions not detailed in this leaflet is available from SO1 Casework (RAF) the Defence Consultant Adviser (DCA) in Communicable Diseases, the Civil Consultant in Tropical Diseases, military consultant physicians and SO1 PH (RAF).

HUMAN IMMUNODEFICIENCY VIRUS

3. Clinical Concerns. Human Immunodeficiency Virus (HIV) is the cause of Acquired Immunodeficiency Syndrome (AIDS). It is a blood-borne virus and is transmitted by direct exposure to blood and bodily fluids. Some Service personnel, by the nature of their work, may be at risk of acquiring HIV from exposure to potentially infected material. Although carriers may be asymptomatic, the use of anti-retroviral agents and the development of AIDS related infections may have adverse health effects.

4. The advent of highly active anti retroviral therapy means that the natural history of HIV disease can be significantly altered and patients with AIDS-defining illnesses may recover much of their previous health. HIV infection is no different from any other medical condition and each patient must be assessed individually. HIV may infect the cells of the nervous system directly, causing subtle changes in function; it may therefore have an insidious effect on the Central Nervous System (CNS), with an unpredictable clinical course. Furthermore, opportunistic infections and neoplasia may occur.

5. Limitations. The DCA in Genito-Urinary Medicine (G-U Med) is available for advice on employment limitations in individual cases taking account of the following:

   a. **Recruit.** Candidates who are HIV-positive are considered unfit for Service in the RAF (P8).

   b. **Serving Personnel.** Service personnel (excluding healthcare workers) infected with HIV are not considered to pose a significant risk of infection to others and asymptomatic HIV-positive Service personnel can generally work normally. The JMES is to be assessed on a case-by-case basis.

   c. **Aircrew and Controllers.**

      (1) Individuals found to be HIV positive are to be temporarily graded MND and withdrawn from flying or controlling duties for investigations and initiation of treatment under the supervision of the Military Advice Service for Sexual Health and HIV (MASHH) and the Clinical Aviation Medical Service (CAMS). All individuals will be required to attend for regular follow up and most will be started on Highly Active Antiretroviral Therapy (HAART). Individuals should be unfit flying or controlling whilst initiating, modifying or discontinuing treatment for a period of at least 2 months. Once an individual’s CD4 count is in the normal range and the viral load is maintained consistently below 50 copies per ml for 6 months they should be graded by a formal medical board with advice from MASHH and CAMS. Individuals who do not co-operate with ongoing treatment and/or assessment are to be immediately withdrawn from flying or controlling duties.

      (2) Aircrew and Controllers are to be assessed by the formal medical board on a case-by-case basis. Individuals are not to be graded higher than MLD caveated with limitations as for ground personnel including the requirement for a pre-deployment health assessment at MASHH and CAMS. The medical board should also consider the side-effects of any medication and the requirement for regular monitoring. It is expected that HIV positive individuals will be restricted to ‘Unfit solo pilot – must fly with a pilot qualified on type’ (MedLim 2000) or ‘Fit to control only when another qualified controller is on duty and in close proximity’ (MedLim 2101).

      (3) The development of subtle neurocognitive symptoms leading to poor performance of complex tasks should be considered by the medical board and a baseline screening of neurocognitive function should be performed before the return to flying or controlling duties.
Ongoing functional assessments in the form of routine flight/controlling proficiency tests should be sufficient to detect individuals whose performance has deteriorated; for whom further neurocognitive function should be considered. Additional screening for psychological and cardiovascular conditions may be required as appropriate.129

d. Healthcare Workers. National guidelines exist regarding the employment of HIV-positive healthcare workers who undertake exposure-prone procedures, as they are a potential source of infection. Advice regarding employment of HIV-positive Service healthcare workers should be addressed to the appropriate Regional Occupational Medicine Consultant in the first instance. If limitations in the employment of a HIV-positive HCW are deemed to be necessary, the L4 limitation, ‘Fit for limited duties in trade or branch (type will be specified in Med Docs)’ (MedLim 1208) may be appropriate.

6. Clinical Management. New diagnosis of an HIV-positive individual will normally follow testing associated with blood donation, referral from a Genito-Urinary Medicine Clinic, testing following counselling by a Medical Officer, or diagnosis after hospital admission for an AIDS-defining illness. All cases, whether symptomatic or not, are to be notified to the DCA in G-U Med, who will coordinate the clinical management of HIV infection in Service personnel. The DCA in G-U Med will liaise with the individual’s local hospital whether this is a Service, MOD Hospital Unit (MDHU) or a National Health Service (NHS) unit.

7. Treatment. Although combination anti-retrovirals therapy may modify the clinical course of patients once AIDS has developed, no therapy is curative. Transmission of HIV from infected pregnant women to their children is significantly reduced by the use of anti-retrovirals during pregnancy. All requests for antiretroviral therapy for Service personnel are to be channelled through the DCA in G-U Med.

8. Discussion. World-wide, most HIV cases are due to heterosexual contact; vertical spread from mother to child; the use of blood products containing HIV, or use of contaminated injecting equipment. In the United Kingdom most new cases of HIV infection have been acquired through heterosexual intercourse, but homosexual contact is also a significant route of transmission. British Service personnel are not, however, screened for HIV infection (at entry or during service) except when this is an entry requirement for another country, in which case the individual must be counselled before testing is undertaken in accordance with SGPL 08/08. An unknown number of Service personnel are infected with HIV. Individuals who are diagnosed as HIV-positive require close medical supervision.

HEPATITIS B VIRUS

9. Clinical Concerns. Hepatitis B is transmitted either sexually, prenatally or as the result of blood-to-blood contact (including injury with contaminated sharp instruments, sharing equipment by intravenous drug users and blood transfusion). Infection of adults usually produces an acute hepatitis, but a small proportion may go on to either develop chronic infection (see Lflt 5-04) or become asymptomatic carriers of the virus. In some areas of the world there are high rates of hepatitis B infection, and up to 20% of the population may carry the virus. Individuals with carriage and chronic infection are at increased risk of developing chronic active hepatitis, cirrhosis and hepatocellular carcinoma. Some Service personnel by the nature of their work may be at risk of acquiring hepatitis B from exposure to potentially infected material. Infection of personnel considered to be ‘at risk’ can be prevented by immunization.

10. Limitations.

a. Recruit. Candidates who are known to be carriers of hepatitis B are to be referred to R&S DOM for assessment of their fitness to serve.

b. Service Personnel. Service personnel infected with or carriers of, hepatitis B are not considered to pose a significant risk of infection to others. Exceptions are healthcare workers who undertake exposure-prone procedures, for whom specific national guidelines exist. Regional Occ Med Departments should be contacted for employment advice on individual cases.

c. Healthcare Workers:

(1) On Entry. Doctors, dentists, nurses, operating department practitioners, medics, dental assistants, dental hygienists, all other health professionals and non-health professionals whose

129 This may include neurocognitive testing, reports from QFIs or simulator checks
duties in a RAF medical establishment makes them prone to blood/ bodily fluids exposure, are to be screened for Hepatitis B at R&SDOM Cranwell, RAF Halton, or any other recruitment centre as appropriate. Candidates are to produce documentary evidence (an original result from a reputable laboratory performed in the last 5 years) of Hepatitis B immunity and be tested for immunological markers. Candidates found to be Hepatitis B positive are considered unfit for Service in the RAF (P8). Applicants who have proof of immunization but are non-responders are to be handled in accordance with national guidelines. Applicants who have not been immunized are not at risk to patients but are to commence a course of Hepatitis B immunization as soon as practically possible. (See AP 1269, Lflt 9-03.)

(2) **Serving Personnel.** There are National Guidelines for Hepatitis B positive healthcare workers who undertake exposure-prone procedures. Healthcare workers, who develop acute hepatitis B or are found to be carriers, must cease work involving ‘exposure-prone procedures’ immediately. They are to be referred to a Consultant Physician for initial assessment, and then to a Regional Occ Med Department (ROMD) for initial medical grading advice. ROMD may, if required, refer the individual to the UK Expert Advisory Panel on Blood-borne Virus Infection for their opinion. Once treatment (if any) has been established and the prognosis is known, the HCW is to be referred to RAF MB for a PMB.

11. **Clinical Management.** Patients with acute hepatitis B are to be temporarily downgraded until there is clinical evidence of full recovery. Carriers of hepatitis B are to be referred to a Consultant Physician to determine their individual prognosis and management, and their infectivity to others. ‘Low risk carriers’ (HBsAg-positive, HBeAg-negative) will normally pose minimal hazard to others. ‘High risk carriers’ (HBsAg-positive, HBeAg-positive) will require counselling regarding sexual contacts and advice regarding procedures or incidents likely to involve blood-to-blood contact (e.g. dentistry, medical procedures and contact sports likely to involve blood spills such as boxing). The JMES should reflect these considerations. HBe-Ag-positive healthcare workers are to have their viral load assessed in accordance with Health Service Circular 2000/020 dated 23 Jun 00. The serological status of carriers is to be assessed at regular intervals, no less than annually, and the JMES modified if the carrier status changes.

12. **Treatment.** No specific antiviral therapy is indicated for acute hepatitis B infection. Treatment is supportive and dependent on clinical condition. Fewer than 10% of infected adults do not successfully clear the virus from their blood, and become chronic carriers (the proportion is higher in children). A small number of these can seroconvert following interferon therapy. However, this treatment is variable in its success rate, has significant side effects and is costly. Its use is, therefore, reserved for selected patients, and must be given under the direction of an experienced consultant physician.

13. **Discussion.** Acute hepatitis B infection carries a small mortality and a significant morbidity. Worldwide, it indirectly results in large numbers of cases of hepatocellular carcinoma. As a consequence, the World Health Organisation has launched a campaign to eradicate the infection by immunizing all children in countries where carriage is high. In countries with low rates of carriage, such as the UK, the approach has been to target vaccine at sub-groups of the population who are recognised to be at increased risk through either their occupation, lifestyle or underlying illness. These groups include healthcare workers, some policemen, some firefighters, attendees of genitourinary medicine clinics, long-term visitors to endemic areas of the world, prisoners and intravenous drug abusers. Within the Armed Forces immunization is to be offered to those personnel who are considered to be at risk because of their specific occupation (see AP1269 Lflt 8-04). Service personnel are not currently offered routine immunization against hepatitis B.

**HEPATITIS C** (See AP 1269, Lflt 9-03.)
LEAFLET 5-11: PATHOLOGY

Sponsor: DACOS OM

HAEMOGLOBINOPATHIES

1. **Clinical Concerns.** Sickle cell anaemia is a severe inherited homozygous condition (Hb S/S) characterised by recurrent painful crises, marked anaemia and the presence of sickle cells in the peripheral blood film. Sickle cell trait (Hb A/S) is a benign condition usually associated with normal development and exercise tolerance. Homozygous \( \alpha \) or \( \beta \) thalassaemia results in chronic ill health with significant anaemia. The heterozygous \( \alpha \) and \( \beta \) thalassaemia traits are usually asymptomatic with a hypochromic, microcytic blood picture and little or no anaemia. Other haemoglobinopathy traits are unlikely to produce significant clinical or haematological abnormalities. Double heterozygotes with Hb S/\( \beta \) thalassaemia, Hb S/C or Hb S/D have disease of varying clinical severity.

2. **Limitations.**
   a. **Recruit.** Candidates who are known to have a homozygous or double heterozygous haemoglobinopathy are unfit for Service in the RAF (P8). Asymptomatic trait conditions are not a bar to entry.
   b. **Serving Personnel.** Assessment depends on the nature of the disorder and the duties of the individual. Personnel with trait conditions are fit for all general duties but consultant opinion should be sought before exposing personnel to hypoxia or extreme physical stress.
   c. **Aircrew.** Homozygous and double heterozygous conditions are incompatible with flying duties. Sickle cell trait is not a bar to flying duties, and screening is not to be carried out routinely. Other haemoglobinopathy traits are most unlikely to cause any significant clinical or haematological abnormality and personnel with such traits are likely to be fit for all duties including flying.

3. **Screening.** Screening for HbS is only to be conducted when clinically indicated. Where it is required, it is to be carried out in accordance with Lflt 5-11 Annex A.

SPLENECTOMY

4. **Clinical Concerns.** Patients who have undergone splenectomy, or have reduced splenic function, are more susceptible to a number of potentially life threatening infections including Haemophilus influenzae, Neisseria meningitidis, malaria, Capnocytophaga canimorsus (transmitted from dogs) and babesiosis.

5. **Limitations.**
   a. **Recruit.** Candidates who have undergone a splenectomy for any reason are unfit for Service in the RAF (P8).
   b. **Serving Personnel.** In the absence of complicating factors, serving personnel who have undergone splenectomy are to be graded MND in the first instance. If they are otherwise fit in all respects with no evidence of recurrent disease, and/or abdominal sequelae, they can be considered for grading to no higher than MLD. Individuals should be encouraged to take long term antibacterial chemoprophylaxis and receive appropriate vaccinations. They are to be awarded the limitation ‘Unfit to deploy, travel to or reside in malarious areas’ (MedLim 5001) and unscheduled stop-overs must be covered by appropriate malarial prophylaxis and advice. Those troubled by inter-current illness should remain MND. Personnel are to be assessed as permanently unfit for any duties involving dog handling.

6. **Action Required.** All personnel who have had a splenectomy or have reduced splenic function should be given prophylactic penicillin V or erythromycin for life. They should be vaccinated against Haemophilus influenzae, Meningococcus C (with Men C vaccine) and pneumococcus. Vaccination against meningococcus A, C and W135 is recommended only if travelling to endemic areas (sub-Saharan Africa, India and Nepal). Either Meningococcal A&C vaccine or quadrivalent A, C, Y and W135 vaccine is to be used in accordance with current advice for the area to be visited.
ALLERGIC REACTIONS AND ANAPHYLAXIS

7. Severe allergic and anaphylactic reactions may be rapid onset and life threatening. The full blown syndrome includes urticaria and/or angioedema with hypotension and bronchospasm. The unpredictable nature of the condition, need for acute care and requirement for medication may have significant implications for the JMES of service personnel. In particular, the nature of military catering is such that it is not possible to guarantee an individual’s ability to self police an allergy to food or food additives through labelling or identification of trigger constituents.

Limitations

a. Recruit. Candidates with a history of Type 1 reactions are unfit for service in the RAF (P8). In cases of doubt, advice is to be sought from a Service consultant physician/ occupational physician.

b. Serving Personnel. Individuals who develop severe food allergies or severe reactions to latex, drugs, venoms or stinging insects are to be referred to CA Med(RAF) for assessment. In view of the significant impact of the diagnosis on the individual’s JMES, CA Med(RAF) is to determine whether onward referral to a Consultant Allergy Specialist for confirmation is required. Individuals confirmed as having severe allergic disease and who need prescription of adrenaline for self administration should be assessed E3, ‘Unfit for service outside base areas’ (MedLim 5002).

c. Aircrew. Aircrew who have had their requirement for self administered adrenaline confirmed by a Consultant Allergy Specialist are additionally to be downgraded A3, ‘Unfit solo pilot – must fly with a pilot suitably qualified on type’ (MedLim 2000) in all but exceptional circumstances.

HEREDITARY SPHEROCYTOSIS

8. This is the commonest inherited haemolytic anaemia in Northern Europe and is characterised by anaemia, jaundice, gallstones and aplastic crises. Splenectomy is often required to control the haemolysis and increases the risk of serious infections. Candidates with hereditary spherocytosis should therefore be rejected whether or not they have undergone splenectomy. Other inherited or acquired haemolytic anaemias are also likely to preclude entry to the RAF.

BLEEDING/THROMBOTIC DISORDERS

9. Candidates with bleeding disorders such as factor VIII and IX deficiencies are unfit service. Congenital deficiency of coagulation inhibitors and activated protein C resistance are associated with an increased risk of thromboembolism. They may require intermittent or lifelong anticoagulation and are usually rejected at entry.

LEUKAEMIAS

10. As late relapses can occur many years after the original diagnosis and apparent cure, and as there appears to be an increased incidence of second malignancies, candidates with a history of leukaemia should be rejected.

IDIOPATHIC THROMBOCYTOPENIA PURPURA

11. Idiopathic Thrombocytopenia Purpura (ITP) is an autoimmune disease defined as isolated thrombocytopenia in the absence of any potential causative condition, medication or other agent. Spontaneous remission is common in children but rare in adults. In those with minor persistent thrombocytopenia with platelet counts of 100-150x10^9/l, the 10 year probability platelet counts falling below 100x10^9/l is 6.9% and developing an autoimmune disease other than ITP 12%. Severe thrombocytopenia may result in spontaneous haemorrhage but even moderate thrombocytopenia may be associated with excessive bleeding in trauma for example. Haemorrhagic complications are unlikely to occur with platelet counts above 50x10^9/l.

130 PMID 16401142 Long-Term Outcome of Otherwise Healthy Individuals with Incidentally Discovered Borderline Thrombocytopenia. Stasi R; Amadori S; Osborn J; Newland AC; Provan D. PLoS Med. 2006 Jan 17;3(3):e24. Department of Medical Sciences, Ospedale “Regina Apostolorum,” Albano Laziale, Rome, Italy.
Limitations

a. Recruit. Those with a past history of ITP who have been in remission for at least 2 years, should be considered on a case-by-case basis after seeking appropriate advice from a service consultant physician. Individuals who have been treated by splenectomy and those with persistent ITP, even if mild, are unfit service P8.

b. Serving personnel. Symptomatic individuals must be E3, ‘Unfit for service outside base areas’ (MedLim 5002) as a minimum, other limitations being awarded as clinical condition dictates. Asymptomatic individuals JMES will depend on their stable platelet count as follows;

i. 100-150x10^9/l - E2, ‘Medical marker (no functional limitation) (MedLim 1300) unrestricted.

ii. 75-100x10^9/l - Initially E3, ‘Unfit for service outside base areas’ (MedLim 5002) but may be upgraded to E2 after no less than 6 months if platelet count remains stable.

iii. Less than 75x10^9/l – E3, ‘Unfit for service outside base areas’ (MedLim 5002).

c. Aircrew. As per serving personnel with the addition of A3, ‘Unfit solo pilot - must fly with a pilot suitably qualified on type’ (MedLim 2000) / ‘Unfit solo (aircrew category to be specified in Med Docs)’ (MedLim 2001) where platelet count is 75-100x10^9/l, and A4 where platelet count is less than 75x10^9/l.

DECOMPRESSION ILLNESS IN AIRCREW


a. Decompression illness (DCI) is a rare condition. It may occur in any normal individual under the necessary environmental conditions. DCI may result from decompression during flight, but is also experienced as a result of diving or altitude chamber training. The clinical presentation is wide ranging, from mild joint pain through to serious cardiopulmonary or neurological involvement. Classification of DCI is by system involvement (skin, joint, pulmonary, cardiovascular, neurological), by presentation (acute, chronic) and by progression (resolving, worsening).

b. Diagnosis of DCI is almost always based on history alone. In general, symptoms will begin with 5-20 minutes of altitude exposure, but can rarely present up to 24-48 hours after decompression. The risk of DCI is increases with higher altitude, longer exposure and more rapid ascent. Older age is a positive risk factor, as is recent diving before flying/hypobaric exposure. Repeated exposure, dehydration and exercise at altitude have also been reported in the literature to increase DCI risk. A weaker association exists with pre-existing injury, smoking and alcohol consumption.

c. The definitive treatment for DCI is recompression in a hyperbaric chamber with hyperbaric oxygen therapy, but many cases will resolve completely following a return to ground level or with the addition of surface oxygen administration. Usually, diving related cases of DCI tend to be more severe and are more likely to result in permanent sequelae. Prompt treatment of aviation related DCI is usually associated with a high rate of full recovery.

d. The main aeromedical concern is acute in-flight incapacitation resulting from DCI, but long term neurological impairment is also an important factor. The expectation is that most aircrew will return to full unrestricted flying duties. Aircrew may present with aviation/hypobaric chamber related DCI (either within or outside their routine occupational altitude exposure envelope), or non-aviation related DCI from, for example, recreational diving.

13. Limitations.

a. Following a simple, medically treated case of DCI involving joints or skin only, with no neurological or pulmonary involvement, aircrew may return to full flying duties after 7 days following review by a Flight Medical Officer who will discuss the case with CFMO and CA AvMed(RAF). It is important to confirm that there are no residual effects in these individuals, and this evidence will usually be provided by the diving medicine team treating the individual (including documented normal neurological examination by a consultant neurologist). If the DCI was untreated then further
investigation will be required before a return to flying is permitted, to exclude any residual effects (particularly neurological).

b. For more complex cases of DCI involving neurological, vestibular, cardiac or pulmonary involvement, and those with symptoms persisting for more than 2 days, aircrew will remain grounded until review by CA AvMed(RAF). CA AvMed(RAF) will provide guidance for final decision on future flying duties in these individuals, and in such cases, the patient will be reviewed by other relevant specialists (including cardiology and neurology) as determined by the clinical presentation. Patients will be offered bubble contrast cardiac echo if clinically indicated, although due to the high population prevalence of patent foramen ovale (PFO), it may be difficult to ascribe a causal link between PFO and an individual case of decompression sickness.

c. It is important that aircrew are encouraged to report DCI, and that they understand that in most cases there will be no long term career restrictions. In the case of a single, fully resolved episode of uncomplicated DCI which has occurred under appropriate environmental conditions, a return to full flying duties is likely. In the case of recurrent DCI, or DCI occurring under unexpected conditions, it is possible that the individual is at higher risk for reasons that cannot easily be predicted. In these patients, a return to limited flying duties with a cabin altitude restriction is likely. For those aircrew who have suffered DCI as a result of diving, review by the Royal Navy Consultant Advisor in Diving Medicine is recommended.

d. All aircrew who have received a diagnosis of DCI should undergo ground level hypoxia training using reduced oxygen gas mixture in lieu of hypobaric chamber exposure.

BLOOD DONATION

14. The regulations for Service personnel wishing to act as blood donors are contained in QR900. Following a blood donation aircrew will normally be removed from flying duties for 36 hours. Controllers are to be made unfit controlling for a minimum of 12 hours after donating blood\(^\text{131}\).

BONE MARROW DONATION BY SERVICE PERSONNEL

15. Bone marrow and stem cell donation is altruistic behaviour that is to be encouraged. MOs may be approached for advice by personnel considering registration as potential bone marrow donors, through a scheme administered by the National Blood Transfusion Service (NBTS) in association with other agencies. Personnel wishing to donate bone marrow are to apply in writing to their CO. Personnel will be referred to the SMO for counselling on the medical aspects. It is important that MOs confine their advice strictly to the medical aspects; guidance on the broader Service implications is not the responsibility of the Medical Branch. Authority for Service personnel to donate bone marrow rests with the CO. Further detail is contained at:

http://www.nhs.uk/conditions/Bone-marrow-donation/Pages/Introduction.aspx

BONE MARROW DONATION BY AIRCREW AND CONTROLLERS

16. Bone marrow donation by aircrew and controllers is possible where a serious illness in a close family member produces an emergency requirement for this to take place. The period of grounding required following this procedure will depend upon the volume of bone marrow donated, the degree of post-operative discomfort and the presence of any post-operative complications. A recommendation concerning the period of grounding is to be made by the SMO after discussion with the clinician responsible for the aircrew member and CFMO (RAF). As a minimum, both aircrew and controllers who have donated bone marrow under general anaesthetic are to be made unfit flying duties for 48 hours\(^\text{132}\). After this time they are to consult a MAME if doubt remains over fitness for duty.

STEM CELL HARVESTING IN AIRCREW AND CONTROLLERS

17. The need for bone marrow donation has been replaced in some situations by the ability to harvest stem cells from peripheral blood. Peripheral stem cell harvesting involves the use of cytokines and anti-coagulants, which have implications for flying / controlling duties. The potential requirement for central venous access and reported side effects experienced by patients undergoing this procedure\(^\text{133}\) requires

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\(^{\text{131}}\) CAA AIC 97/2004  
\(^{\text{132}}\) CAA AIC 97/2004  
\(^{\text{133}}\) See published article in *Blood* 2009
aircrew and controllers to be made unfit flying / controlling duties from the start of pre-treatment until a minimum of 7 days after harvest. Personnel are to be reviewed by a MAME before returning to flying or controlling duty.

18. **All Other Organ / Tissue Donations.** All other cases where Service personnel wish to donate organs or tissue are to be managed in accordance with the following general principles:

   a. The SP concerned must inform their line manager that they wish to undertake this activity and that, as a result, they may require downgrading. The CO must be happy to support the person voluntarily becoming of limited military use. The timing of donation should not interfere with any planned military Operations.

   b. The SP volunteering should be fully informed of all the associated risks. Detailed consent to undergo the procedure(s) will be undertaken by the harvesting clinician. The RAF will have no direct influence over the conduct of the harvesting clinician. However a uniformed MO should undertake a 'check of understanding' to ensure that the SP comprehends the general nature and magnitude of any associated medical risks. Where the SP is unable to demonstrate understanding, the donation will not be medically supported.

   c. Where necessary the SP will be downgraded in order to accommodate any physical limitations or risks generated by medication (e.g. clomiphene for egg donation) or by the procedure itself (e.g. laparotomy for kidney or liver donation). Where necessary a Regional Occupational Medical Department can be approached to provide advice on the specifics of any downgrading to be applied. SP volunteering are likely to be E5 (MND) for a period of time as a result of the donation procedure.

**References:**


LEAFLET 5-11 ANNEX A: SICKLE CELL TRAIT - SCREENING

INTRODUCTION

1. Haemoglobin S (HbS) is an abnormal haemoglobin resulting from a single amino acid substitution. It is inherited as a Mendelian dominant gene. Homozygotes (HbSS) have a severe disease characterised by marked anaemia, recurrent painful crises, thromboembolism, recurrent infections and shortened life expectancy. Double heterozygotes who inherit HbS from one parent and another abnormal Hb gene (HbC or β thalassaemia) from the other also have sickle cell disease. Heterozygotes (who inherit a single HbS gene from one parent and a normal HbA gene from the other) have sickle cell trait (HbAS). This is a benign condition with no anaemia and affected persons are usually healthy with normal longevity.

2. Sickle cell trait is usually undetectable on FBC and blood film, giving entirely normal results. However, sickle shaped cells can be induced by hypoxia and this is the basis of some screening tests for HbS. This ‘sickling’ of red blood cells containing HbS is central to the pathology of patients with sickle cell disease and there is evidence that prolonged hypoxia can produce sickling in persons with sickle cell trait. Sickling has been reported in persons with HbAS when associated with flights above 10,000’ in unpressurised aircraft and with severe exertion at altitude. It is extremely rare in pressurised aircraft cabins. Sickle cell trait has been associated with the following clinical features:

   a. Haematuria.
   b. Splenic infarction at high altitude.
   c. Pulmonary embolism.
   d. Stroke.
   e. Asymptomatic bacteriuria and pyelonephritis in pregnancy.
   f. Increased incidence of unexplained sudden death consequent on severe exertion.

It is emphasised that most people with sickle cell trait are entirely well and that the thromboembolic complications above are rare and said to arise as a consequence of prolonged hypoxia or in association with other diseases producing hypoxia e.g. cardiopulmonary disease. Some experts do not accept that sickle trait causes these complications. After review, the Surgeon General’s Standing Committee decided that sickle cell trait is not a bar to flying duties and screening of aircrew should not be carried out routinely. Screening should only be done when clinically indicated.

3. HbS is widely distributed in Africa and the Mediterranean littoral (some areas of S Italy, Greece, Turkey, Cyprus, Middle East) and India. The incidence of sickle cell trait in black Americans is about 9% and in Africa and the other countries listed the incidence in many populations exceeds 20%. Persons of African, Afro-Caribbean or Mediterranean descent are therefore quite likely to carry the HbS gene and should be included in any medical screening programme.

4. There are scattered reports in the literature of deaths related to anaesthesia in patients with sickle cell trait. The complications that have been recorded in patients with sickle cell trait are mostly due to anaesthetic accidents or the presence of coincident cardiopulmonary disease. Nonetheless, routine pre-anaesthetic screening for HbS should be performed for all patients of African or Afro-Caribbean descent and for those of Mediterranean and Indian descent, as detailed above. Antenatal screening and neonatal screening of at-risk communities is also necessary.

TESTING FOR HbS

5. The initial routine screen for HbS must always include cellulose acetate electrophoresis at pH 8.4, a solubility test and a Full Blood Count (FBC).

6. A single 5 ml EDTA blood sample is all that is required for the solubility test and electrophoresis. Samples should be submitted from outpatients before a planned admission or anaesthetic.
SICKLE SCREENING PROCEDURE IN AN EMERGENCY

7. In cases where it is not possible to await the result of Hb electrophoresis a solubility test and FBC should be performed. If the solubility test is negative no further action is necessary, but the full screening procedure should be completed later. If the solubility test is positive and the FBC and film are normal a presumptive diagnosis of sickle cell trait is made and the local protocol for anaesthesia in such patients must be followed. If the solubility test is positive and the blood film shows sickle or target cells, Sickle Cell Disease (SCD) is likely and the local protocol for anaesthesia in SCD must be followed.

8. All at risk patients screened should be given a ‘Haemoglobinopathy Card’ completed by the laboratory for their personal retention.

SUMMARY

9. Screening for HbS should be performed in the following groups of people:

a. Those at Risk who are to Undergo General Anaesthesia. This is the commonest indication. Normally those attending hospital should be screened at the time their name is placed on the waiting list for a procedure involving general anaesthesia.

b. At Risk Antenatal Patients. This is done to detect both SCD and sickle cell trait, providing information necessary for managing the pregnancy. The father should also be screened when indicated to assess the risk to the infant.

c. At Risk Neonates. These must be screened at birth for SCD. Early diagnosis and the introduction of prophylactic penicillin by the age of three months significantly reduces mortality and morbidity in these infants.

d. Clinical. Patients who have a clinical condition known to occur in sickle cell trait and SCD (for example, haematuria) or in SCD (retinopathy, priapism, avascular necrosis of femoral head etc).
INTRODUCTION

1. This leaflet is concerned with the routine assessment and management of personnel presenting with a history of psychiatric and psychological disorders. The management of acute stress reaction and post-traumatic stress disorder in the operational theatre is detailed at paragraph 36. Responsibility for the provision and delivery of Defence Mental Health Services rests with various organisations. DPHC is responsible for the provision of specialist Departments of Community Mental Health. Overseas units in mainland North West Europe are provided for by the BFG Health Service, and in Cyprus and Gibraltar by PJHQ. A full list of DCMHs and their catchment areas is contained within JSP 950134.

2. When patients require admission to hospital, they are to be referred to a Designated NHS Inpatient Service Provider local to their parent unit/home strictly in accordance with the procedure set out in SG PL 04/04. If specialist advice has not been sought before referring a patient to hospital, referring MOs are to ensure their Regional DCMH is informed at the earliest opportunity to ensure an effective form of liaison takes place.

3. The RAF CA in Psychiatry can provide both general advice on all RAF mental health issues and Tri Service specialist aviation psychiatry advice for aircrew and controllers with mental illness (see Para 13).

GENERAL ASSESSMENT AND MANAGEMENT ISSUES

4. **Referral.** Referrals for military specialist psychiatric opinion are to be in accordance with JSP 950136, to be accompanied by an F Med 1041 if appropriate and with necessary consent. The F Med 1041 records the views of the Service executive on an individual referred for psychiatric opinion. Follow-up F Meds 1041 should be provided at the request of the military psychiatrist providing the patient continues to give written consent.

5. **Psychiatric Opinion in a Disciplinary Case.** When a member of the RAF is referred for a psychiatric opinion in association with a disciplinary case, a copy of any summary or abstract of evidence taken against the person concerned is to accompany the referral. The Service psychiatrist is to complete a report which is to be disposed of under the ‘Protect – Staff/Medical’ caveats to the unit MO or CMP, where it is to be retained on a registry file.

6. The Service psychiatrist may consider that a full forensic psychiatric report is required. In such cases the report is to be referred to in the text of the FMed 288 and attached to the form.

7. **Temporary Medical Downgrading.** If an opinion from a military psychiatrist is not readily available, the MO is to seek a psychiatric opinion from a civilian consultant psychiatrist (see below for security implications). In the absence of an urgent psychiatric opinion, particularly where there are concerns regarding the risk of self-harm, harm to others, or safe task performance, the station MO is to take the necessary action to change the individual’s JMES in accordance with Lflt 2-03. The MO may vary the S grading of the PULHEEMS profile and temporarily downgrade the individual for a period not exceeding 6 months. The limitations awarded are to be in keeping with advice contained in this leaflet. The MO is to review the JMES of the individual on a regular basis whilst awaiting a psychiatrist assessment. On completion of drug therapy patients will require a period of continued stability, therefore the patient should remain temporarily downgraded for a further 6 months.

8. **Geographical Considerations.** A medical recommendation for a geographical posting may be made for serving personnel who have developed a psychiatric disorder which is considered to be remediable, in

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134 Part 2 Chapter 7 Lflt 2-7-2 Section 4 Annex C (UK) and Section 5 Annex B (BFG).

135 For patients requiring admission under the Mental Health Act 1983, applications are to be made in conjunction with the Local Social Services Emergency Duty Team to the Local NHS Mental Health Trust.

136 Lflt 2-7-2 Section 4 para 4.11

137 JSP 950 Lflt 1-2-4
which current environmental factors are thought to have played a significant aetiological role and are preventing successful rehabilitation (see Lft 2-03 Annex D). The Service psychiatrist may recommend a specific geographical location for a maximum of 12 months. The recommendation should be actioned by the individual’s parent medical centre in accordance with Lft 2-03 Annex D. Personnel developing psychiatric disorders whilst employed in base areas abroad (for example, British Forces Cyprus) that would normally require E5 (MND) may, if there are appropriate local facilities, be managed ‘in situ’ with E3, ‘Unfit service outside base areas’ (MedLim 5002) for 6 months in the first instance.

9. **Seriously Disturbed Patients.** Seriously disturbed patients who may be at risk of causing harm to either themselves or others may be detained. The legal aspects are covered by the Mental Health Act 2007. In such instances the assistance of the local psychiatric authorities must be sought. Outside the UK, patients may be detained under Section 13 of the Armed Forces Act. The disposal of RAF personnel suffering from mental illness and unfit for further service is detailed in QRs 622.

10. **Security Considerations.** Before an individual, who holds a security clearance, seeks treatment or consultation with a civilian psychiatrist or hypnotherapist, specialist advice is to be taken from both medical and security authorities. Individuals under hypnosis are neither in control of their faculties nor are they able to recall what they may have said or done. Unauthorised treatment from a hypnotherapist is deemed to be incompatible with the responsibility associated with the holding of a security clearance. Should there be no significant security hazard, treatment may be authorised. Guidance on vetting personnel for security clearances can be obtained from Station Security Officers (SS Os) or OC Police Flight.

11. **Drug Treatment.** Although limited prescribing will not prevent a determined patient from accumulating sufficient quantities of a drug to ensure a successful outcome to a suicide bid, it will deter the less committed and reduce the likelihood of lethal quantities coming into the possession of children. Station MOs are therefore to pay particular attention to the need to limit the quantities of drugs dispensed. If there is any risk of self-harm, this should not exceed one week’s supply. Specialist MOs should only prescribe sufficient quantity of a drug to cover sick leave or a reasonable period in which the patient can report to his own MO. MOs should consider whether potential side-effects of any prescribed medication renders the individual temporarily unfit to undertake other duties e.g. ‘Unfit to undertake service driving’.

12. **Driving Service Vehicles.** In some circumstances, patients who are being treated for psychiatric conditions may require the award of limitations relating to their ability to drive Service vehicles, in line with the Driver and Vehicle Licensing Agency (DVLA) regulations (see Reference). MOs that award an occupational driving limitation are to advise the individual that it is their own responsibility to inform the DVLA of such limitations. Guidance on driving limitations for specific conditions are detailed within this leaflet; where Medlims 1401, 1402 or 1403 are awarded they may graded as L3 or L4. Where driving is a ‘core’ function of the trade role [e.g MTD or Logs (Driver)] L4 is to be awarded . This limitation may be lifted following a period of stability. Large Goods Vehicles (LGV), Passenger Carrying Vehicles (PCV) or Lift Truck (LT) drivers may only be allowed to resume such driving duties when they have been stable for a minimum period as detailed within this leaflet; at this point the limitation may be lifted. Additional information concerning fitness to drive is available at [https://www.gov.uk/guidance/assessing-fitness-to-drive-a-guide-for-medical-professionals](https://www.gov.uk/guidance/assessing-fitness-to-drive-a-guide-for-medical-professionals).

**MANAGEMENT OF AIRCREW AND CONTROLLERS**

13. **Clinical Concerns.** Disturbances of mental state may be associated with an unacceptable impairment of judgement in the execution of safety critical tasks.

14. **Limitations.** All aircrew and controllers who develop significant disturbances of their mental state are to be awarded a temporary JMES of A4 L4/5 M4/5 E5 for 6 months, with the limitations ‘Unfit aircraft controlling duties’, ‘Unfit service outside base areas’ and ‘Unfit handling live arms’ (see Lift 1-02). In cases which have been discussed with an Av Med experienced RAF consultant psychiatrist and the CFMO, it may be possible to recommend temporary restrictions to the type of flying (for example, ‘Unfit operational flying’ (MedLim 2004). The psychiatric specialist is to determine their further JMES.

15. **Change of JMES.** The station MO is to action the change of JMES if an opinion from a military psychiatrist is not immediately available. Before returning to flying duties, all such cases are to be referred to a RAF consultant psychiatrist for further assessment.

16. **Treatment.** With the exception of temazepam, authorised for hypnotic use during operational, exercise and route flying, aircrew are not fit for flying duties whilst taking any psychotropic medication (see Lift 5-19 for further details).
17. **Discussion.** Specialised aviation psychiatric assessment and management is provided by CA Psychiatry (RAF): although any suitably-qualified consultant psychiatrist may be approached for initial advice, onward referral to the aviation psychiatry clinic may be recommended.

18. **Training and CPD.** All RAF psychiatrists are to undertake and initial Aviation Medicine training in accordance with AP1269\(^{138}\) to hold MAME status. Specialist aviation psychiatrists must be a minimum of 3 years post-CCT and have either attended the EAG Advanced Aviation Medicine course or hold the Diploma in Aviation Medicine. They are to maintain currency in accordance with policy\(^{139}\).

**FLYING PHOBIA IN AIRCREW**

19. Aircrew presenting with flying phobia require assessment by psychiatrists with experience of treating this problem and are therefore to be referred directly to the Aviation Psychiatric Clinic. Flying phobia is a heterogeneous disorder and may be the presenting symptom of a number of conditions. Although not uncommon in the general population, flying phobia is rare in trained aircrew. During management, temporary restrictions to the type of flying, for example, ‘Unfit operational flying’ (MedLim 2004) may be more appropriate than grounding. The final JMES will be dependent upon the underlying diagnosis, extent of recovery and the assessed risk of recurrence.

**PSYCHOLOGICAL/PSYCHIATRIC CONSIDERATIONS FOLLOWING AN AIRCRAFT ACCIDENT OR INCIDENT**

20. MOs are to ensure that they are aware of the aetiology, presentation and management of post-traumatic stress disorder and other post incident psychological and psychiatric sequel. Such knowledge is essential for the recognition and handling of the problems that may develop in individuals who have been involved in an aircraft accident.

21. MOs are to be alert to the possible psychological sequel for those involved in any incident. The MO is to take a psychological history from anyone who has been involved in an aircraft accident, whether an ejectee or not, prior to his return to duty. MOs should note that personnel from the emergency services and crash recovery teams are also at risk of developing difficulties and may require medical assistance and advice. Social pressures may prevent individuals admitting to stress related problems; in particular, peer group pressure amongst aircrew is a powerful influence affecting the way they appear to respond following an accident. Consequently, it is preferable for the MO, who should maintain a high index of suspicion, to be known to the individual. The use of the Impact of Event Scale at Lflt 5-12 Annex A allows some degree of quantification of post-incident psychiatric morbidity and its inclusion in the medical record is also of medico-legal benefit. A score of 15 or more should prompt referral for psychiatric evaluation. When there is any doubt about the individual's response to the accident, the MO is to discuss the case with a Service consultant in psychiatry.

22. MOs are to take every opportunity to educate aircrew and the unit executive about the implications of stress related conditions, their normality, and the importance of handling them correctly. In particular, the executive and supervisors should be made aware of their role in the management of personnel following an accident.

**SPECIFIC CONDITIONS**

23. The remainder of this leaflet is concerned with the assessment and management of recruits and serving personnel with common and important psychiatric conditions. This leaflet should be read in conjunction with Lflt 3-04 Annex K, paragraph 6. For conditions not listed, advice regarding assessment and management should be directed to a military consultant psychiatrist.

**AFFECTIVE (MOOD) DISORDERS**

24. Clinical Concerns. An individual with an affective disorder (depressive illness or manic disorder) is at risk of self-harm or harm to others. The individual’s judgement and cognitive performance may be seriously impaired. Even mild cases may be associated with significant loss of concentration, inattention, indecisiveness, fatigue, insomnia and loss of motivation.

\(^{138}\) Lflt 3-02 para 6.

\(^{139}\) AP1269 Lflt 3-02 para 20.
25. **Limitations.**

   a. **Recruit.** Candidates with a history of an affective disorder requiring treatment (with or without antidepressant medication) within the past 3 years, or with psychotic symptoms at any time are unfit for Service in the RAF (S8). All other candidates should be referred to a military psychiatrist for assessment of fitness to serve.

   b. **Serving Personnel.** An individual with an affective disorder may be unfit to work until recovered. A minimum temporary JMES A4 L4/5 M4/5 E5, for 6 months with the limitations, ‘Unfit service outside base areas’ and ‘Unfit handling live arms’ (see Lft 1-02). Where the patient is suffering significant memory or concentration problems, agitation, behavioural disturbance or suicidal thoughts the individual is to be awarded the additional limitation ‘unfit driving’ (see paragraph 11). Further limitations may be required, dependent upon the individual’s trade duties.

26. **Treatment.** The side-effects of medication may need to be taken into consideration when determining the JMES. The initial period of downgrading, limiting access to live weapons, is applicable whether or not medication is prescribed.

27. **Discussion.** Low mood is often associated with adverse circumstances and may be more appropriately classified as depressive adjustment disorder (see paragraphs 31-34). Symptomatology of a severity sufficient to merit a diagnosis of affective disorder will usually require treatment with psychotropic medication. Individuals who are well but require maintenance treatment are not to be graded higher than E3, ‘Unfit service outside base areas’. Any decision to permit individuals on maintenance therapy, with no adverse drug effects, who have demonstrated long-term stability and reliability, to handle live arms is to be made by a Service psychiatrist.

**SELF-HARM (INCLUDING ATTEMPTED SUICIDE AND PARASUICIDE)**

28. **Clinical Concerns.** Individuals with an immediate history of self-harmful behaviour are at risk of committing further acts and may be a hazard both to themselves and other personnel.

29. **Limitations.**

   a. **Recruit.** A single episode of self-harm, in response to a significant event, more than three years previously need not be a bar to entry provided there has been no evidence of subsequent psychological symptoms. Candidates with a history of two or more episodes of self-harm, especially self-mutilation, are unfit for Service in the RAF (S8). Service consultant advice, through R&S DOM should be sought for other cases of doubt.

   b. **Serving Personnel.** All cases of deliberate self-harm are to be awarded a A4 L4/5 M4/5 E5, for 6 months, with the limitations, ‘Unfit handling live arms’ (see Lft 1-02), ‘Unfit for service outside base areas’. Particular consideration should be given to the working conditions of those with sleep disturbance. If the individual is operating hazardous equipment, he is to be made unfit for its use.

30. **Discussion.** In the majority of cases, self-harmful behaviour in Service personnel is associated with adjustment disorder (see paragraphs 31-34) and it is often associated with the misuse of alcohol. Whilst individuals frequently regret their behaviour, Service social and career pressures may result in their not admitting the true extent of the precipitating psychosocial circumstances. There must be a careful search for the presence of recognised psychiatric risk factors.

**ANXIETY DISORDERS**

31. **Clinical Concerns.** Anxiety disorders include generalised anxiety, specific phobias, agoraphobia, social phobia and panic disorder. Some anxiety problems associated with stressful circumstances may be more appropriately classified as adjustment disorder (see paragraphs 31-34). Symptoms and signs can include palpitations, tremor, shortness of breath, chest pain, dizziness, fatigue, weakness, headaches and paraesthesia. In panic disorder there is a risk of sudden incapacitation.

32. **Limitations.**
a. **Recruit.** Candidates giving a history of a specific anxiety disorder in the past year are unfit for Service in the RAF (S8). If longer than a year ago, the candidate is to be referred to a military consultant psychiatrist for assessment of fitness to serve.

b. **Serving Personnel.** Individuals with anxiety disorders are generally to be awarded a minimum JMES A4 L4/5 M4/5 E5, for 6 months with the limitations ‘Unfit service outside base areas’, ‘Unfit handling live arms’, (see Lflt 1-02). Where the patient is suffering significant memory or concentration problems, agitation or behavioural disturbance the individual is to be awarded the additional limitation ‘Unfit to undertake service driving’ (see paragraph 11). Additional limitations may be appropriate for individuals with phobic disorders, for example ‘Unfit non-aircrew respirators’.

33. **Treatment.** The management of anxiety disorders is generally undertaken by CMHNs using behavioural and cognitive techniques. Benzodiazepines may be useful in the acute management of anxiety and adjustment disorders, but should not be continued beyond 2 weeks without consultant psychiatric approval. If anxiolytics are prescribed, side-effects should be anticipated and appropriate restrictions awarded.

34. **Discussion.** Generalised anxiety symptomatology arising in association with particular environmental circumstances and of duration less than 6 months is best regarded as adjustment disorder.

**ADJUSTMENT DISORDERS**

35. **Clinical Concerns.** Minor degrees of depressive and anxiety symptomatology, arising in association with difficult psychosocial circumstances, are often classified as adjustment disorder. Judgement and cognitive performance may be impaired.

36. **Limitations.**

a. **Recruit.** A candidate with a diagnosis of adjustment disorder within the past year is unfit for Service in the RAF (S8). Such candidates may be reconsidered after one year free of symptoms and they should be informed that if their motivation to join the Service is maintained they should re-apply. On re-application they are to be assessed by a military psychiatrist and the referring examiner should request and forward a GP/Specialist letter describing the circumstances. Candidates with any history of adjustment disorder within the past 3 years but who have subsequently remained well should be similarly referred for military psychiatrist assessment. Candidates with a history of adjustment disorder who have subsequently remained well for over 3 years can be accepted for Service (S2).

b. **Serving Personnel.** Many cases of adjustment disorder will be managed by the CMHN and do not merit any change to the JMES. Cases not responding to such intervention within one month, or immediately (in accordance with paragraph 6) where there is:

1. A hazard to safety critical tasks (for example aircrew),
2. Behavioural disturbance, or
3. A risk of self-harm,

are to be awarded a JMES of A4 L4/5 M4/5 E5, for 6 months, with the limitations ‘Unfit for service outside base areas’ and ‘Unfit handling live arms’ (see Lflt 1-02). Additional restrictions may be required to reflect particular circumstances, for example, ‘Unfit to undertake service driving’ (see paragraph 12).

37. **Treatment.** Guidance and support in problem solving techniques and anxiety/stress management strategies are often effective.

38. **Discussion.**

a. Clinical experience and audit suggest that adjustment disorder is the most prevalent psychiatric disorder in the Service environment. The appropriate management of such disorders is important to the maintenance of efficiency and effectiveness in the workforce and the prevention of loss of skilled personnel. Failure to respond to management measures should prompt re-evaluation of the diagnosis, with particular reference to affective and personality disorder.
b. Where an adjustment disorder recovers on removal from the precipitating environment but has a poor prognosis should individuals return to any Service environment, consideration should be given to the award of S7P in order that they may be able to consider their options under QRs, paragraph 607 (10)(f)(ii).

ACUTE STRESS REACTION AND POST-TRAUMATIC STRESS DISORDER

39. Clinical Concerns. Acute stress disorder (ASD) is a transient disorder developing in an individual without any other apparent mental disorder in response to exceptional physical and mental stress. It usually subsides within hours or days. Partial or complete amnesia for the episode may be present. Such individuals are at an increased risk of developing post-traumatic stress disorder (PTSD). PTSD arises as a delayed or protracted response to a stressful event or situation of an exceptionally threatening or catastrophic nature. Typical features include episodes of reliving the traumatic event in intrusive memories, flashbacks, or nightmares. These occur against a background of a sense of ‘numbness’ or emotional blunting and avoidance of activities or situations reminiscent of the trauma. There is autonomic arousal, with hyper-vigilance, an enhanced startle reaction and insomnia. The disorder may follow a chronic course over years.

40. Operational Management. The standard NATO management of ASD arising during operations embodies the principles of proximity, immediacy and expectancy (PIE). By application of PIE, approximately 80% of ASD casualties may be expected to return to their full duties within 72 hours. There is increasing evidence that the risk of developing PTSD as a sequela to ASD is very much higher than originally thought. In light of this evidence, personnel deployed on operations, who suffer ASD and subsequently return to their deployed operational duties, are to be assessed at their local DCMH on return to their parent unit. The following procedure is to be applied in such cases.

a. A Medical Officer who diagnoses a patient with ASD during an operational deployment is to perform the following actions:

(1) Annotate the diagnosis, in red ink, on the Operational Medical Record (FMed 965).
(2) Write to the SMO of the individual’s parenting medical centre with details of the diagnosis.

b. On receipt of the letter diagnosing a patient with ASD, the parenting medical centre is to:

(1) Make an entry in the patient’s DMICP diary (for their projected date of return to the parent unit) using the following Read code ‘Acute Stress Reaction’ – ‘Eu430’.
(2) Conduct a monthly DMICP search to ascertain which patient’s require referring to the DCMH.
(3) The MO is to take the necessary action refer those patients who have suffered from ASD whilst on operational deployment and have subsequently returned to their parent unit. Patients are to be referred to the local DCMH in the normal manner.

41. Limitations.

a. Recruit. Candidates with a confirmed history of PTSD are unfit for Service in the RAF (S8).

b. Serving Personnel. Individuals who have recovered from an acute stress disorder and who are well do not require any limitation of their JMES. Individuals with PTSD are to be awarded a JMES of A4 L4/5 M4/5 E5, for 6 months with the limitations ‘Unfit handling live arms’ (Lflt 1-02). They may require other specific limitations.

42. Prevention and Screening. It is essential to provide pre-operational deployment advice to individuals and their commanders on the recognition and management of stress related disorders. This should include regular presentations both in theatre and prior to returning home. As PTSD may present years later after involvement in an incident, MOs should be aware of this possibility and make appropriate enquiries at the time of subsequent routine medical examinations.

43. Discussion. MOs need to exercise a high index of suspicion with regard to PTSD after any significant traumatic event. The Impact of Event Scale at Lflt 5-12 Annex A allows some degree of quantification of post-incident morbidity and a score of 15 or more should prompt psychiatric evaluation. Cases may also come to light during management of associated disorders (for example, alcohol related disorder and marital
disharmony). On release of an individual from Service, any history of PTSD is to be recorded on the FMed 133 to ensure continuity of care is maintained on transfer to the NHS.

EATING DISORDERS

44. **Clinical Concerns.** An individual with an eating disorder (anorexia nervosa or bulimia nervosa) is at risk of serious metabolic disturbance, particularly in adverse environmental conditions. Despite treatment, eating disorders may persist for many years and are often associated with other psychiatric disorders for example, anxiety and depressive disorders.

45. **Limitations.**

   a. **Recruit.** Candidates with a history of eating disorder within the past 5 years are unfit for Service in the RAF (S8). All other cases are to be referred for assessment by a military consultant psychiatrist through CMO(OH)(RAF).

   b. **Serving Personnel.** Serving personnel are to be awarded a temporary JMES of A4 L4/5 M4/5 E5, for 6 months with the limitations ‘Unfit service outside base areas’ and ‘Unfit handling live arms’ (see Lflt 1-02). Failure to respond to treatment will lead to a recommendation for their medical discharge (S8).

46. **Treatment.** Mild degrees of disorder may be satisfactorily managed in the community using cognitive-behavioural techniques. More severe degrees of disorder will require inpatient assessment and management.

47. **Discussion.** Eating disorders uncomplicated by other co-morbid disorder often respond well to management measures and do not preclude further service.

OBSESSIVE-COMPULSIVE DISORDERS

48. **Clinical Concerns.** Individuals with obsessive-compulsive disorder suffer from recurrent obsessional thoughts or compulsive acts. Obsessional thoughts are ideas, images or impulses that enter the individual’s mind repetitively in a stereotyped form. They are almost invariably distressing and the individual generally tries, unsuccessfully, to resist them. Anxiety is almost invariably present. If compulsive acts are resisted, the anxiety worsens. The disorder is not the same as obsessional personality disorder. Obsessional symptoms may develop in association with depressive disorders.

49. **Limitations.**

   a. **Recruit.** Candidates with a confirmed history of obsessive-compulsive disorder are unfit for Service in the RAF (S8).

   b. **Serving Personnel.** Serving personnel are to be awarded a temporary JMES of A4 L4/5 M4/5 E5, for 6 months with the limitations ‘Unfit for service outside base areas’ and ‘Unfit handling live arms’ (see Lflt 1-02).

50. **Treatment.** Management may be undertaken by pharmacological or cognitive behavioural strategies.

51. **Discussion.** The disorder may be confused with obsessional personality disorder or traits, with which it may overlap.

PERSONALITY DISORDER

52. **Clinical Concerns.** Personality disorders are developmental conditions that appear in late childhood or adolescence and continue into adulthood. They are not secondary to any other mental disorder or to brain disease, although they may precede and coexist with other disorders. They are frequently, but not always, associated with various degrees of subjective distress and problems of social performance.

53. **Limitations.**

   a. **Recruit.** Candidates with personality disorders are usually identified and rejected at the selection interview. A psychiatric history of personality disorder is incompatible with Service in the RAF (S8).
b. Serving Personnel. The psychiatric diagnosis of a personality disorder will generally be incompatible with further Service in the RAF (S8). Temperamental unsuitability is not a psychiatric disorder and is handled differently (see paragraphs 53-54). Where an effective temporary JMES is appropriate, the individual is to be awarded a minimum of A4 L4/5 M4/5 E5, ‘Unfit for service outside base areas’, ‘Unfit handling live arms’ (see Lflt 1-02), and ‘Unfit to undertake service driving’ (see paragraph 12). The limitation ‘Unfit to undertake service driving’ may only be lifted on the recommendation of a military psychiatrist who is to act in accordance with the recommendations of the DVLA.

54. Treatment. Although such individuals tend to improve with time, there is at present no effective treatment for personality disorder that is likely to lead to reinstatement of a normal personality structure.

55. Discussion. Individuals with personality disorder are likely to present in the first instance with some other disorder. The diagnosis of personality disorder will not usually be made before efforts have been made to correct any other factors present.

TEMPERAMENTAL UNSUITABILITY

56. Early in a Service person's career it may become apparent that he is temperamentally unsuited (TU) to Service life as demonstrated by his behaviour, actions or attitude. Such an individual makes demands on the administrative and welfare facilities out of proportion to his value as a Service person. Full details are contained in AP3392, Volume 2, Lflt 709. Such cases are usually referred to the station MO when the individual’s behavioural difficulties persist despite counselling by his superiors. The MO is to interview individuals who may be TU to Service life in order to identify any medical problems that may be relevant. If the MO considers that the individual may be a suitable candidate for action under the TU policy he is to refer him for a military consultant psychiatric opinion. The referral should be accompanied by a FMed 1041 (see AP1269 Lflt 5-02) and a copy of the Certificate of Temperamental Unsuitability to Service Life at Lflt 5-12 Annex B, completed at Part 1. Patients being considered under TU arrangements do not normally need to be medically downgraded.

NB. Such an individual may present initially to the MO rather than the Executive. Should the MO consider that action under the TU policy may be appropriate rather than treatment of a primary psychiatric condition, initial referral to the station welfare support system and the executive (with the patient’s consent) is highly desirable. This is necessary in order to allow the unit to meet its obligation of taking remedial action before TU is considered. Patients being considered under TU arrangements should not normally be considered for medical downgrading. However, their mental state may require various restrictions to be placed upon them e.g. unfit live arming; unfit certain aspects of their trade or branch or unfitness for operational deployment.

57. The military psychiatrist is to examine the individual and determine whether he:

a. Has a primary psychiatric illness or disability, which may be amenable to treatment, or

b. May be better dealt with under TU policy.

58. The psychiatrist's findings are recorded on Part 2 of the Certificate of Temperamental Unsuitability to Service Life which is then forwarded, through the individual’s MO, to the station executive for further action in accordance with QRs 529. MOs are not to pre-empt nor anticipate what executive action may take place relating to the individual’s future. Medical board action is not required for TU cases.

SCHIZOPHRENIA AND OTHER DELUSIONAL DISORDERS

59. Clinical Concerns. These disorders are severe disturbances of mental state, often with a high risk of recurrence.

60. Limitations.

a. Recruit. Candidates with a history of psychotic disorder are unfit military Service (S8). A history of acute and self-limiting, (for example, toxic), psychosis may be acceptable following assessment by a military consultant psychiatrist.
b. Serving Personnel. Such patients will invariably require initial in-patient assessment and management. They are likely to be unfit for all forms of military Service (S8). Where an effective temporary JMES is appropriate, the individual is to be awarded a minimum of A4 L4/5 M4/5 E5, ‘Unfit service outside base areas’, ‘Unfit handling live arms’ (see Lflt 1-02), and ‘Unfit to undertake service driving’ (see paragraph 12). The limitation ‘Unfit to undertake service driving’ may only be lifted on the recommendation of a military psychiatrist who is to act in accordance with the recommendations of the DVLA.

61. **Treatment.** Management is dependent upon the diagnosis. Anti-psychotic medication has adverse effects that will need to be taken into consideration if an effective JMES (see Lflt 1-01) is awarded.

62. **Discussion.** Transient psychotic symptoms occasionally occur in the course of other disorders, and require specialist assessment. Transient psychotic symptomatology may also occur during the course of initial training. Such cases are unfit for further military Service (S8).

**ALCOHOL ABUSE**

63. **Clinical Concerns.** Excessive consumption of alcohol produces a depressive effect in the central nervous system which interferes with the individual’s ability to make rational judgements and impairs psychomotor performance. In addition, the toxic effects of alcohol cause heavy drinkers to suffer a variety of illnesses including gastritis, cirrhosis, pancreatitis, cardiomyopathy, etc. Personnel who abuse alcohol have worse sickness absence and accident records than non-drinking colleagues and are a liability to others, as well as themselves. Alcohol is a factor in over 30% of formal warnings. In the aviation environment, apart from those effects previously mentioned, alcohol intoxication is known to reduce G tolerance and increase the risk of disorientation and positional vertigo. These effects may persist long after the blood alcohol level has returned to zero. For the purpose of this policy the following definitions apply:

a. Persistent Harmful use of Alcohol. A state which because of consumption of alcohol causes disturbance of behaviour, related disease or other consequences, likely to cause the patient or his family or society harm now or in the future which may or may not be associated with dependency.

b. Alcohol Dependence Syndrome. A cluster of behavioural, cognitive and physiological phenomena that develop after repeated alcohol use and which include a strong desire to take alcohol, difficulties in controlling its use, persistence in its use despite harmful consequences, with evidence of increased tolerance and sometimes a physical withdrawal state.

64. All those convicted of a drink driving offence are required to undergo a medical assessment to consider the diagnosis of persistent harmful use of alcohol or alcohol dependence syndrome.

65. **Limitations.**

a. Recruit. Candidates with a diagnosed history of alcohol dependence are unfit for Service in the RAF (S8). Candidates with a clinical history of persistent alcohol misuse within the past year are also unfit for Service in the RAF (S8). Candidates with a history of persistent alcohol misuse longer than a year ago are to be assessed by a military consultant psychiatrist.

b. Serving Personnel. Medical and administrative management of alcohol abuse in the RAF is detailed in JSP 835 Chapter 3. Alcohol abuse is both preventable and recoverable and the Service’s aim is to rehabilitate affected individuals as quickly as possible. Successful rehabilitation requires commitment from the individual. Where this is lacking and alcohol abuse persists, consideration will be given to administrative discharge action. An individual whose alcohol consumption qualifies for a psychiatric diagnosis of persistent harmful use of alcohol or alcohol dependence syndrome is to be awarded a temporary JMES. The temporary JMES awarded is dependant upon diagnosis and occupation as detailed below:

1. **Persistent Harmful Use of Alcohol:**

   i. Ground Personnel. Ground personnel are to be awarded a JMES of L3/4/5, E5 as appropriate to trade (e.g. MTD, gunners etc. will be L4/5), ‘Unfit to undertake service driving’, ‘Unfit service outside base areas’ and ‘Unfit handling live arms’ (see Lflt 1-02). Additional limitations may be required depending on the severity of the drink problem and the individual’s trade duties; for example, ‘Unfit to work without direct supervision’ (MedLim 1207). Personnel in base areas overseas may be graded E3, if appropriate.
medical treatment is available locally. The temporary JMES is to remain valid until abstinence or controlled drinking has been achieved with normalisation of blood parameters for a period of 6 months, at which time a return to their former JMES is possible.

NB. Individuals who are required to drive LGV/PCV or LTs are to be made unfit for such duty until abstinence or controlled drinking has been achieved with normalisation of blood parameters for a period of 12 months.

ii Aircrew. Aircrew are to be made A4 L4/5 M4/5 E5 ‘Unfit to undertake service driving’, ‘Unfit service outside base areas’ and ‘Unfit handling live arms’ (see Lflt 1-02). Additional limitations may be required depending on the severity of the drink problem. Personnel in base areas overseas may be graded E3, if appropriate medical treatment is available locally. Once abstinence or controlled drinking has been achieved for a period of 6 months the E factor limitations may be removed, however the A category is to remain lowered for a further 6 months, at which time a return to their former JMES is possible.

NB. In exceptional circumstances when recommended by CA Psychiatry (RAF) a limited flying category may be awarded.

(2) Alcohol Dependency:

i Ground Personnel. The JMES awarded is to mirror that for persistent harmful use of alcohol misuse, however, the temporary JMES is to remain valid until the individual has been free from alcohol problems for at least a 12-month period. The highest attainable JMES for such individuals is E2.

NB. All MT drivers and individuals who are required to drive LGV/PCV or LTs are to be made unfit for such duty until the individual has been free from alcohol problems for at least a 3 year period.

ii Aircrew. The JMES awarded is to mirror that for persistent harmful use of alcohol; however upgrading is only to take place on the recommendation of the CA Psychiatry (RAF) and in line with the policy detailed below:

(a) The limited L factor is to remain valid until the individual has been free from alcohol problems for at least a 12-month period. The highest attainable JMES for such individuals is E2.

(b) A full flying category may only be regained after a 3-year period free of alcohol problems.

(c) Following detoxification, if required, the individual is to attend a programme of alcohol education.

(d) If the individual refuses treatment or problems persist beyond the second review a permanent JMES of A4 L4/5 M4/5 E5 is to be awarded by the RAF MB.

66. Discussion. The Royal Colleges of General Practitioners and Psychiatrists and the Department of Health (DoH) have issued guidelines on the safe level of alcohol consumption. Ideally men should drink no more than 21 units per week, with no more than 4 units being consumed on any one occasion. Regular consumption of more than 4 units per day increases health risk. The equivalent levels for women are 14 units per week and no more than 3 units per day. Levels of intake above 50 units per week for men and 35 units per week for women, consumed on a regular basis, are associated with a high risk of developing alcohol dependence.

GENDER DYSPHORIA

67. Clinical Concerns. In Gender Dysphoria (otherwise known as trans-sexualism), individuals desire to live and be accepted as a member of the opposite sex. Usually they wish to make their body as congruent as possible with the preferred sex through surgical and hormonal treatment. Gender Dysphoria is not a symptom of another medical condition, such as schizophrenia, nor is it associated with chromosomal abnormality. However, individuals have an increased vulnerability to adjustment and affective conditions.
during the transition period. When the diagnosis is confirmed, individuals are normally commenced on hormone treatment. Prior to sexual re-assignment surgery (SRS) individuals are generally required to undergo a satisfactory period of one year of day-to-day living in the adopted sex role. The process involves many adjustments and potential occupational difficulties; individuals are at risk of adjustment and affective disorders. Gender Dysphoria is well covered in JSP Lft 2-1-5.

68. **Limitations.**

   a. **Recruit.** All candidates are to be referred to CA Psych(RAF). The candidate is to be assessed on the basis of:

      (1) Their stage within the process of transition.

      (2) Any incidental psychiatric conditions are to be assessed in accordance with the appropriate policy for that condition.

   b. **Serving Personnel.** Individuals who present with Gender Dysphoria are to be awarded a JMES of A4 L4/5 M4/5 E5, with the limitations ‘Unfit handling live arms’ (see Lft 1-02), ‘Unfit service outside base areas’. The individual is to be referred to CA Psych(RAF) for occupational psychiatric advice. The individual’s subsequent JMES is to be managed flexibly in accord with the evolving clinical situation. Individuals who successfully complete the SRS and are able to function on a day-to-day basis in the opposite sex role are to be assessed S3P and awarded a JMES of E2 with ‘Medical marker (no functional limitation)(MedLim 1300).

69. **Surgical and other Procedures.** Surgical and other procedures for Gender Dysphoria are not available from within Service medical resources and require separate referral for specialist advice. CA Psych(RAF) is to oversee and monitor the occupational psychiatric implications.

70. **Discussion.** Sympathetic consideration is to be afforded by the Personnel Management Authority in implementing career management decisions as detailed in AP 3392, Vol. 5, Lft 118.

71. **Reference:**

   a. At a Glance Guide to the Current Medical Standards of Fitness to Drive.
LEAFLET 5-12 ANNEX A: IMPACT OF EVENT SCALE

Below is a list of comments made by people after disasters. Please read each item and indicate how frequently these comments were true for you during the last 14 days by placing a tick in the appropriate box. If they did not occur during that time, please tick the ‘not at all’ column.

<table>
<thead>
<tr>
<th>No</th>
<th>DURING THE LAST 14 DAYS</th>
<th>PRESENT EXPERIENCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>I thought about it when I didn’t mean to.</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>I avoided letting myself get upset when I thought about it or was reminded about it.</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>I tried to move it from my memory.</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>I had trouble sleeping because of pictures or thoughts about it that came into my mind.</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>I had waves of strong feelings about it.</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>I had dreams about it.</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>I have stayed away from reminders about it.</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>I have felt as if it hadn’t happened or it wasn’t real.</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>I have tried not to talk about it.</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Pictures about it popped into my mind.</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Other things kept making me think about it.</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>I was aware that I still had a lot of feelings about it, but I didn’t deal with them.</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>I have tried not to think about it.</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>Any reminder brought back feelings about it.</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>My feelings about it have been sort of numb.</td>
<td></td>
</tr>
</tbody>
</table>

Intrusion subset: 1,4,5,6,10,11,14  
Avoidance subset: 2,3,7,8,9,12,13,15  
Score:  

<table>
<thead>
<tr>
<th>Not at all</th>
<th>Rarely</th>
<th>Sometimes</th>
<th>Often</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1</td>
<td>3</td>
<td>5</td>
</tr>
</tbody>
</table>

Intrusion Score:  
Avoidance Score:  
Score:  

Total Impact Score:
LEAFLET 5-12 ANNEX B: CERTIFICATE OF TEMPERAMENTAL UNSUITABILITY FOR SERVICE LIFE

Part 1 - To be signed by the Unit Medical Officer:

I examined ................................................................ on...............................

I am of the opinion that he/she is not suffering from a primary psychiatric illness or disability, which may settle after treatment, but may be due to being unsuited to military service. I am satisfied that the unit executive have taken all reasonable remedial actions within their powers, without success.

Signed......................................................................  Date............................
Name.........................................................................  Rank............................
UMO/SMO RAF........................................................

Part 2 - To be signed by the Service Psychiatrist:

I examined ................................................................ on...............................

I am of the opinion that he/she is not suffering from a primary psychiatric illness or disability, which may settle after treatment, but may be unsuited to military service. He/she holds an appropriate medical employment standard.

Signed......................................................................  Date............................
Name.........................................................................  Rank............................
Consultant Psychiatrist.................................  Unit..............................
INTRODUCTION

1. This leaflet gives details on the assessment and treatment of recruits and serving personnel with common and important orthopaedic problems. It should be read in conjunction with JSP 950 which contains details regarding the assessment of many conditions affecting the P, U and L factors of the PULHEEMS profile.

2. Functional assessment of Service personnel with orthopaedic conditions is particularly important as even minor disabilities can interfere with the ability to perform trade and general service duties. Before limitations are awarded, it is essential that the MO is familiar with the individual’s duties. The following factors may be relevant when assessing the impact of a disability on employment:
   a. Right/left handedness.
   b. Manual dexterity (handling tools and weapons).
   c. Strength and endurance (manual handling, sport, RAF fitness test etc).
   d. Joint stability and range of movement.
   e. Severity, quality (acute/chronic/intermittent) and site of pain.
   f. Working posture - e.g. prolonged sitting/standing, work in confined spaces, kneeling, vocational driving etc.
   g. Aircrew duties - duration of sorties (cramped sitting position), high-G environment, ejection seats, ergonomic factors (especially helicopter aircrew), vibration, winch operation etc.
   h. Effects of medication.

3. Although many acute orthopaedic problems are dealt with within the National Health Service (NHS), problems which could cause long-term disability are often best managed by Service orthopaedic surgeons familiar with the demands placed upon individuals working in operational military environments. For this reason, early referral to a Service consultant orthopaedic surgeon should be considered whenever assessment of fitness or suitability of treatment are in doubt.

SHOULDER DISLOCATION

4. Limitations:
   a. Recruits. Candidates with limitation of shoulder movement are usually graded U8. Following successful stabilising surgery for recurrent dislocation of the shoulder more than a year earlier, candidates may be graded U2 provided that full function has been regained. Grading is to be judged on individual merit, based on the residual functional capacity and their respective future employment category. Those who have had more than one stabilising operation are considered unfit for Service in the RAF (U8).

   b. Serving Personnel. Provided there are no complications, a gradual return to normal activity following dislocation of the shoulder is normally possible over 2-3 months, during which time a period of temporary downgrading is usually appropriate. Occasionally, dislocations may become recurrent in which case early operative intervention may be appropriate. Normal function of the shoulder and total absence of symptoms following operative stabilisation for recurrent anterior dislocation of the shoulder is compatible with an unrestricted JMES.

   c. Aircrew. Aircrew are to be grounded until they have a full range of pain-free shoulder movement.
WORK RELATED UPPER LIMB DISORDERS

5. **Clinical Concerns.** There is a risk of recurrence in individuals prone to Work Related Upper Limb Disorders (WRULD). Symptoms may become chronic and debilitating, resulting in medical discharge.

6. **Limitations.**
   
a. **Recruit.** A potential recruit with a history of WRULD resulting in significant time off work or discharge from previous employment should be graded P8. Candidates with a history of transient conditions may be accepted provided that they have been symptom free for at least one year.

   b. **Serving Personnel.** Symptoms suggestive of WRULD disorder should be treated promptly. A workplace assessment may be necessary to identify the cause and ensure that appropriate temporary employment restrictions are awarded to prevent the condition from being aggravated further and becoming chronic. Permanent downgrading may occasionally be required.

7. **Discussion.** WRULD is an ill-defined group of conditions including tenosynovitis, tennis elbow, ‘repetitive strain injury’ and other painful upper limb disorders that are triggered by work. Similar conditions may, however, arise from certain leisure activities (for example, DIY, computer use etc) so detailed occupational and social histories are essential. Workplace assessment may help identify ergonomic factors that should be addressed. WRULD in MOD civilian employees is reportable under RIDDOR 1995.

LOW BACK PAIN

8. **Clinical Concerns.** Patients with Low Back Pain (LBP) form a significant proportion of personnel medically discharged from the Service. Fewer than half of those personnel that are non-effective for more than 6 months will return to duty, irrespective of what treatment they receive. Chronic LBP is responsible for frequent spells of sickness absence and restricted duty. Objective physical signs are often absent and bear little correlation to symptom severity. Aetiology and attributability are often disputed and may result in lengthy appeals for compensation. In the aviation environment complaints of LBP frequently arise from poor posture in ergonomically less than ideal cockpits (especially helicopters).

9. **Limitations.**
   
a. **Recruit.** Candidates with a history of recurrent low back pain or with a history of sciatica or any spinal surgery are considered unfit for Service in the RAF (P8). Those with a single episode of low back pain, defined for these purposes, as a pain lasting no longer than 6 weeks, within the last 5 years may be acceptable provided that the candidate has remained symptom free for at least one year.

   b. **Serving Personnel.**
      
      (1) Acute LBP with or without sciatica may require temporary downgrading (with the appropriate limitations) until symptoms are relieved and back function is restored.

      (2) Chronic LBP merits further investigation. Improvement following treatment is compatible with a L2 medical marker. For persistent chronic low grade symptoms permanent downgrading, with appropriate employment restrictions dependent on severity of symptoms, is appropriate. Significant continuing disability may result in a recommendation for medical discharge.

   c. **Aircrew.** Mild postural LBP may benefit from an individual moulded lumbar support (see paragraph 10). Persistent LBP, or backache associated with pathological signs requires grounding pending specialist investigation/management.

10. **Aircrew Individually Moulded Lumbar Support.** When a MO considers that an aircrew member is suffering from postural back pain during flight and there are no pathological causes identified, referral via DMICP should be for the attention of the Research Physiotherapist, RAF CAM using read code **TRIQQRE3** (Referral via mail should be addressed to: PCO Office, AMTW, RAF Centre of Aviation Medicine, RAF Henlow), in order that an individually moulded lumbar support can be manufactured. The patient must be suffering from flying-related back pain and must have had assessment and treatment by PCRF Physiotherapist (including a Core Stability programme) before referral to the service will be accepted. On receipt of the support, the MO is to ensure that the support fits and that the aircrew member understands how
and when it is to be worn. The aircrew member is to be instructed to return if the back pain persists or if the support interferes with his flying duties. Two months after being issued, the MO and aircrew member are to complete a lumbar support questionnaire and return it to the RAF CAM. Individually moulded lumbar supports are compatible with ejection seats. However, if an aircrew member is involved in an aircraft accident whilst wearing the lumbar support, the fact that he was wearing it must be made known to any doctors treating him and be recorded on the FMed 154.

11. **Further Investigation.** Referral to a consultant orthopaedic surgeon is indicated when acute LBP fails to improve within 3 weeks of onset or when patient’s symptoms are recurrent. Earlier referral is recommended when back pain is associated with significant sciatica or neurological signs.

**SPONDYLOLOYIS AND SPONDYLOLISTHESIS**

12. **Clinical Concerns.** The main concerns are chronic LBP with or without sciatica, progressive vertebral slip and neurological complications.

13. **Limitations.**

   a. **Recruit.** A candidate with a known history of spondylolysis or spondylolisthesis is considered unfit for Service in the RAF (P8).

   b. **Serving Personnel.** Symptom-free spondylolysis is compatible with an unrestricted JMES. Symptom-free Grade 1 spondylolisthesis (up to 25% of the vertebral body) requires annual follow-up and an E2 medical marker plus ‘Unfit contact sports’ (MedLim 8301). Symptomatic Grade 1 spondylolisthesis requires medical downgrading, including the limitation ‘Unfit service outside base areas’ and other limitations as dictated by the level of symptoms (for example ‘Unfit heavy lifting’ and ‘Unable to stand for long periods’). Untreated spondylolisthesis with a slip greater than Grade 1 will usually be assessed P8.

   c. **Aircrew.** Mild backache associated with spondylolysis and non-progressive spondylolisthesis may benefit from an individually moulded lumbar support (see paragraph 10). If symptoms persist aircrew should be grounded and assessed by a consultant orthopaedic surgeon. Asymptomatic Grade 1 spondylolisthesis is compatible with flying ejection seat aircraft. If single level spinal fusion is required, aircrew are to be grounded for 6 months, following which a return to unrestricted flying (including ejection seat aircraft) should be possible. The results of multi-level fusions are not as good and ejection seat clearance is unlikely.

14. **Discussion.** Service patients with spondylolisthesis are likely to belong to the spondylolytic group with pars defects which are thought to be due to un-united stress fractures. The majority of these lesions are non-progressive and treatment is usually conservative. Fusion is considered in the presence of significant LBP and sciatica, especially when associated with neurological signs. However, the delayed appearance of symptoms, even after a successful bony fusion, is not uncommon.

**PROLAPSED INTERVERTEBRAL DISC**

15. **Clinical Concerns.** A Prolapsed Inter-vertebral Disc (PID) may cause chronic LBP with symptoms of nerve root irritation. A central disc protrusion may cause caudal equine compression and should be treated as a surgical emergency.

16. **Limitations.** As for LBP (see paragraph 9).

17. **Discussion.** Patients with PID are usually treated conservatively initially. If symptoms persist, referral to a consultant orthopaedic surgeon should be considered. MRI examination of the lumbar spine is helpful in identifying the level of the disc lesion. Epidural steroid injection is often successful but discectomy is indicated if sciatica is persistent and associated with progressive neurological features. Caudal equine compression is a surgical emergency. The results of single level discectomy are gratifying and a return to unrestricted duties (including flying) is usually possible 3 months after surgery. This is not so when MRI shows disc degeneration at multiple levels. Discectomy combined with fusion is indicated when spinal instability is suspected (see paragraph 13c for flying restrictions).
18. **General Considerations.** The use of an ejection seat exposes the spine to considerable compression and flexion forces. In addition, the cervical spine may be exposed to lateral flexion, rotation and traction. These forces may cause spinal compression fractures, rupture of ligaments, and spinal cord and brain stem lesions. These injuries are often asymptomatic or more severe than mild symptoms may suggest. Instances have occurred, particularly following ejection at high aircraft speeds, of potentially lethal cervical spine injury producing minimal symptoms and being undetected by radiography. In other aircraft accidents, particularly rotary wing accidents, in which occupants are exposed to high vertical accelerations at ground impact similar injuries may occur. To ensure that such injuries are detected there is a requirement to undertake appropriate investigations. In order to minimise future disability early assessment and appropriate management are essential (see AP 1269 Lflt 12-05 Annex A). Mental health and ophthalmic considerations are detailed in Lflt 5-12 and Lflt 5-14 respectively.

19. **Management.** It must always be assumed that:

   a. Personnel who have ejected or who have been exposed to high levels of vertical acceleration may have unstable head, neck and spinal injuries. They must always be taken to hospital for assessment, preferably to a Level 1 unit; head, neck and spinal immobilisation during movement is essential.

   b. There may have been a period, however brief, of loss of consciousness following ejection. This period may be extremely short, but supervising MOs are to bring this possibility to the attention of medical staff in civilian hospitals. Transient loss of consciousness is extremely common following ejection and is a consequence of the high forces involved in ejection using modern escape systems. Obvious head injuries are to be treated accordingly but all personnel who have ejected or have been involved in an aircraft accident are to be subject to a full neurological examination, which should be repeated at appropriate intervals.

20. Injured aircrew should be treated according to Advanced Trauma Life Support (ATLS) guidelines and it is reasonable to expect these guidelines to be followed whether casualties are admitted to military or civilian medical units. Difficulty is only likely to arise over the management of casualties who have minimal or no symptoms of spinal injury. It is unlikely that staff in the majority of civilian accident units are aware of the forces involved in aircraft accidents and there may be a reluctance to investigate casualties to the extent that the Defence Medical Service (DMS) considers essential. Supervising MOs should attempt to make staff aware of the potential for covert injury, but must recognise that the DMS is unable to direct the actions of civilian hospital staff.

21. In order to maintain a consistent approach to aircrew back injury it is highly desirable that injured aircrew are treated in centres familiar with their management. Supervising MOs are to encourage hospitals providing initial management to transfer aircrew to QE Hospital, Birmingham. It may be possible to arrange transfer direct to QE Hospital from the accident site; however, any such decision should take account of the ejectee clinical condition. Aircrew who are discharged from NHS hospitals without being transferred to QE Hospital are to be referred to the RAF CA in Orthopaedics for immediate review prior to returning to flying duties.

22. **Assessment.** All personnel who have ejected and all those who appear to have been exposed to high levels of vertical acceleration are to have the following investigations:

   a. **Initial:**
      
      (1) Full history and physical examination, including detailed neurological assessment.
      
      (2) CT of the cervical spine\(^\text{140}\).

   The above investigations should be carried out as soon as possible after ejection or an aircraft accident. The initial assessment is a priority and should be performed within 2-3 hours of admission to hospital. This should apply even if the patient is asymptomatic on admission.

   b. **Secondary:**

\(^{140}\) AP and lateral X-rays if CT not immediately available.

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(1) Once the cervical spine has been cleared clinically and radiologically, further investigations should be undertaken at QE Hospital, Birmingham. The likelihood of identifying changes in a MRI scan diminishes with time; therefore the MRI scan of the spine should be performed as soon as reasonably practicable following the aircraft accident or ejection. Ideally this should be within 24 hours, but must not be later than 72 hours after the incident.

(2) The following investigations should be undertaken regardless of clinical well-being:

(a) Detailed neurological assessment by a consultant neurologist or neurosurgeon.

(b) MR scanning of the whole spine to include the following sequences:

   i. Sagittal T1 weighted.

   ii. Sagittal T2 weighted.

   iii Sagittal STIR

(3) Additional imaging may be deemed appropriate by the responsible radiologist. MRI scanning of the brain should be limited to those who have, or who are suspected of having, suffered a brain injury. However, the threshold level of suspicion for the presence of brain injury should be low, particularly where there has been a loss of consciousness, even for a very short period.

23. Properly informed consent is required before subjecting aircrew to any investigation, in accordance with AP1269 Lft 6-05. However, although aircrew cannot be forced to undergo investigation, they should be made aware that the Service can legitimately require that the above investigations are completed in order to confirm an individual’s fitness to return to Service flying duties.

24. Clinical Considerations for Return to Flying Duties. This policy does not seek to dictate the management of spinal fracture requiring surgical stabilisation. The following considerations apply to stable compression fractures:

   a. Aircrew shall not return to flying until the fracture has healed. The minimum period to healing is normally 4 months.

   b. Aircrew should be treated symptomatically for 48 hours after which they may be discharged. However, before discharge the stability of the fracture must be confirmed by standing spinal radiographs, including a clear sagittal view.

25. Rehabilitation should always be considered in aircrew injured in an aircraft accident. Arrangements should be made soon after injury for admission to the Defence Medical Rehabilitation Centre (DMRC) Headley Court, but rehabilitation should not start without confirmation by a consultant orthopaedic surgeon that the injury is unlikely to progress and is healing satisfactorily. Admission to DMRC should normally occur 3 months after the injury to prepare the individual for a return to duty at 4 months.

26. The effects of metal fixation on spinal stability when subjected to large vertical accelerations or to vibration are unknown. Aircrew who have had internal fixation of a spinal fracture and who have metal fixation in situ are not to fly in an ejection seat. Flying in non-ejection seat aircraft may be permitted with agreement between a consultant orthopaedic surgeon and CFMO (RAF).

27. MR scanning is likely to detect asymptomatic spinal disc lesions. In most cases these will be a normal finding. However, aircrew who have a disc lesion detected on MR scanning and who have any history, before, during or after the accident, of neurological symptoms are to be assessed by a consultant neurologist before returning to flying duties.

SPONDYLOSIS/WHIPLASH INJURY

28. Clinical Concerns. Cervical spondylosis and whiplash injuries may cause significant neck pain which may be associated with nerve root irritation. Symptoms may be aggravated by wearing heavy headgear (for example, helmets and Night Vision Goggles (NVGs)) and by poor posture at VDU terminals. Contact sports such as football and rugby may significantly exacerbate the condition.
29. Limitations.
   
a. **Recruit.** A candidate with persistent symptoms should be graded P8. Following significant whiplash injury, candidates should be graded P8 until free of all symptoms for one year, following which an unrestricted JMES can be awarded.

b. **Serving Personnel.** A period of temporary downgrading may be appropriate following significant whiplash injury if helmets/headsets are routinely worn. Permanent downgrading may be required for persistent symptomatic cervical spondylosis, especially if associated with neurological features. Affected personnel should avoid contact sports that might aggravate the condition.

c. **Aircrew.** Aircrew with persistent neck pain and neurological features should be grounded pending resolution of their symptoms. Aircrew with recurrent symptoms are unfit ejection seat aircraft and may require protection from high Gz manoeuvres, wearing aircrew helmets and NVG flying depending on the frequency and severity of their symptoms. Asymptomatic cervical spondylosis identified radiologically is compatible with unrestricted flying.

**KNEE INJURIES**

30. **Clinical Concerns.** Knee joint instability constitutes a significant source of disability in the young and the athletic. Service personnel are often required to carry heavy loads over rough terrain making further injury more likely if the joint is unstable. Consequently, a number of Service personnel with Anterior Cruciate Ligament (ACL) deficiency are invalided from the Service each year. Secondary osteoarthritis of the knee joint is inescapable if instability is not controlled.

31. **Limitations.**
   
a. **Recruit.** Slight laxity of the ACL without a history of injury and without any loss of function, not infrequently seen in clinical practice, is compatible with an unrestricted JMES. Significant ACL laxity with a positive pivot shift and ACL deficiency following injury, whether symptomatic or not, should be assessed P8. A history of meniscectomy is not a bar to entry provide that the knee has been asymptomatic for 12 months following surgery. Candidates are to be assessed in accordance with JSP 950 Part 6 Chapter 7.

b. **Serving Personnel.** If stable, ACL deficiency should be assessed annually and graded E2 (‘Unfit contact sports’). Knee instability symptoms necessitate downgrading. Personnel with knee instability are unfit parachuting. Following ACL reconstruction, provided that the knee is stable and symptom-free after 6 months, an E2 category may be awarded. Persistent instability may lead to medical discharge. Personnel may be upgraded 3 months after successful meniscal surgery.

c. **Aircrew.** Aircrew should be grounded if the knee is unstable or prone to locking pending specialist investigation and treatment.

32. **Discussion.** Torn ACL with or without meniscal tear is a very common injury in military practice. Knee instability symptoms necessitate arthroscopic assessment before ligament reconstruction can be considered, the results of which are now generally very good. Rehabilitation at DSMRC, should be considered following injury or when recovering from surgery.

**JOINT REPLACEMENT AND HIP RESURFACING**

33. **Clinical Concerns.** Joint instability/failure, fracture, dislocation, pain and loss of function are the major areas of concern in individuals who have had joint replacement or resurfacing. Work in confined spaces (including some aircraft cockpits), swimming and athletic activity may be adversely affected. Emergency egress from aircraft could result in joint dislocation.

34. **Limitations.**
   
a. **Recruit.** A history of joint replacement/resurfacing surgery is generally assessed P8. Isolated small joint replacement with a good functional result may be acceptable subject to assessment by a Service orthopaedic surgeon.
b. Serving Personnel. Following successful hip or knee joint replacement surgery, personnel should be referred to the RAFMB and may be awarded a permanent E3 ‘Unfit service outside base areas’ along with appropriate physical restrictions e.g. ‘Unfit impact activity’, ‘No load carrying’ etc. Those who have had traditional total hip replacement (THR) or THR with ceramic heads or ceramic cups are additionally unfit parachuting duties. Individuals with significant residual disability may require further limitations or medical discharge. Successful replacement of small joints or resurfacing of the hip joint may be compatible with L2.

c. Aircrew. Aircrew should be considered as follows:

i. Resurfacing of the hip joint or large-headed, non-cemented THR. Aircrew who have had these procedures may be fit to return to full flying duties, including ejection seat aircraft and helicopters, no sooner than 6 months post surgery if they have experienced no fractures or pain, have returned to full physical activity and have completed a satisfactory cockpit check including emergency egress.

ii. Traditional THR. Traditional THR with a cemented cup or stem is incompatible with flying ejection seat aircraft due to the risk of dislocation from windblast on ejection and fracture of the cement mantle on landing. Aircrew who have had a THR with a ceramic head or ceramic cup are to be treated similarly to the traditional THR group. Aircrew may be able to return to other aircraft types post traditional THR, or ceramic cup/head THR, if they have passed a full cockpit check including emergency egress drills and functional assessment.

iii. Revision Hip Surgery. Aircrew with revision of THR are unfit ejection seat aircraft. Those who have had a revision of resurfacing to THR should be considered on a case by case basis.

iv. Knee Replacement Surgery. Knee replacement is incompatible with flying ejection seat aircraft due to the risk of dislocation but aircrew may return to other aircraft types, including helicopters, if they pass a full cockpit check including emergency egress drills and functional assessment.

v. Other joint replacement surgery. Fitness to fly after other joint replacements may be considered if the results of surgery are excellent and subject to assessment by a Service orthopaedic surgeon and a FMO.

35. Discussion. Hip resurfacing produces excellent results and patients can usually return to non-contact sports including running 6 months post operation. General advice includes the avoidance of high impact activities such as trampolining, judo, rugby and parachute jumping until 12 months post operation. Total hip replacement, whether cemented or not, produces similarly excellent results with a low failure rate (some papers now quote failure rates as low as 3% per decade). Athletic activity increases the risk of fracture and joint loosening (especially with cementless replacements). Persistent hip pain and limp occur occasionally. Abduction, flexion and external rotation of the hip (as occurs on entry into some aircraft cockpits) predispose to joint dislocation.

FRACTURES

36. Clinical Concerns. Recovery from fractures is usually uneventful but may be complicated by loss of function. When internal fixation devices are retained, soft tissue irritation, stress shielding and fatigue failure may cause problems.

37. Limitations.

a. Recruit. Candidates with retained large fixation devices in weight bearing bones such as the femur and tibia should be assessed P8 until they have been removed and the candidate is symptom free with restoration of full function. Upper limb fixation devices are occasionally retained in situ if their removal would be difficult. If a candidate has a symptom-free upper limb device, he may be assessed P2 by a Service orthopaedic consultant.

b. Serving Personnel. Serving personnel with retained fixation devices may be graded E2, unfit contact sports and parachuting (if applicable), provided that they are symptom-free.

c. Aircrew. Aircrew should be grounded following fracture of any bone until the fracture has united with restoration of a normal, pain-free, range of movement. If there is significant deformity or
loss of function, the aircrew member should be assessed by a Service orthopaedic surgeon and have a cockpit assessment by a FMO (if appropriate) before returning to flying duties. Individual aircrew with retained lower limb internal fixation devices, may be allowed to return to flying ejection seat aircraft, following assessment by an approved Orthopaedic Specialist, and approval from CFMO (RAF) or CA AvMed (RN). At present retained back internal fixation devices remain incompatible with flying ejection seat aircraft.
INTRODUCTION

1. Visual defects and ophthalmic conditions are significant disabilities that frequently result in the rejection of candidates at selection. This is particularly true of aircrew applicants where the highest standards are demanded. As eyesight changes with age, it is essential to reassess visual acuity (VA) at regular periods.

2. Visual standards for RAF branches and trades are detailed in AP 1269A Section 4. Aircrew have stringent standards reflecting the importance of good eyesight in maintaining mission effectiveness and flight safety. Although only distance VA standards are stipulated for ground branches and trades, ocular function should nonetheless be adequate for the proposed duty of the individual being assessed.

3. Medical examiners need to have a thorough understanding of basic eye examination techniques in order to ensure test reliability. The notes at Lflt 5-14 Annex A will assist but are not intended to replace standard texts on examination methods. The advanced eye examination techniques required for aircrew selection require more sophisticated expertise and technology, including refraction, computerised visual field (VF) estimation and corneal mapping. Initial screening for all aircrew candidates is performed by civilian optometry services before a final assessment is performed at R&S DOM.

POLICY

4. RAF Recruits. The Defence Medical Services’ (DMS’) ophthalmology policy for candidates applying to join the UK military services is contained within JSP 950 Lflt 6-7-4, Annex A and sets the minimum standards for all potential recruits. For RAF candidates, increased standards may be required for certain trades and branches. This leaflet expands on DMS ophthalmology policy where RAF requirements vary.

5. RAF Serving Personnel. The DMS’ ophthalmology policy for UK military personnel is contained within JSP 950 Lflt 6-7-5, Annex A and sets the minimum standards for all serving personnel. For RAF personnel however, increased standards may be required for certain trades and branches. This leaflet expands on DMS ophthalmology policy, where RAF requirements vary.

6. UK Military Aircrew. This leaflet is the authoritative ophthalmology policy document for all UK military aircrew.\textsuperscript{141}

INDEX

7. An index of ophthalmology conditions is available overleaf:

\textsuperscript{141} As recognised by the Standing Committee on Aircrew Medical Standards and the Surgeon General’s Medical Policy Steering Group
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8. **Herpes Simplex Keratitis (HSK).** HSK is usually a one-off uncomplicated condition with no residual effect. Following the initial infection 20-25% of people may however develop met-herpetic disease and become prone to recurrent corneal disease with the risk of visual loss.

a. **Recruits.** A single isolated episode is not a bar to entry provided that recovery is complete and VA is normal. More than one attack carries a worse prognosis and should be assessed P8 in a candidate. The presence of persisting corneal disease and corneal scarring is a complete bar to aircrew selection.

b. **Serving Personnel.** Serving personnel need not be downgraded for short-lived acute attacks but after the third episode, E3 ‘Unfit service outside base areas’ is to be awarded.

c. **Aircrew.** Aircrew are to be grounded during the attack and be off treatment before returning to flying duties. Any persistent loss of VA in aircrew should be referred to the Defence Consultant Advisor in Ophthalmology (DCA Ophth) for assessment.

9. **Corneal Grafts.**

a. **Recruits.** Candidates with corneal grafts are to be assessed P8 irrespective of cause.

b. **Serving Personnel.** Serving personnel will initially be assessed E3, ‘Unfit service outside base areas’, with other limitations dependent on VA. If the prognosis is favourable, recovery uncomplicated and the VA is normal, an E2 ‘Medical marker’ may be appropriate after a 2-year complication-free period.

c. **Aircrew.** Aircrew should be assessed by the DCA Ophth before undergoing surgery. The aviator with a corneal graft is likely to be assessed A3, ‘Unfit solo pilot - must fly with a pilot suitably qualified on type’ or ‘Unfit solo (aircrew category to be specified)’. A return to unrestricted flying could only be achieved in exceptionally favourable cases when the required visual standards are achieved and there is an absence of significant visual symptoms.

10. **Corneal Refractive Surgery.** Corneal Refractive Surgery (CRS) may be performed by a number of methods. Photorefractive Keratectomy (PRK) involves the reshaping of the anterior corneal surface by photoablation using an ultraviolet excimer laser. The corneal epithelium is removed prior to treatment and grows back over the treated zone within 4-6 days. Laser Epithelial Keratomileusis (LASEK) is a modification of PRK where a thin flap of corneal epithelium is created. The underlying corneal stroma is ablated in the same way as PRK but the flap of epithelium is replaced and acts as a bandage lens. The visual outcome is very similar to PRK but pain and haze are reduced. Laser In-Situ Keratomileusis (LASIK) involves the cutting of an actual flap of corneal stromal tissue and ablating the underlying stromal bed, before replacing the flap. Disruption of the epithelial layer is kept to a minimum and this avoids the aggressive healing response that leads to the formation of haze. Pain is also minimised and visual recovery occurs within 1-2 days. For those with low levels of myopia, outcomes in terms of visual performance for all of these techniques are very similar.

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142 Although the term RAF CA Ophth is used throughout this leaflet, single Service personnel may be referred to a single Service CA where possible.

Page: 391
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a. Recruits. The following methods of surgical correction of myopia or hypermetropia are considered suitable for entry on an individual, case by case basis for non-specialist employment groups:

(1) PRK
(2) LASEK
(3) LASIK
(4) Intrastomal corneal rings, (otherwise known as Intrastomal corneal segments).
(5) In order to be considered the candidate must fulfil the criteria listed in JSP 950 Lft 6-7-4 Annex A paragraph 4A-04. A history of radial keratotomy, astigmatic keratotomy, or any other form of refractive surgery is a bar to entry into the RAF and candidates are to be graded P8. All invasive intracocular surgical procedures are to be graded P8.

b. Serving Personnel. The methods of surgical correction of myopia listed in paragraph 10a may be considered suitable for serving personnel on an individual, case by case basis. Serving personnel identified as having previously undergone such surgical operations are to be referred to a Defence Ophthalmologist prior to Medical Boarding action. In order to be considered for a grading of P2 all personnel who have undergone refractive surgery must fulfil the criteria listed in JSP 950 Lft 6-7-5 Annex A paragraph 5A.05. In view of the potential complications of the procedure and the effects of medical downgrading on career prospects and postings, personnel contemplating refractive surgery are to be managed as detailed below:

(1) Counselling is to be given by a MO who must emphasise that failure of the individual to meet the required standards as detailed above will result in them being regraded no higher than P3; significant deterioration in vision may require the award of P7 or P8. A written record of the counselling is to be recorded in the individual’s medical record.
(2) After receiving counselling, individuals may undergo surgery at their own expense, following the procedure detailed in AP1269 Lft 6-04.
(3) The individual is to be downgraded E5, ‘Unfit service outside base areas’ (MedLim 5002) approximately 2 weeks before surgery.
(4) If the surgery is successful, the individual may be upgraded to their former JMES after 6-12 months, once the eye has stabilised.
(5) If the surgery fails, the patient is to remain downgraded and is to be referred to the DCA Ophth.
(6) Ground personnel are permitted to fly as passengers following CRS

c. Aircrew. The aircrew population in general has low myopia, increasing the chance of surgical success and reducing the incidence of surgical complications such as loss of contrast sensitivity and night vision abnormalities. Careful pre and postoperative assessment is required to ensure flight safety. Therefore, the MO is to refer all aircrew who are contemplating CRS to the DCA Ophth. Aircrew are to be made aware of the following:

(1) With the exception of Service-provided pre and postoperative assessments, the cost of all surgery, follow-up, and any additional treatment for complications, is to be borne by the individual. (Candidates for surgery are to sign a certificate of understanding at Lft 6-04 Annex A).
(2) As the surgery is non-essential and would adversely impact on short to medium term availability for flying duties, aircrew are to be advised to defer treatment until they are on a non-flying tour. The individual is to obtain their line manager’s approval before proceeding with surgery.
(3) Any individuals who have undergone CRS are to be downgraded ‘temporarily unfit flying’ duties pending satisfactory postoperative assessment. Subsequent upgrading action is to be in
accordance with relevant single Service processes. Provided there is no requirement for further refractive correction following surgery, individuals can be re-graded A1.

(4) Serving aircrew and CRS:

(a) In order to minimise risks from CRS, pre-operative ametropia must not exceed −5.00 to +2.00 dioptres in any meridian.

(b) DCA Ophth is to explain what procedures are permitted (PRK, LASEK and LASIK) and outline the risks and potential benefits of CRS. Aircrew are to be provided with a written summary of this information.

(c) Pre-operative assessment is to include:

i. A full ophthalmic examination.

ii. Measurement of refractive error.

iii. Measurement of the best spectacle corrected Snellen VA, with and without the ‘Brightness Acuity Tester’ glare source.

iv. Contrast sensitivity testing in photopic and mesopic conditions using the Pelli-Robson chart.

v. Contrast acuity assessment to assess functional visual performance under both photopic and mesopic levels of ambient illumination.

vi. Pupillometry in mesopic and scotopic conditions.

(d) The surgery and postoperative care is to be performed by a consultant ophthalmologist experienced in CRS. DCA Ophth can advise individuals of suitable centres of excellence.

(e) Post-operative assessment is to be performed by DCA Ophth before the individual is permitted to return to flying duties. The timing of this appointment is to be at the discretion of DCA Ophth. However, it is usual that the assessments to establish stable refraction will occur at 4 weeks and 6 weeks post surgery. The postoperative assessment is to include a repeat of the pre-operative tests detailed at paragraph 10c (4) (c). A satisfactory outcome from the ophthalmic assessment and NVG testing (performed at RAF CAM if applicable to role) will permit a returning to flying duties. The limitation ‘Unfit service outside base areas’ is to remain in place for 6 months postoperatively.

(f) Serving aircrew who have had unapproved CRS (e.g. if aircrew are noted to have a marked improvement in uncorrected VA) are to be grounded (A4) pending an assessment of visual function as outlined at paragraph 10c (4) (c) by DCA Ophth.

d. Aircrew candidates and CRS: Aircrew are normally recruited at an age before ocular maturity when CRS may not provide long-term refractive stability. CRS is not recommended below age 21 for this reason. However, aircrew recruits may be accepted subject to the following criteria:

i. CRS by PRK, LASEK and LASIK only.

ii. A minimum of one year to has elapsed since surgery

iii. Minimum age at application of 22 years old.

iv. Subject’s refraction to have been stable for at least 6 months.

v. Recorded pre-operative ametropia must not exceed −5.00 to +2.00 dioptres in any meridian

Aircrew who have undergone CRS are to be able to achieve a VA of 6/12 in each eye when using NVG as a criterion for return to flying duties.
vi Post operative VA within current aircrew visual recruitment limits

vii If the preceding criteria are met, candidates are to be referred to DCA Ophth for assessment as at paragraph 10c (4) (c). R&S DOM will continue to screen all aircrew candidates using corneal topography to identify those with undeclared CRS.

11. Keratoconus. Keratoconus is normally a bilateral condition of young adults causing blurred vision and corneal scarring. Disposal of individuals requiring a corneal graft is detailed at paragraph 9.

   a. Recruits. It is unacceptable on entry, even when mild, as it will normally progress and cause significant visual symptoms.

   b. Serving Personnel. If detected within the first six months of service, boarding under QRs 607(16) is appropriate. For other serving personnel, regular ophthalmic assessment is required. An E2 category is appropriate for mild cases. Limitations are dictated by the degree of visual impairment. Visual correction varies with the severity of the disease and is treated with spectacles, hard contact lenses or occasionally by performing a penetrating or deep lamellar keratoplasty.

   c. Aircrew. Hard contact lenses are not normally permitted for aircrew use.

INFLAMMATORY EYE DISEASE

12. Anterior–iritis / irido-cyclitis. Anterior uveitis causes pain, photophobia, loss of VA and posterior synechiae, it is characteristically recurrent.

   a. Recruits. Uveitis (or a past history of) anterior, intermediate or posterior (syn: iritis, pars-planitis, vitreitis, choroiditis) will usually be a bar to entry.

   b. Serving Personnel. Uncomplicated isolated attacks usually have no long term effect on employability although limitation of duty in the acute phase may be required. Treatment is usually with topical steroid drops and mydriatics. Serving personnel require downgrading to E3, ‘Unfit service outside base areas’ unless they remain recurrence-free for a year. Additional limitations for associated systemic disease may also be required.

   c. Aircrew. Long-term treatment of anterior uveitis with topical steroids is not compatible with flying duties unless under the supervision of the DCA Ophth and after discussion with CFMO (RAF).

13. Intermediate - pars planitis. Intermediate uveitis is uncommon but affects young adults and may cause progressive visual loss.

   a. Recruits. Candidates are to be assessed P8.

   b. Serving Personnel. Downgrading to E3, ‘Unfit for service outside base areas’, is normally required for serving personnel.

   c. Aircrew. The medical management of this disease includes local or systemic immunosuppression and is not compatible with flying duties unless under the supervision of the RAF CA Ophth.

14. Posterior - Choroiditis. Choroiditis is usually painless and presents with floaters and visual loss. It may cause permanent loss of sight from chorio-retinal scarring. Treatment with systemic steroids (and occasionally antimicrobials) is often limiting and unsatisfactory.

   a. Recruits. Candidates are to be assessed P8.

   b. Serving Personnel including Aircrew. JMES assessment is functional and dependent on the degree of visual impairment and associated findings.

15. Pan-uvexitis. Pan-uvexitis affects the entire uveal tract and carries a correspondingly poor prognosis.

16. Although the majority of cases of anterior uveitis are idiopathic, it is important to identify underlying associated conditions including sarcoidosis, ankylosing spondylitis, Reiters syndrome, TB, syphilis, toxoplasmosis and gonorrhoea. Complications include secondary glaucoma and cataract formation.
Traumatic iritis is normally self-limiting but following penetrating injury sympathetic ophthalmitis may occur and threaten vision in the unaffected eye. Ophthalmic Herpes Zoster may cause an indolent form of uveitis lasting many years.

**OCULAR HYPERTENSION (OH) AND GLAUCOMA**

17. **OH** is defined as an intra-ocular pressure (IOP) measurement of 22 mmHg or more. It is recognised as being a risk factor in the development of primary open angle glaucoma (POAG). When elevated IOP is associated with typical glaucomatous VF loss (tunnel vision) and optic disc cupping, the condition is termed POAG, the commonest form of glaucoma. Glaucoma may be primary (open and closed angle) or secondary (trauma, uveitis, Fuch’s cyclitis, and pigment dispersion syndrome). It may be present even when the IOP is within normal limits (normal tension glaucoma). OH is usually completely asymptomatic. POAG rarely causes symptoms until late in the disease and hence the need for screening by an optometrist. Acute closed angle glaucoma is more commonly associated with the elderly and hypermetropes causing severe ocular pain and visual loss. OH where the IOP is measured greater than 30 mmHg is associated with an increased risk of POAG and retinal vascular events.

18. **Limitations.** A diagnosis of POAG and OH with IOPs greater than 30 mmHg requires treatment. Individuals with OH, or early POAG with very little field loss, require drug treatment (non pupil-affecting topical drugs are used for aircrew e.g. Dorzolamide).

   a. **Recruits.** Candidates with a history of OH or glaucoma are to be assessed P8.

   b. **Serving Personnel.** Serving personnel with OH require regular screening including VF assessment by an ophthalmologist or optometrist. When stable a **E2** category is appropriate.

   c. **Aircrew.** Serving aircrew with OH require regular screening including VF assessment by either an ophthalmologist or optometrist. Aircrew are fit unrestricted flying where the VF is deemed adequate but significant unilateral field loss in experienced aircrew would confer a monocular or uniocular grading (see link). All aircrew are to be assessed by **DCA Ophth.** Adrenaline and pilocarpine drops (pupil-affecting) are incompatible with flying duties. If surgery is indicated (trabeculectomy), the individual is to be downgraded **E3, ‘Unfit service outside base areas’**, until either fully recovered or stable and preferably off topical treatment. Thereafter, an **E 2** category is appropriate, provided that the VF is satisfactory.

19. Personnel with a positive family history of glaucoma in a first degree relative have around a 10% chance of developing the disease and are to be screened by an ophthalmologist or optometrist annually from age 40 years.

**CATARACT AND PSEUDOPHAKIA**

20. Cataracts produce a number of symptoms, the most common being gradual painless loss of vision, glare (particularly from car headlights), and double vision. Treatment is surgical with cataract extraction and intraocular lens implant when cataract symptoms become visually significant.

   a. **Recruits.** Candidates with a history of cataract are assessed P8.

   b. **Serving Personnel.** The JMES of serving personnel is decided at the discretion of **DCA Ophth.** The decision depends on the degree and nature of visual loss from the cataract and whether the surgical management has been successful.

   c. **Aircrew.** Aircrew who develop cataracts are to be assessed by the **DCA Ophth.** Successful cataract surgery need not be a bar to a return to unrestricted flying duties. Any cataract surgery in aircrew should be performed by a specialist with knowledge of aviation ophthalmology. Aircrew who undergo cataract surgery are to be subject to regular review throughout their flying careers.

**RETINOPATHIES**

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144 or earlier if indicated

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21. Central Serous Retinopathy. Central serous retinopathy (CSR) usually causes a discrete loss of central or paragraph-central vision and subtle loss in colour / depth perception. CSR is usually self-limiting and treatment with retinal laser photocoagulation is rarely indicated. Recurrence of CSR is common and progressive visual loss occasionally occurs. Progressive visual loss is rarely encountered except in the more aggressive form of the disease.

   a. **Recruits.** Candidates with a history of CSR are to be assessed P8.
   
   b. **Serving Personnel.** JMES limitations are to be based on the degree of visual impairment.
   
   c. **Aircrew.** All aircrew with any retinopathy are to be grounded until fully assessed by the DCA Ophth.

22. Retinal Disease. Diabetic and hypertensive retinopathies, including retinal vascular occlusive diseases, are signs of underlying systemic disease which affect the JMES in their own right (see Lflts 5-02 and 5-06). Proliferative retinopathies treated with laser photocoagulation may reduce peripheral vision. This may interfere with night vision and driving despite preserved central vision. Acquired colour vision defects may be caused by both the disease and its treatment.

   a. **Recruits.** Candidates with progressive congenital or acquired retinopathies (retinitis pigmentosa, choroideraemia or related conditions) are to be assessed P8. A positive family history warrants assessment by DCA Ophth prior to enlistment.
   
   b. **Serving Personnel.** Serving personnel are dealt with individually as the extent of disease and prognoses vary greatly and may merit a grading of P2, P3, P7 or P8.
   
   c. **Aircrew.** All aircrew with any retinopathy are to be grounded until fully assessed by the DCA Ophth.

23. Retinal detachment may cause loss of VA and VF loss, dependent on the area affected. Permanent reattachment of the retina is possible in over 90% of cases. A retinal detachment pre-disposes the contralateral eye to the same problem.

   a. **Recruits.** A history of detachment in applicants will normally be assessed P8 except if successfully treated with an acceptable VF and VA.
   
   b. **Serving Personnel.** The JMES of serving personnel following surgery depends on the degree of visual loss. Following successful retinal re-attachment, vision may take 9-12 months to stabilise.
   
   c. **Aircrew.** Following surgery, a return to flying duties is only possible after a full assessment by the DCA Ophth and after discussion with CFMO (RAF). Retinal detachment is believed to be unrelated to the G environment.

24. Limitations:

   a. **Recruits.** Candidates with a history of paretic squint, optic neuritis or ophthalmic migraine are assessed P8.
   
   b. **Serving Personnel.** Serving personnel are to be assessed according to residual disability.
   
   c. **Aircrew.** Migraine is incompatible with solo flying and solo aircraft controlling duties (see Lfit 5-07), and assessment by a RAF neurologist is mandatory. Optic neuritis causes loss of vision and is incompatible with flying in the acute phase. After the DCA Ophth has confirmed full recovery and after underlying demyelinating disease has been excluded by the RAF neurologist; it may be possible to return the patient to flying duties.

NEURO-OPHTHALMIC CONDITIONS

25. STRABISMUS
25. Limitations:
a. **Recruits.** A past history of squint correction through surgery or patching is acceptable and is assessed on the basis of residual function. A persistent squint is acceptable for most ground branches and trades provided that VA is within limits. Amblyopia is acceptable within the limits detailed at Annex B. Paralytic squints usually produce unacceptable diplopia and may be associated with other pathology, such candidates are to be assessed P8.
b. **Serving Personnel including Aircrew.** A past history of squint correction through surgery or patching is acceptable provided it is assessed on the basis of residual function. This also applies to aircrew candidates provided that all visual standards are met.

**MONOCULAR AND UNIOCULAR VISION**

26. Personnel with defective vision in one eye have varying degrees of reduced depth perception and restricted fields of vision. If the right eye is blind, the individual will be unable to fire the SA80 as the right eye must be used to sight the weapon, since sighting with the left eye might result in eye damage from the ejected cartridge. Monocular and uniocular personnel with defective vision in the right eye are therefore unfit firing the SA80 weapon. Monocular and uniocular personnel are also at significantly increased risk of visual incapacitation following other ocular injuries and are therefore also deemed unfit to work with lasers (see Lflt 3-04, Annex I). MOs should provide monocular and uniocular personnel with a FMed566 to allow provision of clear or prescription poly-carbonate eye wear. The use of protective eye wear should be mandated in work environments having an increased risk of blunt, penetrating or chemical trauma to the eye (including weapon firing for monocular and uniocular personnel with defective vision in their left eye). For similar reasons, the SP should be strongly encouraged to wear such eyewear for certain sports (e.g. squash). For the purposes of this publication, specific definitions are listed below:

a. **Uniocular.** When one eye is normal and the other eye is either absent or is blind.
b. **Blind eye**
c. **Monocular.** When an individual has two seeing eyes, one eye with normal vision but the other eye possessing a best corrected VA between 6/60 and 6/24.

27. Limitations

a. **Recruits.** A candidate, who has lost an eye, or whose best corrected vision in the affected eye is 6/60 or worse, is assessed P8, irrespective of cause or the condition of the good eye. Candidates with reduced right sided vision (including amblyopia) who have a corrected VA of less than 6/9 in the right eye are assessed P8. In addition candidates with significant VF defects may be exclude entry.
b. **Serving Personnel.** For serving personnel, formal assessment will need to be made with appropriate specialist follow-up to monitor progression. Laser workers are to be assessed in accordance with Lflt 3-04, Annex I

(1) **Uniocular vision.** Uniocular individuals are to be assessed no better than E3 with the limitation ‘Unfit service outside base areas’ whether the right or left eye is affected and irrespective of the condition of the ‘good’ eye. Where the vision of the right eye is lost, individuals will also be unfit to fire the SA80 weapon (MedLim 1100). Initially, affected personnel will be graded P7R for six months pending specialist review. Additional permanent limitations will depend on the success of rehabilitation and the trade requirements of the individual. Serving individuals who become uniocular or monocular with significant disease in the better eye or whose pre-existing VA in that eye was 6/12 or worse, should be considered for medical discharge.

(2) **Monocular vision.**

(a) **Monocular Personnel with Reduced Left Vision.** Monocular personnel will be graded E3, ‘Unfit service outside base areas’ (MedLim 5002).
(b) **Monocular Personnel with Reduced Right Vision.** All personnel trained on the SA80 weapon who become monocular in the right eye are to undergo formal assessment of their ability to fire the SA80 safely by an experienced range commander. If judged as unable to fire the SA80, the individual is to be graded as detailed in paragraph (d).

(c) **RAF Regiment Personnel.** Are to be awarded a L factor of no higher than E3 L4, ‘Fit limited duties in trade or branch (type will be specified in Med Docs’ (MedLim 1208), if for ophthalmic or other reasons, they cannot fire the SA80. The individual is therefore effectively unfit to remain in the Regiment, but may re-muster to another branch/trade with an award of L3. Decisions on future employability in such cases are made by the Executive.

(d) **All Other Personnel.** Are to be awarded E3, L3, ‘Restrictions on Service duties and employment not specified by a MedLim (unfit SA 80) (MedLim 1100) and ‘Unfit service outside base areas (MedLim 5002); irrespective of their branch or trade. The decision to provide an alternative personal weapon is an executive matter.

c. **Aircrew.**

(1) **Uniocular vision.** In favourable cases aircrew may be permitted to return to flying duties after successful rehabilitation with an A3 grading, ‘Unfit solo pilot - must fly with a pilot suitably qualified on type’ subject to recommendation from the DCA Ophth, advice from CFMO (RAF) and RAF MB approval.

(2) **Monocular vision.** Aircrew are likely to be graded A3, ‘Unfit solo pilot - must fly with a pilot suitably qualified on type’ subject to recommendation from the DCA Ophth, advice from CFMO (RAF) and RAF MB approval.

**CORRECTIVE FLYING SPECTACLES AND CONTACT LENSES**

28. The provision of Corrective Flying Spectacles (CFS) and Contact Lenses (CL) for aircrew is detailed at Annex C. The provision of CL at MOD expense for non-aircrew personnel is detailed at Lflt 5-14 Annex D. Individuals who are entitled to wear contact lenses provided at public expense but are intolerant of wearing such lenses may be referred to the DCA Ophth for consideration of surgical treatment at public expense.

**MANAGEMENT OF COMBAT LASER EYE DAMAGE**

29. The medical management of combat laser eye damage in aircrew is detailed at Lflt 5-14 Annex E.

**OPHTHALMIC CONSIDERATIONS FOLLOWING AIRCRAFT EJECTION**

30. MOs are to be aware of the likely injuries which may result from canopy disrupting mechanisms and air blast during ejection. The decision to refer an ejectee for examination by a Consultant Ophthalmologist should be determined on clinical grounds. Should the MO or civilian hospital find any clinical evidence that the eyes may have been injured; the individual is to be seen by a Consultant Ophthalmologist as soon as possible. The individual is not to return to flying until the MO has discussed the case with CFMO (RAF) and, where necessary, the DCA Ophth who will decide upon the need for further action. Where there is no clinical evidence that the eyes have been damaged, referral to an ophthalmologist is not required.
INTRODUCTION

1. The standard ophthalmic examination required at selection for ground branches and trades, and as part of all routine full medical examinations, is detailed below:
   a. Personal and family history of significant eye problems since last examination.
   b. Visual acuity (distance) with and without correction.
   c. Visual acuity (near)/accommodation.
   d. Ocular movements including subjective convergence.
   e. Ocular alignment – cover/uncover test for manifest squint if suspected and not previously recorded.
   f. Pupil reactions (including consensual reflex and Marcus-Gunn swinging flashlight test).145
   g. External inspection (including check for contact lenses).
   h. Visual fields:
      (1) The Amsler grid test:
         (a) To be conducted at all selection medical examinations.
         (b) To be conducted only when clinically indicated for serving personnel.
      (2) Confrontation visual field test.
   i. Ophthalmoscopic examination of the ocular fundus and media.
   j. Colour perception (on entry or if indicated).

2. If glasses are worn, a note should be made of the latest prescription and the visual acuity (VA) should be repeated with correction. For aircrew assessed A2 for vision, VA is to be recorded unaided and whilst wearing Corrective Flying Spectacles (CFS). All examinees should be asked if they wear contact lenses. Soft contact lenses should be removed at least 24 hours before VA testing.

3. The initial aircrew ophthalmic assessment is conducted by optometrists at R&SDOM. In addition to the above tests, the initial aircrew examination includes:
   a. Formal refraction.
   b. Objective measurement of accommodation and convergence (using RAF rule).
   c. Muscle balance (cover tests and Maddox Wing/Rod for near and distance fixation).
   d. Assessment of manifest hypermetropia.
   e. Visual fields (Amsler grid and confrontation).
   f. Stereopsis (TNO plates).

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145 The Marcus-Gunn swinging flashlight test is used to establish that a pupil reacts consensually to light but not directly. This test is used to detect a relative afferent pupillary defect as in early unilateral optic neuritis. The direct reflex may initially appear brisk. However, when light is alternated from one side to the other, the pupil on the affected side may slowly dilate when exposed to the light. When light shines in the healthy eye a rapid constriction occurs in both eyes. As the light moves to the affected eye, this fails to transmit the message to continue constriction as quickly as normal. As a result the pupils have time to recover and dilate, despite the light shining on the abnormal eye.
g. Fundoscopy (with mydriatic if indicated).

h. Slit lamp examination (if indicated).

i. Corneal topography (to exclude previous corneal surgery and ecstatic disease).

EXAMINATION METHOD

4. When conducting the standard ophthalmic examination the MO should ensure that the test area is appropriately illuminated and that the examination sequence reduces possible learning by the examinee. Results of testing should be accurately recorded.

5. **Visual Acuity (Distant).** VA for distance is assessed uniocularly with a backlit Snellen chart at exactly 6 metres or 3 metres with a mirror. The VA is recorded as the lowest line read without error. If glasses are worn, the test is repeated with glasses on (CFS for aircrew). If the VA is worse than 6/6 (with glasses if worn), it should be repeated looking through a pinhole to help differentiate between a refractive error and other causes. If the VA cannot be corrected, binocular VA is also to be recorded. Care must be taken to ensure that the examinee cannot cheat by wearing contact lenses or learning the correct responses. Erroneous assessments will also occur if the examinee is allowed to screw up their eyes or presses on the occluded eye during testing.

6. **Visual Acuity (Near).** Near VA is assessed with standard test types. N5 ‘chart type’ should be readable at a normal reading distance. The power of accommodation should be measured objectively with the RAF near point rule when near visual acuity is reduced. Glasses/CFS should be worn; N5 should be read at 33 cm on the near vision chart. When near acuity is reduced accommodation should be assessed using the RAF rule.

7. **Ocular Movements.** Ocular movements should be assessed in all positions of gaze and include convergence. The examinee is asked to report any diplopia. Defective convergence should be measured with the RAF near point rule, the objective convergence in cms from the rear edge of the slide is recorded. When looking for nystagmus, care should be taken to keep the fixation point within the normal binocular field of vision, i.e. not in extremes of gaze.

8. **Pupil Reaction.** Pupil reactions should be recorded for light and accommodation. Any irregularity of the pupil should be recorded.

9. **External Inspection.** Marked facial, orbital, eyelid and adnexal abnormalities or asymmetry will require documenting and specialist referral.

10. **Visual Fields.** The Amsler grid provides a quick method for detecting macular abnormalities and early changes in the central visual field and is useful in cases where there is reduced VA and a history of macular field defect such as laser eye injury. Aircrew should also have their peripheral fields checked at routine medical examinations using a confrontation test either using fingers or with neurological pins.

11. **Ophthalmoscopy.** The direct ophthalmoscope should be used to assess the ocular media and fundus through the undilated pupil with low ambient room lighting. If fundal examination with pupil dilation is indicated the pupil is dilated with tropicamide 1% drops.

12. **Colour Perception.** The first 17 plates of the 24 plate edition of the Ishihara pseudoisochromatic plates are to be used for colour vision testing. The plates should be viewed at a distance of 3 feet in daylight or its artificial equivalent and the candidate should be allowed up to 5 seconds to read each plate without handling them. If all plates are read correctly, the candidate is CP2 colour vision normal. If any mistakes are made, the candidate is assessed CP4 colour vision defective. Detail on the use of Ishihara plates can be found in JSP 950 Part 6, Chapter 7.

NB. X-Chrom lenses are not permitted and care should be taken to ensure that candidates are not wearing them.

ASSESSMENT OF FINDINGS

13. In general, the ophthalmic findings are assessed against the required visual standards detailed in Section 4 for different branches and trades. Consideration needs to be given to findings that may not be laid
down as branch/trade standards but which can, nonetheless, have an effect on employment. The functional and occupational impact of any ophthalmic condition needs to be assessed in terms of:

a. The effect on vision (near and distant).

b. Visual field loss.

c. Distraction (e.g. diplopia, pain, irritation, floaters etc).

d. Need for treatment and any side effects.

e. Risk of progression or recurrence.

14. Acute ophthalmic conditions should be managed by local ophthalmic departments. After the acute problem has been treated, aircrew are to be referred to the DCA in Ophthalmology for advice on fitness to fly.

15. **Visual Acuity.** VA standards are set for all branches and trades as detailed in Section 4. Aircrew are to be issued with CFS irrespective of their uncorrected VA if further improvement is possible with correction. Defence spectacles and respirator lenses are to be obtained for all personnel whose binocular VA is worse than 6/9 for distance or who experience difficulty reading. Contact Lenses (CL) are provided at MOD expense in the circumstances dictated at Lft 5-14 Annex C. Spectacles are provided at Service expense (within financial limits) for VDU workers having difficulty with near vision whilst working at their terminals. A corrected binocular VA of 6/24 or less, with correction if required, is unlikely to be compatible with further service. The refractive standard for recruits ranges from +8.00 to -7.00 dioptres in any meridian.
LEAFLET 5-14 ANNEX B: AIRCREW EYEWEAR

INTRODUCTION

1. Minor refractive errors are common and increase with advancing age (presbyopia). These errors are readily correctable but require special lenses and frames to minimise distortion, fogging, internal reflection, loss of visual field and integration problems with aircrew equipment assemblies. Particular problems are encountered when aircrew protective helmets are worn (loss of ear cup seal and interaction with oxygen mask), with CBRN protection (interaction with visor) and with night vision goggles.

2. Aircrew who require refractive correction to achieve the standards detailed in AP1269A Lflt 4-02, Annex A and B, aircrew who require correction to achieve a visual acuity (VA) of 6/6 in either eye, or aircrew who would benefit from minor correction to achieve a higher standard, may be prescribed Corrective Flying Spectacles (CFS), Aircrew Respirator Spectacles (ARS), or approved soft contact lenses (SCL) where suitable to their role. Aircrew may also elect to undertake corneal refractive surgery in accordance with AP 1269A Lflt 5-14 Chapter 7, at their own expense.

FURTHER READING

3. This leaflet is to read in conjunction with the following documents which provide detailed information on the development of aircrew eyewear and the MoD ordering processes:

   a. RAF CAM - Introduction of New Aircrew Eyewear
   b. JSP 886 Chapter 7 Annex E

CORRECTIVE FLYING SPECTACLES

4. The provision of CFS and ARS is funded through the aircrew equipment budget which is the responsibility of the Aircrew Escape and Survival Project Team (AES PT) AEA6. The contract provides for a single contractor who is responsible for testing, refraction, prescription, manufacture and fitting of CFS. The administrative details of the service are described in JSP 886, Chap 7, Annex E. A summary of The Eyewear Plan Process is available through Defence Equipment & Supplies. Questions not resolved by consulting this JSP are to be referred to:

   AEA6
   AES PT
   Room U004
   Bennett Pavilion
   RAF Wyton
   Huntingdon
   Cambridgeshire
   PE28 2EA

   Telephone: Civilian: 01480 52451 5039 Military: 95371 5039
   Fax: Civilian: 01480 446624 Military: 95371 4119

   Email: Civilian: sad-aease2b@esair.dlo.mod.uk Military: WYT-esair-sad-aease2b

5. The contract identifies medical officers authorised to act as demand authorities 

   a. Aircrew should be seen within 3 days of the optician receiving a correctly completed prescription.

   b. After the refraction and frame prescription sitting, 75% of spectacles ordered, should be delivered within one week and all within 2 weeks.

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146 This includes MOs offering primary health care services to aircrew
6. Aircrew who are likely to deploy to locations not included in the contract are to be advised to have their CFS checked prior to departure. In addition SMOs are to ensure that medical centre staff are advised when aircrew have collected their new CFS and that they are content with their function/fit.

CFS INTEGRATION PROBLEMS

7. Should there be a problem with the integration of the spectacles with aircrew equipment assemblies; the issue is to be discussed initially with the issuing AO. If the AO is unable to resolve the integration problem, the matter is to be referred by FMed 7 to the Aircrew Equipment Integration Group (AEIG) at the RAF Centre of Aviation Medicine copying in the CFMO (RAF).

8. Difficulties may be experienced with the integration of CFS into the aircraft. This applies particularly to bi-focal and tri-focal lenses. Continuing problems with obtaining satisfactory integration are to be referred to the AES PT, AEA6 and the CFMO (RAF).

ENTITLEMENT / SCALE OF PROVISION

9. Demanding MOs are to ensure that the demand indicates the quantity of each type of spectacles to be provided. The scale of provision is detailed at Appendix 1.

LIMITATIONS

10. Aircrew requiring the use of CFS / ARS are to be awarded a JMES of A2 in accordance with AP 1269 Lft 2-03 paragraph 14. b. The following limitation is to be used:

   a. MedLim 2201 - Must wear approved visual correction when flying or controlling aircraft.

CONTACT LENSES

11. There are circumstances in which SCL have a clear operational advantage over CFS as they do not interfere with other equipment. However they may rarely cause complications and the loss of a lens in flight is a potential hazard. SCL are incompatible with CBRN operations. Aircrew are permitted to wear SCLs obtained through the Eyewear Plan Process.

PROVISION OF SCL

12. Aircrew wishing to wear SCL for flying duties are to be informed of the following:

   a. SCL being used for flying duties must be approved, periodically replaceable and subject to individual approval as detailed in paragraph 13.

   b. SCL are not to be worn when wearing aircrew AR5 or other CBRN respirators.

   c. SCL are to be replaced by new SCL no less frequently than the intended life of the lens.

   d. They are to be worn as daily wear lenses and are not to be worn during sleep.

   e. Whenever an individual is wearing SCL whilst on duty, they are to carry a pair of clear CFS (or ARS) matching their current SCL prescription.

   f. There is risk of ophthalmic complications and temporary loss of operational effectiveness arising from the use of SCL by aircrew. These complications are generally related to misuse and irregular cleaning of SCL. It is therefore essential that aircrew are properly educated on the use of SCL by a Service ophthalmologist or AO.

147 Throughout this document, the term CFMO (RAF) does not exclude MOs approaching other single Service authorities where appropriate.

148 Single Service boarding processes may differ.

149 They cannot be removed whilst wearing respirators and are likely to absorb nerve agent vapour if it is present.
g. If either eye becomes red or painful the individual is to cease wearing SCL immediately and report to a Service MO within 24 hours. (If not impossible, they are to attend a primary care medical practitioner, an ophthalmic practitioner or a hospital casualty department within the same period). If flight is necessary within that period the individual is to wear CFS. Following such an incident, SCL are not to be worn until approval has been obtained from a Service-appointed ophthalmologist or optometrist.

AUTHORISING SCL USE

13. Aircrew who wish to use SCL whilst flying are to be referred to a Service consultant ophthalmologist or OA for assessment. The ophthalmologist or AO is to confirm whether the individual is a suitable candidate for wearing SCL in flight. When the ophthalmologist or AO is satisfied that SCL are appropriate, written approval is to be sent to the unit MO and instructions for future ophthalmic supervision issued.

14. Before approval to wear SCL in flight is given to the individual the SMO is to ensure that:

a. The individual undertakes in writing to comply with the lens type, cleaning solution and follow-up requirements detailed in this leaflet, using the certificate at Appendix 2150.

b. The individual has at least one month’s satisfactory experience of daily use of the approved lens type and cleaning solutions, but not while actively flying.  

LIMITATIONS

15. Aircrew requiring the use of SCL are to be awarded a JMES of A2 in accordance with AP 1269 Lft 2-03 paragraph 14.b. The following limitations are both to be used:

a. MedLim 2201 – Must wear approved visual correction when flying or controlling aircraft

b. MedLim 2203 – Must carry approved corrective flying spectacles when flying or controlling aircraft.

16. Authority to wear SCL in flight is not given until such action has been completed.

FOLLOW UP

17. Aircrew approved to fly wearing SCL are to be examined by a Service ophthalmologist or AO at 3 monthly intervals from first use in flight. After 6 months of satisfactory use of SCL in flight this interval may be extended to 6 months at the discretion of the ophthalmologist or AO.

DEMAND PROCESS

18. The Eyecare Portal (ECP) administers the Eyecare Plan request from start to finish and is bespoke to each client depending on their specific requirements. The Eyecare Plan is the voucher issued by the ECP (printed by the medical centre and given to the patient) that is exchanged at an opticians for an eyesight test and glasses or SCLs as appropriate. The portal (address as above) is accessed through the MoD intranet and connects to a secure micro site. For more information see the RAF CAM - Introduction of New Aircrew Eyewear document.

150 Unit MOs are to ensure this is completed and recorded in the health record

151 Aircrew may continue to perform normal flying duties during this trial period, provided they have no ophthalmic symptoms and wear issued CFS.

152 Single Service boarding processes may differ
ENTITLEMENT GROUPS

1. The Eyewear Process Plan details the entitlement to MoD funded eyewear in the entitlement groups (EGs) below:

   a. **EG 1.** Entitles aircrew\(^{153}\) on active flying tours (not ground tours) to SCL, a pair of CFS and a pair of sunglasses. Aircrew unable to tolerate SCLs or who do not wish to use them are treated in accordance with EG 2. Students are entitled to eyewear under EG1 providing they are Commissioned Officers, Non Commissioned Officers or Army Air Corps Air Troopers in training for any of the roles below:

      (1). Fast Jet, Rotary Wing (RW) and Multi-engine pilots.
      (2) Weapon Systems Operators.
      (3). Air Load Masters.
      (4). Army Aviation rear crew.
      (5). Air Engineers.
      (6). All RW rear crew of operational platforms in a primary flying role.

   b. **EG 2.** Entitles the following personnel to 2 pairs of CFS and 1 pair of sunglasses:

      (1). Mission Crew
      (2). Ground Engineers in a flying role
      (3). Air experience pilots, Central Gliding School Gliding Instructors, and University Air Squadron cadets.
      (4). Flight Medical Officers.
      (5). Air stewards.
      (6). Personnel continuously employed in aeromedical (AE) evacuation duties.
      (7). Those entitled to SCLs as per EG 1 who can not tolerate or do not wish to use SCLs.
      (8). Aircrew Students.

   c. **EG 3.** Entitles the following personnel to 1 pair of CFS and 1 pair of sunglasses:

      (1). Parachute dispatchers.
      (2). AE personnel not covered in EG 2.
      (3). MOs with a flying role (not pilots or observers).
      (4). Aircrew Students.

\(^{153}\) Other than those listed in EGs 2-4.
d. **EG4.** Entitles the following personnel to 1 pair of CFS and 1 pair of sunglasses or 1 pair of non-correcting tinted spectacles for:

   (1). Air traffic controllers (not ATC Air Experience)

   (2). Volunteer Gliding School gliding instructors.

   (3). **EG 5.** Aircrew that fall into EGs 1-4 are also entitled to, 1 pair of non prescription sunglasses. EG 5 is designed specifically for aircrew requiring non prescription tinted spectacles. This group exists as there is no other group from which the non prescription eyewear can be selected.

**ADDITIONAL ENTITLEMENTS**

2. In certain circumstances additional items may be legitimately required. To allow for these circumstances the medical centre ‘gatekeepers’ may allow these additional items subject to RAF CAM scrutiny. Such requirements might include:

   a. Replacement for broken CFS out of the normal schedule.

   b. Changes to a CFS prescription between the normal examination schedule.

   c. SCL or CFSs for aircrew returning to flying from a ground tour.

   d. Tinted spectacles for EGs 1-3 personnel where there is a requirement e.g. for use during ground duties in sunny environments.
LEAFLET 5-14 ANNEX B, APPENDIX 2: ACCEPTANCE OF CONDITIONS FOR THE USE OF CONTACT LENSES BY AIRCREW

Surname:      Forenames:  
Rank:       Service Number:  

I understand and accept that I am authorised to wear approved contact lenses only, provided through the Eyewear Process Plan while undertaking flying duties in accordance with the following conditions.

- The contact lenses are to be cleaned and disinfected appropriately, according to the instructions given by the makers of the cleaning solution. Advice on cleaning solutions is available from the issuing optometrist.

- My lenses are to be replaced by new lenses as advised by the optometrist. They are to be worn as daily wear lenses; they are not to be worn during sleep.

- Whenever I am wearing contact lenses whilst on duty, I am to carry a pair of clear Corrective Flying Spectacles to my current prescription.

- I am not to wear contact lenses when wearing an aircrew AR5 or other CBRN respirator.

- If either eye becomes red or painful I am to cease wearing contact lenses immediately and I am to report to a service medical officer within 24 hours. If this is impossible, I am to attend a primary care medical practitioner, an ophthalmic practitioner or a hospital casualty department within the same period.

- If flight is necessary within that period I am to wear my Corrective Flying Spectacles. Following such an incident, I am not to wear contact lenses under any circumstances until approval has been obtained from a service appointed ophthalmologist or an Eyewear Process Plan approved optometrist.

Signature:  
Date:
LEAFLET 5-14 ANNEX C: PROVISION OF CONTACT LENSES AT MOD EXPENSE FOR NON-AIRCREW PERSONNEL

1. There are a number of groups of Armed Forces personnel aside from aircrew, who, because of the nature of their employment, may be unable to perform their duty tasks satisfactorily wearing spectacles. This may either be due to the nature of the task, or, due to an incompatibility between spectacle wearers and their equipment.

2. Personnel listed below are entitled to the provision of contact lenses (CL) at MOD expense:
   a. RM swimmer/canoeist.
   b. Coxwains of rigid inflatable boats and Rigid Raiders.
   c. Snipers.
   d. Skidoo drivers.
   e. Military Police on close protection duties.
   f. Aircrew (RAF SCL Trials and Apache aircrew only).
   g. Clearance divers in the IED handling role.
   h. Explosive Ordnance Device (EOD) personnel.
   i. Kings Troop RHA and HCMR personnel employed on ceremonial duties.
   j. Mountain Rescue personnel.
   k. Personnel of the RAF Regiment employed on the Queens Colour Squadron (QCS).
   l. SF Personnel (only if required for role and approved by SO1 Med HQ DSF).
   m. Individuals who wear CLs for clinical reasons.

3. CLs are to be prescribed by a local CL practitioner and the cost of both lenses and solutions reimbursed from Resource Accounting Code (RAC) NHA 003. The use of daily wear disposable lenses should be encouraged as a safer and more practical alternative for personnel likely to find themselves in situations where lens hygiene and overnight storage are difficult. Individuals should only be referred to a Service Ophthalmologist if there is some concern by the prescribing CL practitioner as to the suitability of an applicant’s eyes for CL wear.
INTRODUCTION

1. A laser (light amplification by stimulated emission of radiation) is a device that emits an intense narrow beam of light at discrete wavelengths which range from the near-ultraviolet (invisible to the eye) through the colour spectrum (visible) and into the far-infrared spectrum (also invisible). The rapid growth of laser science and engineering has resulted in the increased use of lasers by the military. At present, laser range finders and target designators are used to simulate ‘live fire’ in exercises, and accidental injury to the eye may occur. It is possible that in future engagements lasers will be used directly against our forces. Therefore, their effects on the health and mission performance of aircrew personnel will be of particular concern. Laser energy outputs are sufficient to produce significant eye injury at distances of over a kilometre. Aircrew are partially protected by windscreens and canopies but are still at risk from near-infrared and visible lasers. Other personnel, such as ground defence forces, are additionally at risk from ultraviolet and far-infrared lasers.

2. Laser light entering the eye through a 2-7 mm pupil and focussed by the eye to a retinal image of 5-30 microns in diameter can increase the retinal irradiance by a factor of at least 100,000 over that which is incident at the cornea. This relatively low-output laser can produce serious eye injury simply because the eye focuses the beam and increases the retinal irradiance. The use of light-gathering and magnifying optical instruments, such as binoculars, and other optical sighting devices increases the danger from exposures because they collect more of the laser light and further increase the ocular irradiance.

LASER EFFECTS OF VISION

3. **Glare.** Visible laser light can interfere with vision even at low energies which do not produce eye damage. Exposure to continuous wave (CW) or rapidly pulsed, visible laser light can cause glare similar to that produced by the sun, searchlights, or headlights.

4. **Temporary Visual changes.** Visible laser light can also produce a lingering, yet temporary, visual loss associated with spatially localised after-effects, similar to that produced by flashbulbs. These after-effects can occur at exposure levels which do not cause eye damage:

   a. **Flashblindness.** One after-effect, known as ‘flashblindness’, is the inability to detect or resolve a visual target following exposure to a bright light.

   b. **After-Image.** The other after-effect, often confused with flashblindness, is ‘after-image’. After-images are the perception of light, or dark, or coloured spots after exposure to a bright light. Small after-images, through which one can see, may persist for minutes, hours or days. After-images are dynamic and can change in colour (‘flight of colour’), size, and intensity depending upon the background being viewed. It is difficult to correlate the colours of after-images with specific laser wavelengths. After-images are annoying and distracting but are unlikely to cause a visual decrement.

5. **Visual Loss from Damage.** The permanent damage caused by Ultraviolet (UV), visible, and Infrared (IR) lasers can cause variable degradations in vision, dependant on the site and degree of damage.

   a. **Corneal Damage.** Corneal damage may significantly degrade vision due to increased light scatter from opacities or due to gross rupture. In addition, iritis (intraocular inflammation), seen in association with corneal injuries, may cause photophobia, pain and miosis (small pupil).

   b. **Retinal Damage.** In the case of retinal damage, the severity of visual loss will depend upon the proximity and extent of the damage to the fovea. The best visual acuity occurs in the foveola/fovea, and the acuity falls off sharply when moving toward the peripheral retina. Functionally, significant loss of vision usually occurs only if the burn directly affects the fovea. The expected minimum burn size (30-100 microns) for a low-power exposure to the fovea will have variable effects on visual acuity depending on location, with either no effect or a reduction in vision to approximately 6/12 for high-contrast targets. However, a direct laser burn to the foveola would definitely alter vision. If there is vitreous haemorrhage associated with the retinal damage the visual loss may be more profound as the blood may block the passage of light to uninjured portions of the retina.
c. Central visual field defects caused by damage to the posterior pole will be noticeable and may be distracting or disabling, depending upon whether the foveola is affected. These central defects can be detected and characterised quite accurately using an Amsler Grid. A laser’s light energy is likely to affect both eyes, unless one is occluded or otherwise protected, because the laser beam’s diameter, at operationally significant distances, will be wider than the inter-pupillary distance.

**SYMPTOMS**

6. Symptoms will vary depending upon the location and severity of injury. Patients may give a history of experiencing glare, flashblindness, decreased vision, pain or any combination of these. When seen by medical personnel, they may continue to complain of after-images, blurred vision, photophobia, pain or profound loss of vision. Obvious lesions, such as skin and corneal burns, and/or retinal burns and retinal haemorrhages make the diagnosis more certain, especially when accompanied by a history of seeing bright, coloured lights.

**EXAMINATION**

7. **History.** A full history should be ascertained using information contained at Lft 5-14 Annex E, Appendix 1.

8. **Initial Examination.** All aircrew are at risk of laser exposure. It is therefore recommended that the Amsler Grid Test is included in the initial ophthalmic assessment of aircrew applicants, in order to document a baseline recording. It is also recommended that the Amsler Grid Test is performed when the aircrew member ceases to be employed in a laser risk environment as defined by risk assessment. By using these ‘entry’ and ‘exit’ tests a time frame of possible laser eye damage may be established which will assist in future evaluations such as compensation claims.

9. **External Examination.** The periorcular tissue (lids and conjunctiva) and anterior segment (cornea, anterior chamber, and iris) of the eyes are evaluated on external examination. Laser injuries to the cornea will usually be limited to the area of the cornea within the palpebral fissure. Redness of the conjunctiva suggests ocular inflammation, possibly secondary to injury that may be external or internal. A small pupil in the inflamed eye suggests, but does not confirm, the diagnosis of intraocular inflammation (iritis). The anterior chamber should be examined for blood.

10. **Snellen Acuity.** A ‘standard’ eye chart (for distance or near) is used to measure visual resolution in each eye. The 6/6 characters on the chart have a letter height which projects an angle of 5 minutes of arc on the retina with 1 minute of arc features which, it is assumed, must be seen to correctly read the letters. This procedure tests foveal vision.

11. **Amsler Grid.** The Amsler Grid is a printed grid with a central spot which is reproduced at Lft 5-14 Annex E, Appendix 3. When held 30 cms (12 in) from the eye and viewed monocularly by the patient, it can be used to plot areas of retinal injury or vitreous haemorrhage in the posterior pole (central 20 degrees). The Amsler Grid is sufficiently sensitive to detect lesions as small as 50 microns. Each eye should be tested separately. The patient will report seeing visual distortion of the lines or a scotoma corresponding to the area of the posterior pole injured. The perceived visual field is upside-down and backwards to the corresponding retina, i.e., supero-temporal retinal defects will be “seen” by the patient in his infero-nasal field. The foveola corresponds to the central point of the visual field. Abnormalities in testing may indicate old stable conditions or new retinal/vitreal pathology. Bilateral abnormalities in the same areas of the visual field support the diagnosis of a laser eye injury.

12. **Ophthalmoscopy.** Using the direct ophthalmoscope, the examiner should be able to obtain a clear and undistorted view of the posterior pole in undamaged or mildly damaged eyes. Poor visualisation of the posterior pole can result from corneal or lens opacities or a vitreal haemorrhage. Pharmacologic dilation may be used to facilitate this examination.

**SPECIAL TESTS**

13. **Aviation Laser Exposure Self-Assessment (ALESA).** Aircrew should present to their medical officer after exposure to laser light; however they do not always have immediate access to medical support. The CAA’s self assessment test, reproduced at Appendix 2, is designed to aid aircrew and controllers or flight crew members who have been exposed to a laser beam. It should help with making a decision as to whether or not further medical opinion is required. The application of this tool is only applicable during peacetime.
missions as laser eye exposure on Operations is usually deliberate; all aircrew and controllers with laser exposure on Operations should report to their MO

14. **Fluorescein Staining.** The examination of the cornea with a blue light after fluorescein staining is useful in detecting corneal epithelial defects in patients complaining of an ocular foreign-body or ‘scratchy’ sensation.

15. **Colour Vision.** Ishihara plates are a series of colour vision test plates in which coloured dots are arranged in the shape of a number or letter. This test measures a function of the cone photoreceptors which are most numerous in the fovea centralis. If available, it may help in identifying a foveal injury. When used, each eye is to be assessed separately.

16. **Factitious Visual Loss.** Some individuals may deliberately feign visual loss, while others may maintain a condition is more severe than it actually is. Some individuals on the other hand may deny the existence of disability. In testing for total blindness (if monocular, the ‘good eye’ should be covered), several simple objective tests can be conducted to demonstrate some vision. These include testing the pupillary reflexes; proprioception tests; and the optokinetic nystagmus test (drum or tape) where the reflex can seldom be suppressed. Any functional visual loss requires full assessment by an Ophthalmologist.

**PHYSICAL FINDINGS**

17. No clinical findings may be apparent, if only subjective symptoms (glare, flashblindness, or after-images) have occurred as the result of a non-damaging exposure, or if there is retinal damage or haemorrhage outside the fine vision area of the posterior pole. The latter may be asymptomatic and not seen with the direct ophthalmoscope. Malingerers will generally have either no objective findings, or symptoms out of proportion to objective findings. Clinical findings due to damage may be variable and include the following:

a. Isolated, rows, or groups of retinal burns.

b. Retinal/vitreal haemorrhages.

c. Superficial or deep burns of the skin and cornea.

**TREATMENT**

18. **Corneal Injuries.** The treatment for corneal burns is the same as for burns of other aetiologies, namely antibiotics and eye dressings. The principles regarding airway maintenance, smoke inhalation and facial burns must be followed, additionally:

a. Patch only the eye with the injured cornea. Do not use regular eye patches for such injuries, as these put pressure on the eye. The eye should be protected by a metal eye shield from any external pressure.

b. Any associated iritis and its attendant pain can be treated with mydriatics.

c. If the eye has been ruptured, the likelihood of saving it is low; do not put any eye drops or ointments on a ruptured eye.

d. The patient should be kept physically quiet in a supine position.

e. The patient should be started on intravenous antibiotics, if possible.

f. Priority of evacuation depends on the severity of injury and the likelihood of saving the eye.

g. Pain medication may be required for patient comfort. Topical anaesthetics should never be given to the patient, but they may be used by the physician to aid in the examination and treatment of non-ruptured globes.

19. **Retinal Injuries.** At present, the treatment for laser injuries to the retina/choroid is not well-defined. Ocular and oral corticosteroids have not been proven effective for the treatment of retinal burns or haemorrhages. The use of eye patches for retinal damage is discouraged. Patching deprives the patient of his residual vision which may be quite good. It also has the effect of magnifying the visual impairment to the aircrew member and increasing his dependence on others. Personnel with vitreal haemorrhages should be
maintained at bed rest with their heads positioned so that the blood settles away from the visual axis, particularly for the first few days. Delayed or tertiary treatment of vitreous haemorrhage consists of vitrectomy and associated procedures, but only for those eyes that do not have adequate spontaneous absorption of the blood.

**PSYCHOLOGICAL IMPACT**

20. The use of laser weapons has the potential for having a significant psychological impact on aircrew. Much of this impact can be alleviated by proper and well-directed education efforts. Some laser effects are only temporary and non-injurious. Acute visual loss due to laser injury may improve with time, and injured personnel should be given that hope. In addition, they should be reassured that it is unlikely that they will lose all vision and be ‘blind’. The chief source of expert knowledge and education for commanders and their aircrew members will be medical personnel, particularly Flight Medical Officers (FMOs), ophthalmologists, and optometrists. FMOs should actively participate in education sessions designed to teach aircrew about lasers, their effects, and methods of self-protection.

21. A laser attack has the potential for occurring as a total surprise. Steps must be taken before engagement to alleviate fears of ‘death ray’ lasers and helplessness in the air or on the battlefield due to loss of vision. Use of protective goggles and visors must be emphasised, and aircrew should be reassured that the use of appropriate devices will protect their eyes.
LEAFLET 5-14 ANNEX D, APPENDIX 1: ASSESSMENT OF COMBAT LASER EYE DAMAGE IN AIRCREW

ASSESSMENT OF INCIDENT

1. The following questions should be asked to determine detail of a potential laser exposure incident:

CIRCUMSTANCES

2. Did you see a bright light? How bright was it, like the sun, a full moon, or automobile headlights at night? Were their other light sources on the platform (such as running lights or navigation lights) and were they brighter or dimmer?

3. What was the colour(s) of the light? Was it uniform in colour? Did the colour(s) change during the exposure?

4. Did the light come on suddenly, and did it become brighter as you approached it?

5. Was the light continuous or did it seem to flicker? If it flickered, how rapidly and regularly did it flicker?

6. For how long was the light on?

7. From what did the light emanate? Was it from an airplane, helicopter, tank, etc.?

8. How would you describe the brightness of the light? Was it equally bright in all areas or was it brighter in one area?

9. How far away was the light source? Was it moving?

10. At what time of the day did the incident occur?

11. What was the visibility? What were the atmospheric conditions - clear, overcast, rainy, foggy, hazy, sunny?

12. What was between the light source and your eyes - windscreen, glasses, head-up display, lenses, binoculars, filters, visors, or goggles? Describe them in great detail (for example, 2X binoculars, standard issue sun visor, prescription glasses, hazy windscreen). Were any of these things damaged or caused to malfunction by the light?

13. Did you try to move out of the light beam? What evasive manoeuvres did you attempt? Did the beam follow you as you tried to move away? How successful were you in avoiding it?

14. Was the light coming directly from its source or did it appear to be reflected off other surfaces? Did you notice multiple sources of light?

15. Did the light fill your cockpit or compartment? How wide was the beam at its source? How wide was the beam once it reached you?

POSSIBLE EFFECTS

16. How long did you look into the light beam? Did you look straight into the light beam or off to the side?

17. What tasks were you doing when the exposure occurred? Did the light prevent or hamper you from doing those tasks, or was the light more of an annoyance?

18. Were both eyes exposed? If not, describe the difference between the light exposures (for example, one eye was shielded or closed, or on the side away from the light beam). Describe any difference in the effects on either eye.

19. Were you startled or disoriented when the light appeared?
20. Was the light so bright that you had to blink or squint, close your eyes, or look away? Was the light painful? Describe the pain. For how long did the pain persist after the light exposure?

21. Was your vision affected while the light was on? How much of your visual field was affected? What types of things could you see or not see? Did you notice the colour of instruments or targets change? Did the changes to your vision remain constant or vary during the exposure? If the light source was mounted on a platform (aircraft, ground vehicle or building), how much of the platform was obscured?

22. Did your vision remain affected after the light was extinguished? If so, for how long and how did you estimate the time? How much of your visual field was affected? What types of things could you see or not see (watch, hand, altimeter, map, etc.)? Did you notice after-images (“spots before your eyes”)? If so, how long did they last, what did they look like, and what were their size, shape and position in your visual field? Describe how your vision was affected 10 seconds after the light exposure ended, 30 seconds afterwards, 1 minute, 2 minutes, etc.?

23. Were there any lingering (hours or days) visual effects? If so, were the effects continuous or intermittent? Did you have problems reading or seeing in low-light conditions? How long until you were able to see normally again?

24. Did you notice any reddening, warming, or burns to your skin?

25. Describe the condition of your vision before the incident? Do you wear glasses? Are you taking any medications?

26. Did you seek medical attention following the incident? Where and when were you examined? Who performed the examination? Was the examiner an ophthalmologist or optometrist? What were the clinical findings?
LEAFLET 5-14 ANNEX D, APPENDIX 2: AVIATION LASER EXPOSURE SELF ASSESSMENT (ALESA)\textsuperscript{154}

27. Personnel are to report laser exposure to their medical officer; however there are occasions when this is not immediately possible. This CAA self-assessment is therefore designed to aid pilots, air-traffic controllers, or flight crew members who have been exposed to a laser beam in making a decision on whether or not to see an eye specialist\textsuperscript{155}.

28. It is extremely unlikely that a laser beam exposure will result in permanent eye damage, although eye discomfort and irritation during the exposure is common. In addition, rubbing your eye can cause a minor abrasion that may both cause and prolong discomfort.

29. If you experienced one or more of the following symptoms please consult an eye specialist:

   a. \textit{Eye problems}. Swelling, pain, itching, watering, discharge, dryness or redness of the eye.

   b. \textit{Visual disturbance}. Blurring, black spots, trouble reading, loss of peripheral vision, floaters, halos, poor night vision or sensitivity to light

   These symptoms may not appear for hours after the incident, and may not be related directly to laser exposure but could reflect other eye issues perhaps not previously noticed.

30. Laser exposure can be categorized into one of 3 groups:

   a. \textit{Flash blindness}. A visual impairment during and after exposure to a very bright light. It may last for seconds or minutes.

   b. \textit{Glare}. Difficulty seeing in the presence of a bright light.

   c. \textit{Distraction}. A light bright enough to disrupt attention.

SELF ASSESSMENT

31. Personnel can self-assess using the Amsler grid at Appendix 3. Use the grid under good lighting, wearing any spectacles normally used for reading. Hold the grid at a normal reading distance (about 30 cm in front of your eyes). Cover one eye at a time with the palm of your hand and stare at the centre dot of the chart at all times. Do not let your eye drift from the centre dot; answer the following questions:

   a. Can you see a dot in the centre of the grid?

   b. While looking at the centre dot, can you see all four sides and corners of the grid?

   c. While looking at the centre dot, do all of the lines appear straight with no distortions or blank or faded areas?

   If you answered \textbf{YES} to all three questions then answer the following flowchart. If you answered \textbf{NO} to any of the above questions then you may wish to remove yourself from flying or controlling duties as soon as it is safe to do so and consult an eye specialist.

\textsuperscript{154} After Stephanie Waggel for the CAA: \url{http://www.caa.co.uk/default.aspx?catid=14&pageid=14003}.

\textsuperscript{155} The eye specialist may be either an optometrist or ophthalmologist.
RESULTS

32. In some circumstances it may be possible to have retinal damage without obvious symptoms. The relevance of this is uncertain in the absence of abnormal visual signs (e.g. answering “yes” to all 3 Amsler Grid Questions) as it is unlikely to have an operational impact or be amenable to treatment. The following is designed to aid a pilot or controller in deciding whether or not an assessment should be sought with an optometrist or ophthalmologist after an exposure.

was there any indication that the laser was high power and capable of causing eye damage (e.g. if the power of the laser was later confirmed)? in nearly all cases the answer will be ‘no’.

Was there glare (difficulty seeing in the presence of a bright light)?

Was the laser beam green?

Was there any indication that the laser was high power and capable of causing eye damage (e.g. if the power of the laser was later confirmed)? in nearly all cases the answer will be ‘no’.

Was there glare (difficulty seeing in the presence of a bright light)?

Was the laser beam green?

Did you look away / blink immediately?

Did you continue to see a bright glow even after the laser beam exposure ended?

NOTES:

1. Permanent eye damage is not known or is extremely unlikely to occur in this situation.

2. There is a possibility of eye damage and it is suggested that you contact an eye specialist for further evaluation although this does not need to be undertaken urgently in the absence of symptoms.

Please note the symptoms may not appear until hours after exposure and may not be directly related to laser exposure but could reflect other eye issues perhaps not previously noted. If they do occur then please consult an eye specialist such as an optometrist or ophthalmologist.

Y = YES
N = NO
The dimensions of the grid should be 10 cm x 10 cm.
INTRODUCTION

1. Thorough examination of the ears, nose and throat is essential in determining the fitness of individuals for military service. This is especially so for aircrew personnel as pressure changes can aggravate conditions, which are of minor importance on the ground, to such an extent that they become incapacitating in the air.

2. This leaflet is concerned with the assessment of recruits and serving personnel with common and important disorders of the ear, nose and throat. It supplements advice contained in JSP 950 and should be read in conjunction with it. The PULHEEMS hearing standards are also defined in JSP 950. Advice on the assessment and management of conditions not covered by this leaflet is available from a DMS consultant in Otorhinolaryngology (ORL).

ACOUSTIC NEUROMA (VESTIBULAR SCHWANNOMA)

3. Clinical Concern. Acoustic neuroma has a variety of presentations including unilateral tinnitus, hearing loss and vertigo. Treatment is invariably surgical and early detection will avoid major neurological complications. Post operatively there will be total hearing loss in the operated ear but there may be minimal disabilities apart from this. Vertigo may occur late post operatively due to the loss of central compensation following alcohol ingestion, viral infection or stress. Other cranial nerve defects are now uncommon, but facial paralysis will be expected in a number of cases. The most significant effect of facial weakness is on the eyes and this may require ophthalmic advice.

4. Limitations.

   a. Recruit. Candidates with a history of acoustic neuroma who fail to achieve the required auditory standard are considered unfit for Service in the RAF (P8). However where the required auditory standard is achieved, advice is to be sought from R&S DOM who may refer the candidate to a Defence Medical Service (DMS) or civilian ORL consultant for assessment prior to determining fitness for Service in the RAF.

   b. Serving Personnel. Serving personnel are rarely fit to continue serving following surgery. In highly favourable cases, it may be possible to achieve a JMES of A4 L2 M4 E2, 'Medical marker (no functional limitation)' (MedLim 1300). Other limitations may be required to reflect the loss of directional hearing.

   c. Aircrew. A history of acoustic neuroma is incompatible with aircrew duties.

5. Discussion. Widespread screening for hearing loss in the RAF can detect asymmetrical hearing loss and offer an opportunity to diagnose acoustic neuromas early (see LfIt 3-04 Annex E). However, the frequent finding of asymmetric noise induced hearing loss may result in late investigation and diagnosis of acoustic neuroma. MOs are to maintain a high index of suspicion when presented with unilateral hearing loss. MRI will exclude acoustic neuroma and can usually be arranged readily through ORL or Neurology Departments.

CHOLESTEATOMA

6. Clinical Concerns. Chronic suppurative otitis media with cholesteatoma invariably requires surgical treatment. Whether surgery is radical or conservative there are problems in predicting long term fitness for military service. The high incidence of recurrent or residual disease in conservative (canal wall up) procedures indicates a high risk of further radical surgery becoming necessary. All types of procedure for cholesteatoma commit individuals to long-term follow-up in a ORL clinic.

7. Limitations.

   a. Recruit. Candidates with a history of cholesteatoma are invariably assessed as unfit for Service in the RAF (P8). However where the required auditory standard is achieved, advice is to be sought from DACOS Occ Med who may refer the candidate to a DMS or civilian ORL consultant for assessment prior to determining fitness for Service in the RAF.
b. **Serving Personnel.** Serving personnel who develop cholesteatoma should be downgraded to L3, ‘unfit for service outside base areas’. Other limitations may be appropriate to protect the ear from ingress of water. In favourable cases where the mastoid cavity remains quiescent it may be possible to achieve L2 on the recommendation of a military consultant ORL surgeon.

c. **Aircrew.** Aircrew duties will rarely be possible. Eustachian tube function is almost always impaired. In highly favourable cases where the mastoid cavity remains quiescent a return to restricted flying duties may be possible following a recommendation from a RAF consultant in ORL and approval by the RAF Medical Board. Aircrew will remain unfit for dunker and wet dinghy training.

8. **Discussion.** Mastoid cavities are at risk of superficial infection if water enters the ear. This is usually readily treatable with a mixture of antibiotic and steroid drops, but specialist treatment for microscopic clearance may be required. Mastoid obliteration can sometimes cause the cavity to be sufficiently small to be self cleansing and less liable to infection but follow-up is still required as there is always a risk of recurrence of disease. There have been few problems to date with overseas posting or deployment of serving personnel who have had modified radical mastoid cavities.

**DEAFNESS**

9. **Clinical concerns.** Hearing loss may be a handicap to communication in the presence of extraneous noise and give rise to problems of safety.

10. **Limitations.**

a. **Recruit.** The minimum hearing standards for entrants to the RAF are detailed at AP1269A Section 4.

b. **Serving Personnel.** All personnel are at risk of noise induced hearing loss unless adequately protected. Annual weapon firing whilst wearing ear defenders is acceptable but exposure to excessive noise (regular weapon training or work in noise hazardous areas) should be avoided. Personnel in noise hazardous trades and branches will be assessed L4, ‘Unfit exposure to noise above (to be specified) level’ (MedLim 7003). The use of a hearing aid will give amplification of environmental noise indiscriminately and will restrict employability to quiet environments. Fitness to continue in trades where verbal communication is vital (for example, Fire Fighter, controller and TCO) should be assessed with the individual’s line manager as pure tone audiometry may not correlate well with the degree of hearing handicap. See Lflt 2-03 paragraph 3c. It is important to protect the remaining good ear when the other is completely deaf for example, following trauma or viral infection. These individuals are to be awarded a L2 category.

c. **Aircrew.** Moderate hearing loss in the absence of other symptoms such as tinnitus and vertigo, can usually be compensated for by amplification of sound in headsets. See Lflt 2-03 paragraph 3b(1). Where continued safe operation is identified as a problem by flying supervisors, it will be necessary to ground the affected aircrew member.

11. **Discussion.** The commonest cause for hearing loss in the Services is noise exposure (see Lflt 3-04 Annex E). It is important to determine whether hearing loss is progressive by carrying out regular audiometry. Progressive asymmetrical hearing losses raise the suspicion of acoustic neuroma (see above).

**MÉNIÈRE’S DISEASE**

12. **Clinical Concerns.** The triad of symptoms of hearing loss, tinnitus and vertigo is not uncommon but Ménière’s disease is rare. The symptoms can be disabling acutely and lead often to a chronic disability with profound deafness, severe tinnitus and disequilibrium. Any labyrinthine dysfunction may become less apparent due to the process of central compensation but this can always be disturbed by fatigue, stress, alcohol or drugs.

13. **Limitations.**

a. **Recruit.** Candidates with a history of Ménière’s disease who fail to achieve the required auditory standard are considered unfit for Service in the RAF (P8), however where the required auditory standard is achieved, advice is to be sought from R&S DOM who may refer the candidate to a DMS or civilian ORL consultant for assessment prior to determining fitness for Service in the RAF.
b. **Serving Personnel.** Serving personnel who develop Ménière’s disease should be medically downgraded to E3, ‘Unfit for service outside base areas’. Additional limitations may be required depending on the individual’s trade duties and severity of symptoms for example, ‘Unfit to work at height’ or ‘Fit limited duties in trade or branch (type will be specified in Med Docs)’.

c. **Aircrew.** The diagnosis of Ménière’s disease is incompatible with aircrew duties due to the unpredictable course of the disease and associated safety implications.

### MIDDLE EAR DISEASE

14. **Clinical Concerns.** Any history of middle ear problems after puberty may indicate increased risk of eustachian tube dysfunction which will be particularly hazardous in aircrew. There is no reliable test to predict the function of the eustachian tube. Mastoid cavities are prone to recurrent infection (see Cholesteatoma).

15. **Limitations.**

a. **Recruit.** Candidates are assessed unfit for Service in the RAF (P8) if they have a grommet in-situ, chronic otitis media or an open mastoid cavity. Cortical mastoidectomy may be acceptable following assessment by a military consultant ORL surgeon.

b. **Serving Personnel.** Personnel with a grommet in-situ should be graded E2 and advised to keep the ear dry. Disposal of personnel with open mastoid cavities is as recorded above for cholesteatoma. Eustachian tube dysfunction in ground personnel rarely requires a change of JMES but inability to clear the ears makes the individual temporarily unfit to fly.

c. **Aircrew.** Candidates for aircrew selection are unfit if they have a grommet in-situ or are unable to demonstrate patency of their eustachian tubes. The opinion of a DMS consultant in ORL should be sought if the candidate has a history of past grommet insertion or nasal surgery to improve eustachian tube function for example, correction of a deviated nasal septum. Serving aircrew may continue to fly following grommet insertion on the advice of a DMS consultant in ORL.

### OTITIS EXTERNA

16. **Clinical Concerns.** Recurrent infection of the external auditory canal may lead to chronic changes in the skin, eventually leading to stenosis of the canal. Recurrent infections may also be associated with other deformities such as osteoma or exostosis, if these are present in recurrent otitis externa surgery may be required. Treatment would be necessary before the candidate could be accepted. Careful examination under microscope in the ORL clinic is required.

17. **Limitations.**

a. **Recruit.** Candidates with recurrent or severe chronic otitis externa who fail to achieve the required auditory standard are considered unfit for Service in the RAF (P8), however where the required auditory standard is achieved, advice is to be sought from OC R&SDOM who may arrange for further assessment by a DMS or civilian ORL consultant prior to determining fitness for Service in the RAF.

b. **Serving Personnel.** Recurrent or severe chronic otitis externa may require climatic restriction to prevent aggravation of symptoms in warm and humid environments.

### OTOSCLEROSIS

18. **Clinical Concerns.** A conductive hearing loss in the absence of abnormality of the tympanic membrane or trauma to the ear or head may be due to otosclerosis. This hearing loss is commonly bilateral and progressive. Occasionally cases have a sensori-neural component due to cochlea involvement but this is uncommon. Surgical treatment of otosclerosis involves a stapedectomy and insertion of a prosthesis.

19. **Limitations.**

a. **Recruit.** Candidates for service with a history of otosclerosis who fail to achieve the required auditory standard are considered unfit for Service in the RAF (P8), however where the required auditory standard is achieved, advice is to be sought from R&SDOM who may arrange for further assessment by a DMS or civilian ORL consultant prior to determining fitness for Service in the RAF.
b. **Serving Personnel.** The JMES will depend on the degree of hearing loss (see above). Following surgery, personnel are normally unfit diving.

c. **Aircrew.** Aircrew will be particularly liable to the complication of perilymph fistula following the operation unless a fine fenestra technique and vein graft is used. Aircrew with otosclerosis should be referred to a DMS consultant in ORL before considering surgery.

**PERFORATED TYMPANIC MEMBRANE**

20. **Clinical Concerns.** Perforation of the Tympanic Membrane (TM) increases the risk of infection and may be associated with significant hearing loss. Although most traumatic perforations heal spontaneously, surgical repair is occasionally required. Attic perforations are frequently associated with the risk to cholesteatoma (see cholesteatoma). Following successful surgery to repair a simple perforation time will be required to ensure that the repair is permanent.

21. **Limitations.**

   a. **Recruit.** Candidates with a perforated TM are unfit for Service in the RAF (P8). Candidates who have had a successful tympanoplasty and achieve the required auditory standard may be accepted P2 one year after surgery, subject to approval by a military consultant ORL surgeon.

   b. **Serving Personnel.** Serving Personnel should be graded E3, ‘Unfit service outside base areas’, until the perforation has healed. Personnel should also be advised to keep the ear dry in order to reduce the risk of infection. If tympanoplasty is required, the individual should remain downgraded for at least 6 months as graft failure may occur. Chronic small central perforations may be graded E2 on the advice of a military consultant ORL surgeon.

   c. **Aircrew.** Following perforation of the TM, aircrew are to be grounded until it has healed. If tympanoplasty is required, the individual should remain grounded (A4) until normal drum mobility is demonstrated at ORL review.

**SINUS DISORDERS**

22. **Limitations.**

   a. **Recruit.** Candidates with chronic sinusitis or nasal polyps who fail to achieve the required auditory standard are considered unfit for Service in the RAF (P8), however where the required auditory standard is achieved, advice is to be sought from OC R&SDOM who may arrange for further assessment by a DMS or civilian ORL consultant prior to determining fitness for Service in the RAF.

   b. **Serving Personnel.** Serving ground personnel with sinus disorders rarely require downgrading but are unfit to fly during acute episodes.

   c. **Aircrew.** Candidates for aircrew selection with a history of recurrent rhinosinusitis are assessed as unfit because of the increased risk of sinus barotrauma. Exceptionally, candidates will be accepted following sinus surgery subject to satisfactory assessment by a RAF consultant ORL surgeon. Serving aircrew who develop recurrent sinus barotrauma may be successfully managed with nasal steroids but surgical treatment involving endoscopic sinus may be required. Most aircrew return to unrestricted flying duties following such treatment. A trial of a decompression chamber run simulating ascent and descent, found in the type of aircraft used, is recommended before returning to duty. The referral should include details of aircraft type and referral via DMICP using readcode TRIQQRE4 for attention of CAAvMed (RAF), RAF CAM is to be made. Referral via mail should be addressed to PCO Office, AMTW, RAF CAM, RAF Henlow.

**SPEECH IMPEDIMENT**

23. Abnormalities of the voice and speech will lead to communication difficulties. Simple stammering and stuttering may be exacerbated under periods of stress. Severe speech impediment is a bar to entry into the Service. Less severe cases are acceptable. Assessment by a speech therapist or a neurologist may be
advisable. Vocal abnormalities such as vocal cords nodules or papillomata need consultant ORL assessment.

ANOSMIA

24. Anosmia means an absence of a sense of smell. It can be temporary or permanent and the former is very common. Anosmia may be a primary condition, but this is rare; secondary anosmia is more usual. Conditions giving rise to anosmia are usually those of the nose or sinuses (colds, hay fever, vasomotor rhinitis, sinusitis etc) but can include neurological conditions. JSP 950 gives guidance on the assessment of these primary conditions.

25. Testing. Testing of a sense of smell has limited validity and reproducibility.

26. Limitations.

a. **Recruit.** The only trades in which a sense of smell is a mandatory requirement for entry are:

   (1) Trade Group 8 (RAFP)
   (2) Trade Group 19.

   Individuals applying to enter these trades must be asked about any problems with their sense of smell. If permanent anosmia is suspected, in these or any other recruits, referral for a specialist ORL opinion is essential to exclude any underlying cause. Subsequent proof of permanent anosmia will be a bar to recruitment in the trade groups 8 (RAFP) and 19. In any other trade group, permanent anosmia is to be reflected with an E2 ‘medical marker’.

b. **Serving Personnel.** Permanent anosmia which occurs in serving personnel must result in specialist referral for an ORL opinion. Some causes of permanent anosmia, such as serious head injury will clearly raise other issues about fitness for further service. If confirmed, uncomplicated permanent anosmia will result in the award of a E2 ‘medical marker’. The question of fitness to continue in TG 8 or TG 19 will need to be addressed by the individual Trade Sponsor, with reference to Manning Medical Casework (RAF).

HAYFEVER

27. Hay fever in aircrew has the potential to cause incapacitation in flight. Aircrew candidates, with the exception of those applying for Mission Crew\(^{156}\), with a declared history of hay fever may be considered for selection if they have had no treatment and no symptoms in the 4 years preceding their appearance before the selection Medical Board. Candidates who do not meet these criteria are to be rejected. Referrals for a specialist assessment of candidates with simple hay fever are required only in exceptional cases. Candidates who give a history of wheeze associated with hay fever are to be managed in accordance with the policy for asthma as detailed at Lflt 5-03.

28. New generation oral antihistamines are effective and have been shown to have minimal effects on performance. These antihistamines should only be used in aircrew if topical preparations have proved ineffective or intolerable. The approved antihistamines for aircrew use are Loratadine, Desloratadine and Fexofenadine. Lflt 5-19 provides further guidance on therapeutic drug use in aircrew.

Obstructive Sleep Apnoea/Hypopnea Syndrome.

29. **Clinical Concern.** Obstructive Sleep Apnoea/Hypopnea Syndrome (OSAHS) is defined as excessive daytime sleepiness with irregular breathing at night. Prevalence has been estimated to be 1- 2% of 30 – 65 year-old men, women being about half that rate. Effects of OSAHS include daytime sleepiness, impaired cognitive function, impaired concentration, with mood and personality changes. It has been associated with an increased risk of road traffic accidents. Initial diagnosis should be on history including evidence from partners when available, but more formal sleep studies may be required. Treatment may be by behavioural modification (weight loss; smoking cessation; avoiding alcohol etc), intra-oral appliances, CPAP or surgery.

\(^{156}\) Mission Crew candidates with a history of mild controllable hay fever may be considered for selection.
30. **Limitations.**

a. **Recruit.** Candidates with OSAHS are considered unfit for Service in the RAF (P8).

b. **Serving Personnel.** On confirmation of a diagnosis of OSAHS, serving personnel are to be downgraded E3 and L3/4 (dependent upon trade), 'Unfit service outside base areas'; 'Unfit to undertake service driving'; 'Unfit handling live arms'. Other limitations may be required depending on the nature of the work undertaken. After successful treatment upgrading to an unrestricted medical category may be appropriate. For those regularly employed on safety critical tasks, the success or otherwise of treatment is to be assessed by lab based sleep studies; for others, a clinical assessment is acceptable. Those requiring on-going CPAP are to remain E3 'Unfit service outside base areas'.

c. **Aircrew.** On confirmation of a diagnosis of OSAHS, aircrew are to be made A4 in addition to the limitations above. Return to flying duties will be dependant on the success of treatment as assessed by lab based sleep studies. Those showing a satisfactory response to behavioural modification or oral appliances may return to flying A3, 'Unfit solo pilot - must fly with a pilot suitably qualified on type' and E3, 'Unfit service outside base areas'. If the improvement is maintained at one year, an unrestricted medical category may be appropriate. Those responding to surgery may return to unrestricted flying once lab-based sleep studies have shown a satisfactory response. Those requiring CPAP are to be made A3, 'Unfit solo pilot - must fly with a pilot suitably qualified on type' and E3, 'Unfit service outside base areas'. After one year, if lab-based sleep studies show a satisfactory response the A3 limitation may be removed.

31. **Discussion.** OSAHS is increasingly recognised as a cause of safety critical incidents, with some estimates implicating drowsiness in up to 20% of road traffic accidents. Those suffering from OSAHS have a 1.3 to 12.0 fold increase in the rate of accidents. It can reduce the quality of life and impair relationships with partners. It is related to obesity in some individuals, and there is evidence that it leads to a significant increase in blood pressure. The incidence increases with age. The subjective Epworth Sleepiness Scale may be an aid to initial diagnosis, but should not be relied upon as an indicator of the success or otherwise of treatment as it is open to manipulation by patients.
INTRODUCTION

1 In the assessment of women, a careful menstrual and obstetric history must be taken and recorded. In every case, the date of the last menstrual period is to be recorded. If the woman has a significant history of menstrual, obstetric or pelvic abnormality, specialist advice should be sought. If pelvic examination is clinically indicated it is only to be performed by a specialist in gynaecology or the woman’s normal registered general practitioner as appropriate. Routine pelvic examinations are not to be performed.

2 This leaflet gives details on the assessment and management of pregnant women and female aircrew. Guidance on the assessment of other specific gynaecological conditions is contained in JSP 950.

PREGNANCY

3 Limitations.

   a. **Recruit.** A candidate for Service who is found to be pregnant is to be assessed temporarily unfit for service until 3 months after delivery of a viable child. If, however, the child is stillborn, or later dies, the assessment may be reviewed after 3 months, provided that there are no outstanding problems. A pregnancy which terminates with the loss of the foetus before the 28th week may be disregarded in terms of employability provided that a period of 4 weeks has elapsed and there are no complications.

   b. **Serving Personnel.** Serving personnel are to be medically downgraded to A4 L5 M5 E6, ‘Unfit service outside base areas’ (plus other limitations as required), in accordance with Lflt 2-03 as soon as the pregnancy is notified. Ground personnel who fly as crew members (for example, Stewards and Aeromed personnel) are to be grounded and awarded MedLim 1208, ‘Fit limited range of duties in trade or branch (type will be specified in Med Docs).’ Following return to work after delivery, women are to be assessed and upgraded as considered appropriate.

   c. **Aircrew.** Pregnant aircrew, are to be grounded and boarded in accordance with Lflt 2-03 as soon as pregnancy is notified. In addition, pregnant aircrew are not to undertake:

      i. Decompression training.

      ii. Wet HEEDS/STASS training.

      iii. Dunker training.

      iv. Training in a dynamic motion flight simulator with a moderate to high risk of rapid and/or un-expected movement or restricted access (as determined by individual aircraft platform risk assessment).

   Following return to work after delivery, aircrew are to be assessed and upgraded as considered appropriate.

4 **Passenger Flying.** Serving personnel with a singleton pregnancy may fly as passengers in RAF transport aircraft in the following circumstances:

   a. Up to 28 weeks of pregnancy, provided there are no complications with the pregnancy and the expected date of delivery has been confirmed by ultrasound.

   b. Between 28 and 36 weeks of pregnancy, provided they produce a doctor’s letter certifying the pregnancy is normal and including the expected date of delivery

GYNAECOLOGICAL ASSESSMENT OF FEMALE AIRCREW

5 Most female specific conditions can be regarded in the same light as those for female ground personnel or be treated as emergencies as they arise in the same way that emergencies are dealt with for
male aircrew. Accordingly, the list of conditions that require special attention in this context is small; it includes menstrual disorders, oral contraception and pregnancy (see paragraph 3). Female aircrew can be referred to Mr J Pogmore at the Royal Centre for Defence Medicine (RCDM) if they require a consultant obstetrics or gynaecology opinion.

6 **Gynaecological Assessment at Selection.** If the gynaecological/obstetric history identifies the need for a pelvic examination or further clinical information, the candidate is to be assessed as temporarily unfit by the Medical Board pending a report from a military or local civilian, consultant gynaecologist.

7 **Menstrual Disorders.** Abnormal menstruation and symptoms associated with pre-menstrual syndrome should be reported to the unit MO. If the condition is considered significant, the subject should be grounded until the menstrual period ceases and/or treatment has proved successful. If the problem persists or recurs, the MO is to refer the individual for consultant opinion.

8 **Oral Contraception.** Oral contraception *per se* is not a bar to flying duties. However, it is important to establish the reasons for which it is taken as ‘the pill’ may be taken for therapeutic purposes as well as for contraception. If taken for therapeutic reasons, the MO is to ensure that the woman is fit to fly and seek consultant opinion if in doubt.

**INFERTILITY**

9 Cases of infertility are to be treated under National Health Service (NHS) arrangements in accordance with AP1269 Lflt 6-02. Individuals who have symptomless infertility are not to be awarded a lowered JMES but are to be managed in accordance with the guidance detailed in AP1269 Lflt 6-02.
1. **Clinical Concerns.** The age range of the Service population ensures that, of the malignant conditions seen, a relatively large proportion will be unusual compared with that seen in general oncology practice. Furthermore, a substantial proportion can now be expected to be cured of their condition (particularly germ cell tumours and lymphomas). The main clinical concerns are to ensure that Service patients continue to receive all appropriate investigations and follow-up necessary for their condition, and that their condition does not adversely affect their trade duties or operational role. There will generally be a period of restricted medical employment following successful treatment for a malignant condition during which clinical surveillance may be relatively frequent. The restrictions must depend on the particular condition, the likelihood of recurrence, the potential for sudden deterioration and the frequency of specialist review required. Each case is to be judged on its own merits.

2. **Limitations.**

a. **Recruit.** A candidate who gives a history of malignancy which is still requiring treatment or frequent (more than annual) review is considered unfit for service in the RAF (P8). Occasionally a candidate may give a history of a malignant condition, often in childhood, which is regarded as cured. All candidates with a history of past malignancy who are no longer being followed up and those on annual or less frequent review may be graded P2 provided a clinical report is obtained giving the risks of recurrence over time and risks of future complications from treatment given. The report is to be forwarded to OC R&S DOM who is to consider whether further advice is required from a Consultant Oncologist prior to making a decision on their fitness for Service.

b. **Serving Personnel.**

(1) **Treatment Phase.** In the majority of cases during investigation and treatment, the patient is to be graded E5, ‘Unfit service outside base areas’ (MedLim 5002). The rationale for this JMES is to allow the patient to attend a UK oncology centre. The limitation ‘Fit detachments in worldwide areas not exceeding 30 days’ (MedLim 3003) may be awarded in appropriate cases.

(2) **Frequent Surveillance Phase.** Once treatment has been completed and the patient is in remission a medical category is to be awarded which reflects the patient’s condition, the likelihood of recurrence, frequency of specialist reviews, residual disability and trade duties. Whilst specialist review remains more frequently than every 6 months (i.e. more than twice a year) the patient may be awarded an MES of E3.

(3) **Infrequent Surveillance Phase.** When specialist reviews are every 6 months or less frequent and the patient remains free of recurrence upgrading to a E2 category may be possible. Normally this could be possible at 3 years from the end of treatment, however, in exceptional circumstances an earlier upgrade might be possible. The President of the Medical Board (PMB) may wish to obtain the advice of a Consultant Oncologist in such cases.

(4) **Additional Information.** Occasionally, malignant conditions are diagnosed fortuitously at a very early stage when they are very small or localised, often during investigation for a minor non-malignant condition. Such ‘coincidental’ malignancies often have an extremely good prognosis and many of these patients could regain a full employment standard at an early stage. The PMB may wish to obtain the advice of a Consultant Oncologist in such cases.

c. **Aircrew.** Aircrew are to managed in the same manner as other serving personnel. However, Bleomycin use leads to a permanent risk of increased sensitivity to oxygen, resulting in a fibrotic lung reaction. It is imperative that aircrew receive clinically appropriate care and this drug will still be used when indicated. Nevertheless, such aircrew will then be restricted from flying in aircraft when oxygen is used routinely. In addition, flying limitations are to be considered if there is any possibility of...
incapacitation. The advice of CFMO (RAF) is to be sought in all cases and PMB may wish to obtain the advice of a Consultant Oncologist.

3. **Referral.**

   a. *Personnel Serving Within the UK.* When a malignant condition is first suspected the Service person is to be referred without delay to an appropriate specialist for definitive diagnosis and, where appropriate, staging investigations. Where necessary advice on appropriate Medical Employment Standard (MES) may be sought from the appropriate Regional Occupational Medicine Department (ROMD) (see AP1269 Lfft 1-04).

   b. *Personnel Serving Outside the UK.* In general personnel serving overseas will be referred to a UK Cancer Centre for investigation and further management. In exceptional circumstances they may be managed locally but only when they would be able to receive prompt investigation and treatment to UK standards. Such cases should be discussed with SO1 Casework and a Consultant Oncologist on an individual basis.

4. **Screening.** Some individuals, identified as being at a higher than average risk of developing particular malignant conditions, may benefit from regular screening tests such as colonoscopy or mammography. Such testing is not generally more frequent than yearly and is often less frequent. A recommendation for screening need not have any effect on an individual’s JMES in the absence of disease.
INTRODUCTION

1. Dental disease is a common cause of morbidity in Service personnel which can significantly compromise operational effectiveness. The Defence Dental Services (DDS) Mission Statement is ‘to deliver effective military oral health care and health advice in order to maximise the fighting power of the Armed Forces’.

DENTAL FITNESS

2. There is a requirement for all Service personnel to be dentally examined periodically to determine their dental status using screening protocols detailed in Surgeon General’s Policy and Standards Document (P&SD) for Primary Dental Care.¹⁵⁷

3. To manage the military dental task all personnel are allocated a NATO Dental Fitness Category (DF Cat), which indicates their dental status and their assessed risk of dental morbidity. The clinical criteria for the allocation of these categories are detailed in SG’s P&SD for Primary Dental Care.¹⁵⁸

DENTAL RECALL

4. A Dental Officer allocates dental recall dates in accordance with policy set out in SG’s P&SD for Primary Dental Care. Dental recall periodicity is based on the National Institute for Health and Clinical Excellence (NICE) Guidelines on Dental Recall¹⁵⁹.

DENTAL PERFORMANCE TARGETS

5. Dental performance targets are a component of Defence Medical Services (DMS) Strategic Targets, and are as follows:

<table>
<thead>
<tr>
<th>NATO DF Cat</th>
<th>Treatment Status</th>
<th>Risk of Dental Morbidity</th>
<th>Deployability</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>No treatment required</td>
<td>Risk of dental morbidity minimised</td>
<td>Deploy at low risk</td>
</tr>
<tr>
<td>2</td>
<td>Treatment required</td>
<td>Low risk of dental morbidity</td>
<td>Deploy at acceptable risk</td>
</tr>
<tr>
<td>3</td>
<td>Treatment required</td>
<td>High risk of dental morbidity</td>
<td>Deploy against dental advice</td>
</tr>
<tr>
<td>4</td>
<td>Treatment status currently unknown</td>
<td>Dental morbidity status currently unknown</td>
<td>Deploy against dental advice</td>
</tr>
</tbody>
</table>

DENTAL STATUS, DEPLOYABILITY AND DOWNGRADING

6. All RAF personnel deploying should have a current DF Cat and their risk of developing dental morbidity should be minimised prior to their deployment. The link between DF Cats, dental treatment status, assessed risk of dental morbidity and deployability are set out below.

¹⁵⁷ SG_PSD_PDC_Part_2_Attachment_A.pdf
¹⁵⁸ SG_PSD_PDC_Part_2_Attachment_B.pdf
¹⁶⁰ The number of 30 minute appointments per 1000 personnel required to complete all diagnosed treatment
7. In the vast majority of cases, personnel will be allocated to DF Cat 3 for short periods until they receive the necessary dental treatment, which reduces their category to an acceptable level. In these circumstances medical downgrading is not necessary or appropriate. However, there are circumstances when managing dental pathology would cause significant disruption in an operational environment. Downgrading action is to be considered in the circumstances outlined in Annex C to Part 2 of SG’s P&SD for Primary Dental Care. If the Dental Officer judges downgrading to be necessary they should advise the primary care occupational health services in the same way as secondary care consultants (Lft 2-01 paragraph 9 refers). If a patient is likely to be unfit for elements of their duties for more than 4 weeks MOs are to initiate appropriate medical downgrading in accordance with Lft 2-03.

AIRCREW


9. Annual Aircrew Medical Examination. The annual aircrew medical examination is designed to establish medical and dental fitness to fly at the time of the examination. The examining Medical Officer will establish the current NATO Cat of aircrew personnel at their annual medical examination from the Medical Summary on DMICP, and in accordance with AP1269 Lft 5-05, Annex Q. The patient may subsequently be referred by the Medical Officer to the Dental Centre for further investigation/treatment if the NATO Cat at the time of annual medical indicates:

   a. The recall date for PDI having expired.
   b. Outstanding treatment which may affect fitness to fly.

10. Dental Fitness to Fly. If at any stage RAF aircrew are judged to be unfit to fly as a result of specific dental pathology or a failure by the individual to maintain a current NATO Cat, the MO is to be consulted and the situation is to be discussed with the Station executive. If necessary, medical downgrading procedures are to be initiated. As soon as dental fitness to fly is re-established medical staff are to be informed and appropriate administrative action taken.

11. Air Experience and Volunteer Gliding School Aircrew. RAFVR aircrew flying as AEF Staff Pilots and VGS Gliding Instructors are not required to have routine periodic dental inspections by a Dental Officer to confirm dental fitness. Such aircrew are only to be referred to a Dental Officer if an authorised Medical Examiner notes concerns about dental fitness during the individual's annual aircrew medical (Service PME or JAA medical).

DENTAL CONDITIONS – PULHEEMS STANDARDS ON ENTRY

12. The influence of dental conditions on PULHEEMS assessment on entry is detailed in JSP 950, Part 6, Chapter 7.

161 SG_PSD_PDC_Part_2_Attachment_C.pdf
162 SG_PSD_PDC_Part_2_Attachment_A.pdf
LEAFLET 5-19: DRUGS AND AIRCREW

INTRODUCTION

1. The disposal of aircrew who require drug treatment often poses problems for MOs. Decisions will not be determined solely by the nature of the drug being taken, but by a balance of medical considerations. Of major importance are the condition for which treatment is being given, the environment in which aircrew work, the nature of the drug and the interaction between these factors. Furthermore, it will be necessary to consider the view of the Executive.

2. Although the process involves various factors, MOs frequently seek advice on the acceptability of particular drugs for use by aircrew. The simple answer is that no aircrew should be allowed to fly whilst taking a drug which has not been cleared for use by an appropriate authority such as the Standing Committee on Aircrew Medical Standards (SCAMS) or the appropriate Consultant Adviser.

3. This leaflet examines some of the basic principles on which decisions are made, and provides information on a number of commonly used drug groups. Where formal policy has been issued, this is given; however, it is impossible to give mandatory instructions for all drugs, nor would it be desirable to do so.

PRINCIPLES

4. Drug use in aircrew presents difficult decisions, not least because of the changing nature of the status of drugs. With increasing knowledge, the standing of individual drugs may change rapidly. New drugs become available, all ostensibly better than their predecessors. Dangerous side-effects may take many years to become evident. Old drugs are often discarded for reasons of fashion or worse. Most importantly, very few drugs have been specifically studied from the standpoint of aviation. It is unlikely that any drug treatment will conform to all the following principles; in practice, decisions will be reached by considering such factors as experience, custom, current regulations and best expert advice.

5. Reason for Treatment.
   a. Acute conditions requiring short-term drug treatment will normally entail grounding until recovery has occurred and drug treatment has stopped.
   b. An adequate indication for long-term drug treatment must exist. For example, this requirement will exclude such conditions as infrequent gout and obesity.

   a. The drug must achieve the intended effect, at least to a substantial degree.
   b. The drug should be compatible with any other treatment. Synergy, especially in Central Nervous System (CNS) effects, is a particular hazard.
   c. High doses of single drugs are associated with greater side effects; combinations of drugs in lower doses may be preferred, for example, an ACE inhibitor used with a diuretic.
   d. Sudden withdrawal of the drug, for whatever reason, should not be dangerous, nor should the treated condition be so inherently serious that drug withdrawal results in early deterioration.
   e. Drugs which cause, usually asymptomatic, long-term undesirable metabolic effects should be avoided where possible. Where such drugs are used, their long-term effects must be carefully monitored.
   f. The difference between therapeutic and toxic doses, the therapeutic ratio, should be large. For example, the theophyllines, lithium and Digoxin are inherently dangerous for this reason alone.
   g. New drugs should rarely be used. Use over a long period is necessary to ensure adequate information on suitability. All medications annotated in the BNF with a black triangle, which indicates limited experience of the use of this product, should not be used on aircrew or controllers approved by either SCAMS or the Aviation Medicine Therapeutics Working Group (AMTWG).
7. **Control of Therapy.**

   a. Aircrew should be grounded for a period at the outset of treatment, and remain grounded until no early side effects are seen. An arbitrary period of 4 weeks is usual, longer may be required, especially if increases in dose or additional drugs are required. However, in acute self-limiting cases where there is a need to complete a course of treatment after symptoms have subsided, a shorter trial period may be appropriate.

   b. The lowest possible dose of the drug should be used; healthy people are often highly sensitive to drugs, and traditional doses may be too high. As there is rarely a need for haste in achieving optimum effect, initial doses should normally be low.

   c. Follow-up should continue indefinitely, or until treatment is completed.

8. **Practical Considerations.**

   a. A simple drug regimen, ideally a single daily dose, will assist compliance. Operational requirements preclude complex regimens.

   b. The drug must be widely available, preferably world-wide.

   c. Of particular importance is the MO’s familiarity with the drug; use of a minimum list is advisable. A particular hazard is poly-pharmacy with novel drugs, instituted by specialist centres unaware of the circumstances of aviation.

   d. Where the cheapest generic preparation is at least as effective as an expensive branded drug, economy should be considered.

**JOINT MEDICAL EMPLOYMENT STANDARD**

9. **The Joint Medical Employment Standard (JMES) awarded to aircrew receiving drug treatment will rarely be a function solely of the treatment. The side-effects of some drugs require mandatory restrictions on flying employment; these are detailed below. In a majority of cases the advice of a specialist and presentation before a formal medical board will be necessary. However, those treated exclusively by their MO at unit level are unlikely to require an alteration to their JMES.**

10. **Throughout, the terms ‘full’ and ‘limited’ flying duties are used; any limitations would require to be expressed in terms of an authorised limitation to the A factor (see Lflt 1-02). The limitation E3, ‘Unfit service outside base areas’, or its equivalent, may be necessary for some aircrew requiring regular treatment. Furthermore, there may be a need for geographical limitations.**

**SPECIFIC DRUG TREATMENTS**

11. When considering the use of drugs, hospital specialists should consider the preceding principles and the need for agreement by an appropriate agency. In the majority of cases, unit MOs should not, of their own volition, prescribe therapeutic drugs for aircrew and allow them to retain flying status. However, they may prescribe, for specific conditions, therapeutic drugs that have been previously cleared and authorized by published policy. They will also be responsible for monitoring the day-to-day response to drugs prescribed by hospital specialists. Most importantly, when making a decision on flying status, the previously discussed considerations must be given due weight.

12. A list of drugs cannot be comprehensive, nor can it be an authoritative pharmacopoeia. Many drugs, such as anti-coagulants, anti-convulsants, anti-arrhythmics, immuno-suppressives and cancer chemotherapy agents are not permissible, not only because of their adverse effects, but also because of the conditions for which they are prescribed. However, under exceptional circumstances in individual cases, where a disorder appears controlled on a low-dose regimen with no side-effects, limited flying duties may be permitted. This will always require full specialist evaluation and disposal by a formal medical board.

13. Where detailed policy exists for a particular drug or group of drugs, the information is given in an Annex to this leaflet as detailed below:

   a. **Use of Antihistamines for the Treatment of Allergy in Aircrew Leaflet 5-19 Annex A.**
b. Use of **Antiemetics** for the treatment of motion sickness  
Leaflet 5-19 Annex B.

c. Temazepam in the Management of Work and Rest in Aircrew  
Leaflet 5-19 Annex C.

d. Use of **Bupropion** for smoking cessation  
Leaflet 5-19 Annex D.

**ANAESTHETICS**

14. Aircrew are not to fly as crew members and controllers are not to undertake controlling duties for:

a. 48 hours following a general, spinal or epidural anaesthetic.

b. 48 hours following drug-induced sedation except when a sedative drug has been provided in accordance with the policy for the management of work and rest in aircrew (see Lflt 5-19 Annex E).

c. 12 hours after a local or regional dental anaesthetic.

The period may be extended at the discretion of a medical or dental officer. (MAA Regulatory Article 2135, Para 37)

**ANALGESIA**

15. Moderate or severe pain is usually associated with a limitation of physical function, psychological distress or cognitive distraction. For these reasons, moderate or severe pain is incompatible with flying / controlling duties. For mild pain causing no loss of physical, psychological or intellectual function; Paracetamol and NSAIDs are compatible with flying / controlling duties. The majority of personnel will have already used Paracetamol and a selection of NSAID analgesics without ill effect. However, first exposure to a new analgesic medication requires a 7 day (c.f. 4 week) cessation of flying / solo controlling. The MAME is to enter the outcome of the 7 day medication trial in DMICP. Where the trial has been successful in controlling the painful condition without generating unacceptable side effects; the MAME may authorise the patient to self-medicate within defined limits. Any new painful condition that has not settled within 24 hours will require cessation of flying / controlling until reviewed by a MAME. Chronic or recurrent painful conditions (e.g. gout or mild osteoarthritis) may be authorised to self-medicate for greater periods at the MAMEs discretion.

16. Centrally acting drugs (both analgesics and co-analgesics) for chronic pain, neuropathic pain or migraine prophylaxis are incompatible with flying / controlling due to the risk of unacceptable side-effects. These drugs include, but are not limited to, Opioids, Gabapentin, Pregabalin, anti-depressants, Valproate and Carbamazepine. A return to flying following successful treatment for neuropathic pain with amitriptyline or pregabalin may be considered 3 months after cessation of the drug.

17. Lidocaine patch: advice should be considered equivalent to peripheral use of LA. The use of such should preclude flying duties within 12 hrs of the last application.

**ANTICHOLINERGICS**

18. Anticholinergic and Beta-3 adrenoceptor agonists are used in the treatment of urinary urge incontinence, frequency and urgency. All drugs are subject to significant side effects such as blurred vision, dizziness and reduced sweating. Aircrew are not to fly as crew members whilst taking this medication (see Annex E regarding multi-engine crew), however their use is acceptable for RPAS operators and controllers subject to the following:

a. Unfit controlling/RPAS operations 1 month

b. Unfit solo controlling for a further 5 months

c. After 6 months use unrestricted duties are acceptable subject to proven absence of postural hypotension.

**ANTIMUSCARINICS**

19. Anti-muscarinic medication is used for a variety of indications, including gastrointestinal and uro-genital disorders. Oral therapy with Antimuscarinic agents is incompatible with flying duties.
CARDIOVASCULAR

20. **Anti-hypertensives.** Before a return to flying duties can be considered, hypertensive individuals must be normo-tensive on stable treatment for at least 4 weeks. Any change in treatment, either in dosage or of the drugs used, must result in withdrawal from flying duties and a further period of monitoring. The following points apply to specific groups of anti-hypertensives:

   a.  **Angiotensin Converting Enzyme Inhibitors and Angiotensin II Receptor Blockers:** Angiotensin converting enzyme inhibitors (ACEis) and angiotensin II receptor blockers (ARBs) are widely used in the treatment of hypertension. They commonly (1-10%) cause orthostatic hypotension, hyper-kalaemia and a decline in renal function; however, these effects are easily identified, often transient and usually resolve on dose reduction or stopping treatment. Cough is very common (>10%) and angioedema uncommon (<1%); both occurring less with ARBs than with ACEis. Previous concerns of impaired G-tolerance with ACEis have not been substantiated in US or UK trials.

   (1) Treatment in aircrew and controllers may be started by a MO or CMP who has completed the IMO Av Med course. To ensure adequate blood pressure control and absence of adverse effects, aircrew are to be initially grounded and controllers made unfit controlling duties for a minimum of 4 weeks and until review at the Clinical Aviation Medicine Service (CAMS). A return to unrestricted duties is usually possible when stabilised on treatment, but aircrew and controllers are to be graded E2.

   (2) The combined use of ACEis and ARBs significantly increases the risks of serious adverse effects. Aircrew and controllers are likely to be remain unfit solo flying and unfit solo controlling duties respectively, for at least 6 months after which a return to unrestricted duties may be possible.

   (3) The drugs listed below are considered acceptable for aircrew and controllers. Other ACEis and ARBs will be considered on a case-by-case basis on referral to CAMS.

   i. **Acceptable ACE inhibitors:**
      i. Lisinopril
      ii. Ramipril
      iii. Enalapril
      iv. Perindopril
      v. Cilazapril
      vi. Quinapril
      vii. Fosinopril

   ii. **Acceptable ARBs**
      i. Losartan
      ii. Valsartan
      iii. Candesartan
      iv. Eprosartan
      v. Irbesartan
      vi. Olmesartan
b. **Calcium Channel Blockers.** Amlodipine and Nifedipine are preferred for use in aircrew as unrestricted flying duties may be permitted in those treated with these drugs. In order to return to unrestricted flying, the maximum acceptable doses are 10mg daily of Amlodipine or 20mg twice daily of sustained release Nifedipine, with no clinical evidence of side effects. Other drugs in this group are compatible with limited flying duties. Aircrew taking Calcium channel blockers other than Amlodipine or Nifedipine as detailed above are not permitted to fly in aircraft where they will be exposed to accelerations outside the range -1 to +2.5 Gz.

c. **Thiazides and Other Diuretics.** Thiazides are compatible with full flying duties, subject to a grading of a E2 medical marker.

d. **Beta-blockers.** Atenolol, alone or with diuretics, is compatible with limited flying duties. Aircrew are not permitted to fly in aircraft where they will be exposed to accelerations outside the range -1 to +2.5 Gz. The effects of this group of drugs on psychomotor function are such that pilots are not permitted to fly solo. In the RAF the JMES will be no higher than A3 L2 M2 E2. Detailed limitations will be determined by the President of the Medical Board (PMB).

e. **Alpha 1-blockers.** Although alpha 1-blockers may be permitted for benign prostatic hypertrophy (see below) the availability of alternative medication with a lower risk of postural hypotension means that these drugs are not currently approved for use in hypertension in those on flying duties.

21. **Lipid Lowering Therapy.** Non-drug measures are preferred; however, resins such as Cholestyramine are suitable if well-tolerated. Fibrates and statins may be used under specialist direction. Fibrates have not been cleared for use by pilots in solo flight, but where prolonged safe use has been demonstrated in an individual exception may be made on the recommendation of the concerned consultant physician and with the agreement the PMB. Of the statins Pravastatin and Atorvastatin are approved for use by pilots in solo flight subject to specialist assessment and continuing surveillance; approval is subject to the agreement of the PMB. Treatment with these 2 drugs may be started by a MO or CMP who has completed the IMO Av Med course pending review by a Service Consultant Physician. To ensure the individuals are seen within the 4 week period of grounding on starting a new drug, referrals should be made as Priority Two using the system at AP1269 Lflt 5-05 Annex H.

22. **Anti-platelet Prophylaxis.** If well tolerated, low dose aspirin may be used.

**DERMATOLOGY**

23. Non-topical drugs used in dermatology will normally require the advice of a RAF consultant dermatologist. Whether topical drugs may be prescribed without consultant advice will depend upon the condition and the drug. Contamination of oxygen equipment with greasy preparations is potentially hazardous. Specific restrictions apply to some drugs commonly used in dermatology.

24. **Antihistamines.** In the treatment of acute and chronic urticaria, Loratadine is the only antihistamine which may be used (see Annex B).

25. **Retinoids.** Retinoids are used in acute nodular cystic and scarring acne, and in hyper-keratotic and pustular psoriasis. Because of the risk of a permanent adverse effect on night vision the use of retinoids in aircrew is prohibited. All cases so treated in the past must be assessed by a consultant ophthalmologist before returning to flying. Similarly, candidates for aircrew duties who have a history of treatment with oral retinoids and who have otherwise been found fully fit are to be assessed by a consultant ophthalmologist before acceptance.163

26. **Hydroxychloroquine.** Hydroxychloroquine may be used in the management of chronic discoid lupus erythematosus. Aircrew taking this drug must be reviewed annually by a consultant ophthalmologist to exclude ocular effects.

27. **Psoriasis Treatments.**

   a. **Methotrexate.** Used in the management of chronic psoriasis. Regular full blood count and liver function assessments are required before any return to flying. In addition, particular care must be

163 For use of topical retinoids see Annex G
taken to exclude any neurological impairment. A medical board is mandatory to confirm fitness for flying duties.

b. **8-Methoxypsoralen.** Adequate assessment of response to the medication is required for both oral and topical preparations.

28. **Other Drugs.** The drugs listed below are normally compatible with full flying duties; however, geographic and unfit for service outside base area limitations may be necessary.

   a. **Danazol.** An attenuated androgen used in the management of some cases of chronic idiopathic urticaria, and rare cases of giant urticaria.

   b. **Cyproterone Acetate/Ethinyl Oestradiol (Dianette).** Used in the management of hormonally sensitive acne vulgaris and hirsutism.

   c. **Metronidazole.** Used in some difficult cases of rosacea.

**GASTRO-INTESTINAL CONDITIONS**

29. **Diarrhoea.** The majority of proprietary preparations contain anti-spasmodic or morphine derivatives and are incompatible with flying duties. In an emergency, Loperamide 2-4 mg or codeine phosphate 15-30 mg may be used.

30. **Inflammatory Bowel Disease.** On the advice of a specialist, limited flying duties may be possible during treatment with an aminosalicylate preparation.

31. **Dyspepsia.** Normally, precise diagnosis should precede treatment. Simple antacids not containing sedatives may be used. During treatment with regimens for eradication of Helicobacter pylori, flying is not permitted. However, on the advice of a specialist, H2 receptor antagonists and proton pump suppressants may be used for maintenance therapy.

**HAY FEVER**

32. **Topical nasal sprays, decongestant or steroid, in standard dosage regimens for the treatment of hay fever are compatible with full flying duties. However, they may not in some cases be fully effective, and some individuals may not tolerate them. Treatment with an oral antihistamine may be required.** (see Lflt 5-19 Annex B).

**INFECTION**

33. **Antibacterial Agents.** The majority of conditions for which anti-bacterials are prescribed will preclude flying. However, low dose oral anti-bacterials for mild acne will normally be compatible with full flying duties. Because of the possibility of its inducing vertigo, minocycline is not to be prescribed for this purpose. In other than mild cases the advice of a specialist in dermatology will be required. Aminoglycoside treatment may cause vestibular damage and assessment by a specialist in ORL is mandatory before return to flying.

34. **Anti-fungal Agents.** In mild fungal infections anti-fungal agents will normally be compatible with full flying duties. For other than mild cases the advice of a specialist in dermatology will be required.

35. **Anti-tuberculous Therapy.** The underlying condition is incompatible with flying duties; however, the previously discussed clearance for those treated with Streptomycin must be sought. Also, Ethambutol may produce optic neuritis, red/green colour blindness and peripheral neuritis. Anyone treated with this drug must be assessed by a specialist in ophthalmology before return to flying.

36. **Anti-viral Agents.** Aciclovir used in the treatment of viral infections of the skin and mucous membranes, and occasionally in the long term suppression of repetitive herpes simplex infections, will normally be compatible with full flying duties.

**IVF TREATMENT**

37. Women undergoing IVF should be managed on a case by case basis. The need for employment limitations during treatment including grounding for aircrew should be discussed with the individual and her
fertility specialist. Individuals accepted for IVF are likely to have a considerable emotional investment in ensuring the treatment is successful. Currently only a limited number of IVF cycles are available via the NHS. If pregnancy is confirmed, policy at Lfft 5-16 paragraph 3c should be followed.

MALARIA PROPHYLAXIS

38. It is essential that chemoprophylaxis is used in conjunction with bite avoidance and mosquito vector control. The regulations relating to the use of chemoprophylaxis for aircrew are detailed below and are to be read in conjunction with AP1269 Lfft 8-05 and JSP 950 Lfft 3-3-1.

a. **Mefloquine (Larium):**

(1) There is a small but significant risk of side effects when taking Mefloquine which could degrade concentration and coordination. Because of its CNS effects, Mefloquine is not to be prescribed for use by aircrew who undertake flying duties in which they are responsible for the command, control or function of the aircraft while in flight.

(2) If Mefloquine is used inadvertently, the individual concerned is to be grounded for a period of 3 months after taking the last dose of the drug.

(3) Aircrew in non-flying roles may take Mefloquine, however its use is not recommended and should be avoided unless absolutely necessary. If it has been used, aircrew are to remain unfit for flying duties for a minimum of 3 months after the last dose and are to be reviewed by a MAME prior to return to a flying appointment.

(4) It should be noted that the average half-life of Mefloquine is 21 days and that incapacitating side-effects whilst flying may appear rapidly in someone who appears normal on the ground.

b. **Atovaquone-Proguanil (Malarone).** Malarone (and UK sourced generic equivalents) may be used by aircrew as chemoprophylaxis provided that the following criteria are met:

(1) The drug must be appropriate for the area being visited. Advice concerning anti-malarial chemoprophylaxis should be sought from the CFMO or SO1 PH( RAF) at HQ Air Command, RAF High Wycombe.

(2) The use of Malarone must be compatible with existing theatre policy, its use as a chemoprophylactic drug would be inappropriate if it was used as a treatment agent in theatre.

(3) Aircrew must have a one-off trial period of Malarone during a non-flying phase before aircrew are permitted to fly with the drug. The trial period should be of 5 days duration, although this can be reduced to 2 days, in cases of urgent operational necessity if authorised through the chain of command.

(4) Unlike other anti-malarials, Malarone should be started 1 to 2 days before arrival in the endemic area and need only be taken for 1 week after leaving the area.

c. **Doxycycline (Vibramycin):**

(1) Doxycycline may be used in aircrew as chemoprophylaxis for sub-Saharan Africa, provided its suitability for this task is authorized through the chain of command.

(2) Doxycycline is not to be given to pregnant personnel, those who may become pregnant or those who are breastfeeding.

d. **Chloroquine and Proguanil.** Aircrew can use Chloroquine and Proguanil providing that this prophylaxis is authorized through the chain of command.
39. **Diabetes Mellitus.** Insulin and sulphonylureas are incompatible with flying duties. The use of metformin is compatible with limited flying duties.

40. **Gout.** Aircrew who have symptomatic gout should be given prophylaxis to protect renal function and to reduce the potential for sudden incapacitation. Allopurinol as maintenance therapy is compatible with full flying duties. Because initiation of treatment is associated with a high risk of precipitation of an attack of gout, aircrew must be grounded and given prophylactic Colchicine or NSAIDs during the first month of Allopurinol therapy. They will normally be fit to return to flying thereafter.

41. **Renal Stone Disease.** Only two drugs are acceptable. Thiazides are acceptable, but effervescent potassium citrate is to be preferred. As citrate is a normal component of urine and, apart from mild dyspepsia, has no side-effects, no period of grounding is required. Its use is compatible with full flying duties.

42. **Thyroid Disease.**
   a. **Hyperthyroidism.** When the disease is perfectly controlled, limited flying duties may be possible whilst taking Carbimazole.
   b. **Hypothyroidism.** In uncomplicated cases, L-Thyroxine is compatible with full flying duties.

**OBSTETRICS AND GYNAECOLOGY**

43. In general, local treatments for gynaecological disease are compatible with full flying duties. Other treatments will require the opinion of a specialist.

44. **Oral Contraceptives.** ‘The Pill’ when prescribed for contraceptive purposes is compatible with full flying duties. Used in any other context, fitness for flying duties will be determined by the specialist concerned.

**OPHTHALMOLOGY**

45. Only drugs in droplet form are compatible with flying duties; ointment formulations may blur vision for some hours and are incompatible with flying. The following are acceptable for use in aircrew:
   a. **Anti-infective Agents.** All antibacterial, antifungal and antiviral agents. Aminoglycosides should only be used when no alternative exists.
   b. **Ocular Lubricants.** All ocular lubricants.
   c. **Steroid and Anti-inflammatory Preparations.** Steroid preparations and anti-allergy drops, such as Sodium Cromoglycate and Iodoxamide.

46. Three groups of ophthalmic preparations preclude flying duties:
   a. **Anaesthetics.** Aircrew may not fly as long as any anaesthetic effect remains from topical anaesthetic drops.
   b. **Glaucoma Preparations.** Both miotic preparations and adrenaline based anti-glaucoma preparations have an effect on vision.
   c. **Mydriatic Cycloplegics.** All preparations in this group have a direct effect on vision and focusing. They should not be used for at least 24 hours prior to flying; in the case of atropine, the period should be 14 days.

**PSYCHOTROPIC DRUGS**

47. The use of psychotropic drugs, with the exception of temazepam, precludes any flying duty. On completion of drug therapy patients will require a period of continued stability, therefore the patient should remain temporarily downgraded for a further 6 months. See also 1269A Lflt 5-12 paragraph 6.
RESPIRATORY DISEASE

48. Asthma. Inhaled corticosteroids and Sodium Cromoglycate are compatible with limited flying duties. Other drugs, such as beta 2 agonists, may occasionally be acceptable on the advice of an appropriate specialist and with the sanction of the relevant Medical Board.

49. Cough and Cold Cures. Many cough and cold cures contain belladonna alkaloids, ephedrine, Dextromethorphan or antihistamines; they are incompatible with flying duties.

STEROIDS

50. The underlying condition necessitating the use of oral corticosteroids is generally incompatible with flying duties; however, their use may sometimes be compatible with limited flying duties on the advice of the appropriate consultant and with the sanction of the relevant Medical Board.

a. Chronic Urticaria. When the acute phase has settled, Prednisolone may be used in the management of chronic idiopathic urticaria.

b. Intrinsic Renal Disease. Prednisolone may be used if the dose is equal to or less than 10 mg daily. Azathioprine is occasionally used in combination with steroids, but will result in additional limitations to flying.

c. Pulmonary Sarcoidosis. On occasions, individuals with pulmonary sarcoidosis may be fit for limited flying duties while taking corticosteroids.

51. In all cases, treatment must be sanctioned and closely monitored by the appropriate clinical consultant. (See Lflt 5-19 Annex E for other uses of steroids)

52. IM Steroids. Aircrew/controllers are to be considered unfit flying/controlling until their symptoms are adequately control and:

a. following an intra-muscular steroid injection, for systemic effect, a return to flying/controlling duties may be considered after 28 days cessation of flying/controlling; or

b. following a soft tissue or joint steroid injection, for local effect, a return to flying/controlling duties may be considered after 7 days

UROLOGY

Benign Prostatic Hypertrophy

53. Alpha 1-blockers can improve the symptoms of benign prostatic hypertrophy (BPH) through smooth muscle relaxation of the bladder neck, prostate capsule and prostatic urethra. They also act on vascular smooth muscle to reduce blood pressure. Postural hypotension is common in all alpha-blockers at the dosages used for controlling hypertension, hence, their use is generally considered incompatible with flying. Low dose Tamsulosin and alfuzosin, used in the treatment of BPH, appear to carry the lowest risks of postural hypotension and may, therefore, be compatible with limited flying duties:

a. On commencing therapy, aircrew and controllers are to be made ‘Unfit service outside base areas’ and unfit flying/controlling.

b. After a minimum of 4 weeks, 3 separate measurements of lying and standing blood pressure and a single 24 hr ambulatory blood pressure recording are to be taken.

c. If the BP monitoring is acceptable, and there are no symptoms to suggest postural hypotension:

(1) Aircrew may be returned to flying duties A3, ‘Unfit ejection seat aircraft’ (MedLim 2007); ‘Unfit high performance aircraft (-1 to +2.5 Gz)’ (MedLim 2002); ‘Unfit solo pilot - must fly with a pilot suitably qualified on type (MedLim 2000 or Unfit solo (aircrew category will be specified in Med Docs (MedLim 2001).

164 This should be read in conjunction with AP 1269A leaflet 5-05

Page: 438
Publication date: 01/08/16
Erectile Dysfunction

54. PDE5 inhibitors are used in the treatment of erectile dysfunction. This group of drugs is not without side effects, and must therefore only be used when prescribed for genuine medical reasons – its use for social reasons is not sanctioned. Sildenafil is the only PDE5 inhibitor approved for use in aircrew with erectile dysfunction. In approximately 3% of individuals using this medication it causes colour perception disturbances, usually described as blue or blue-green tingeing, and decreased blue-green colour discrimination. Most return to normal in 48 hrs, but in some this effect lasts significantly longer. There have also been reports of prolongation of the QT interval, and sudden hearing loss. As Sildenafil is not intended to be used continuously, the normal mandatory 4 week grounding period is to include a trial of medication. The guidelines for use of Sildenafil are as follows:

   a. For initial prescription, aircrew should be issued with a minimum of 4 doses to be used over a 2 week period, with no return to flying for 2 weeks after the last dose. Those suffering visual disturbance should be discussed with CFMO.

   b. Those suffering no side effects may be prescribed Sildenafil, but must not use it within 48 hrs of flying duties, taken to mean the start of crew duty time.

   c. Any side effects occurring due to use of Sildenafil are to be reported through the normal channel and also to CFMO.

MISCELLANEOUS

55. Nicotine Patches. The use of nicotine patches for the cessation of smoking, under the supervision of the unit MO, is compatible with full flying duties.

56. Immunizations. As detailed in AP1269 Lflt 8-04 paragraph 17, aircrew are not to fly within 12 hours of receiving a vaccination. Exceptions may only be made where the individual has received the same vaccination previously and suffered no side-effects.

ACUPUNCTURE

57. Clinical experience and scientific evidence confirms that acupuncture can be useful in the prevention and control of pain. Its possible value in other conditions remains unproven. The potential hazard of masking underlying disease makes it essential that acupuncture is only to be employed by properly trained and supervised practitioners with the approval of the MO of the patient. In the RAF acupuncture may be practised by:

   a. MOs.

   b. Physiotherapists under the direction of the MO in charge of the patient.

58. Restrictions. Acupuncture should be used primarily for the prevention and control of pain although it may be used for the treatment of other conditions where its efficiency remains unproven. Only acupuncture needles of the sterile, single use type are to be used and disposed of in an appropriate sharps container. Aircrew and controllers are not to undergo acupuncture treatment without the authority of a MAME or MO and are not permitted to fly / undertake aircraft controlling duties for a period of 12 hours following an acupuncture treatment.
LEAFLET 5-19 ANNEX A: USE OF ANTIHISTAMINES FOR THE TREATMENT OF ALLERGY IN AIRCREW

INTRODUCTION

1. The currently approved oral antihistamines for the treatment of allergy in aircrew is Loratadine. If Loratadine is not available then Desloratidine may be substituted or Fexofenadine (up to 180mg) as long as there is no evidence of prolonged QTc interval on routine ECG.

2. Oral antihistamines should only be used to treat allergy in aircrew where there is no topical alternative. The antihistamine originally cleared for aircrew use was Fexofenadine. Reports of cardio toxicity resulted in its withdrawal as an over-the-counter medicine and the cancellation of the authority for its use in aircrew. Although Loratadine appears to be free of similar effects, it is unwarranted to assume that this is, in fact, the case. Thus, oral antihistamines should never be the first line of treatment in aircrew with allergic symptoms. Their use should only be contemplated in aircrew whose symptoms cannot be controlled by topical preparations, or who are unable to tolerate them.

3. The use of antihistamines for the treatment of hay fever in aircrew does not change the standards for initial aircrew selection. Nor should they be used to treat hay fever complicated by bronchospasm. Any asthmatic symptoms associated with allergic conditions remain an indication for grounding pending consultant assessment. The development of allergic rhinitis in previously asymptomatic aircrew should be carefully assessed to determine probable allergens and to exclude paranasal sinus or aural pathology. Any doubtful or problematic cases should be referred for consultant ORL opinion.

PRESCRIBING

4. Before authorizing aircrew to fly whilst taking an antihistamine, a MO should prescribe the drug for a non-flying trial period of at least 7 days. The minimum effective dose that confers symptomatic relief should be prescribed. The use of the drug must be closely monitored by the MO; if any side-effects are experienced, the drug must not be authorized for use during flying duties. Alcohol may potentiate or induce side-effects and must never be taken within a 24 hr period before flying whilst taking an antihistamine.

CONSEQUENCES

5. There is no requirement for a medical board solely because an individual is being treated with an antihistamine. The treatment itself does not alter nor restrict aircrew employability. However, if the underlying condition is severe enough to affect the performance of flying duties, even after treatment, referral for consultant opinion will be necessary.
INTRODUCTION

1. It is essential that all cases of motion sickness in students under training for any aircrew branch are handled expeditiously in accordance with this Annex, if the student is to derive maximum benefit from flying instruction. Any prolonged local treatment, or prolonged period of untreated sickness, will lead to unproductive flying hours not only through curtailment of exercises but also through lack of assimilation of instruction by the student through the effects of medication, anxiety, or disillusionment.

MANAGEMENT

2. Should a student suffer from motion sickness during the early stages of flying training, the circumstances are to be reported to the SMO by the instructor. The SMO is to satisfy himself that there are no external causes for the disability and after consultation/treatment return the student to flying, advising the instructor accordingly. Normally, hyoscine hydrobromide or cinnarizine are only to be prescribed for limited periods to aircrew in training, whilst awaiting referral for desensitisation. Because of the side-effects, pilots are to be awarded the limitation ‘unfit solo pilot - must fly with a pilot suitably qualified on type’. Should the symptoms persist or become aggravated after a reasonable period (e.g. 4-8 flying hours), the MO with the approval of the CO, should refer the student for Motion Sickness Desensitisation. At no time should a case proceed to the point where suspension due to lack of flying training progress occurs.

3. The MO is to forward a request for desensitisation, in the form of a FMed 7 case history, to CA Av Med at the RAF Centre of Aviation Medicine (RAF CAM). The CA Av Med is to provide CFMO (RAF) with quarterly updates on the programme of candidates undergoing treatment for motion sickness.

4. The student may undergo a period of ground phase desensitisation lasting up to 4 weeks. A 15-20 hr flying phase in a RAF CAM Hawk may follow at Boscombe Down under the supervision of personnel from the Aviation Medicine Flight, RAF CAM. After completion of desensitisation, a student is returned to his unit to resume training.

5. It is extremely important that instructors remember there is a psychological, as well as a physiological, element in the manifestation of motion sickness. Students just returned from desensitisation must return to flying without allowing a time lapse to occur. At least one month of flying should be completed before any leave is considered. To maintain and develop the psychological improvement in resistance to motion sickness, it is vital that the student be reintroduced to flying training in a gradual and sympathetic manner. Those manoeuvres that previously caused motion sickness should be introduced cautiously, until the student has gained confidence in his ability to perform them without being airsick. It is also essential to minimise the inevitable anxiety present in the student on his return to flying training. Once a student has regained his confidence, he is only likely to be airsick after a long break from flying. Once he knows that he can overcome his motion sickness a few gentle sorties after a break will be sufficient for physiological readaptation.

6. Although less frequent, motion sickness does occur in aviators beyond the advanced flying training stage. The principles described in this Annex apply equally to experienced aviators.

7. **Sea Sickness.** Cinnarizine may be used for the treatment of Sea-sickness for aircrew afloat at the beginning of their deployment. They are considered unfit to fly for a period of 24 hours following the last dose.
LEAFLET 5-19 ANNEX C: TEMAZEPAM IN THE MANAGEMENT OF WORK AND REST IN AIRCREW

INTRODUCTION

1. Unit MOs are authorised to prescribe temazepam for use by aircrew in the management of work and rest in operational scenarios. The drug is effective in inducing sleep and has no residual sequelae or complications when used judiciously. Its short duration of activity prevents significant accumulation in the body, and extensive testing has failed to detect any deleterious effects on individuals or performance 6 hours after ingestion.

2. Although the use of temazepam is intended to enhance the effectiveness of personnel in the intensive and sustained operations likely to be met in war, the management of such a policy must be practised in peace. Consequently, the use of temazepam for aircrew on routine operations and exercises is authorised. However, the use of temazepam is an adjunct to an effective management plan for work and rest schedules; it is not a substitute. The responsibility for such planning lies with commanders.

3. Temazepam remains the only approved hypnotic; newer alternatives such as the “Z drugs” (Zaleplon, Zolpidem and Zopiclone) are not authorised. Temazepam is good at both initiating and maintaining sleep unlike the newer medications, which may not maintain sleep due to their shorter half life.

PRESCRIBING

4. When prescribing temazepam, MOs should be aware that:

a. Aircrew should undergo an initial one-off ground trial of Temazepam.

1. Routine. The routine ground trial should consist of a dose of 10 mg (usual treatment dose) on each of 3 consecutive nights. This can be increased to, but no more than, 20 mg. The patient should return to the MO 2 days after the third dose to discuss efficacy and side effects. The trial, including a comment on fitness to fly, should be documented in the medical records.

2. Exceptional / operational circumstances. Exigencies of Service life will occasionally not allow time for the routine ground trial; therefore to minimise the possibility of an adverse reaction on duty, aircrew may undergo an accelerated trial consisting of a single trial dose of 10 - 20 mg no less than 3 days prior to flying. This should be documented as above.

b. It should be taken not less than 6 hours before the start of duty.

c. It must not be taken in conjunction with alcohol or any centrally acting drugs, such as antihistamines. Over-the-counter drugs must be borne in mind.

d. The normal dose of 10mg is usually adequate for aircrew. 20mg can be used, if absolutely necessary, but must not be exceeded.

e. Temazepam is not to be used regularly as it strongly associated with dependence, tolerance and a withdrawal syndrome. It should only be used as one aspect of fatigue management; it is particularly helpful for assisting adaptation with shift changes. It is not to be taken for any longer than 5 days consecutively and should not be taken for more than a total of 20 days in a 60 day period.

f. The SMO is to bring to the notice of the Station Commander any officer or airman engaged on flying duties whose physical or mental efficiency is deteriorating through fatigue or other causes, ideally with the consent of the individual as detailed in AP 1269 Lflt 4-01 and QRs 1474.

5. Provided that these criteria are met, and following consultation between medical staffs and the squadron, the unit MO may prescribe and issue temazepam in the doses stated above. It is to be prescribed to named individuals for up to 5 days to cover exercise periods, shift pattern changes or as required to cover a route flight. The drug may then be taken by individual aircrew under the supervision of the local commander.
LEAFLET 5-19 ANNEX D: USE OF DRUGS FOR SMOKING CESSATION IN AIRCREW

BUPROPION (ZYBAN)

1. Due to the psycho-active nature of Bupropion and its side-effects, the use of the drug precludes any flying duty. Aircrew on ground tours could take Bupropion but are to be awarded a lowered JMES whilst undergoing treatment. The drug has numerous side-effects, including seizures. Should a seizure occur while on treatment with Bupropion, aircrew are to be referred to the RAF Consultant Adviser (CA) in Medicine.

2. Aircrew may not wish to risk their flying category by using Bupropion and are to be counselled by a MO regarding the possibility of side-effects and the necessity to lower the JMES, before starting treatment with the drug. Aircrew are to be advised to consider deferring treatment with Bupropion until they are on a non-flying tour.

MEDICAL EMPLOYMENT STANDARD

3. Aircrew taking Bupropion are to be grounded. All personnel are considered to be unfit for operational deployment and are to be made ‘Unfit handling live arms’ and ‘Unfit for service outside base areas’. It should be noted that malaria prophylaxis is not to be taken with Bupropion.

4. Where aircrew have received a course of treatment with Bupropion they may be upgraded and returned to flying duties no sooner than 2 weeks after ceasing the treatment. Return to flying is subject to a satisfactory medical examination conducted by a Flight Medical Officer (FMO), Specialist in Aviation Medicine or an appropriately qualified consultant in occupational medicine. If neurological or neuropsychiatric side-effects have been experienced whilst taking Bupropion, return to flying is dependent on the results of a medical assessment by the CA in Medicine. Return to flying after suffering a grand mal seizure, as a result of taking Bupropion, is at the discretion of the CA in Medicine who is to seek the opinion of the Civilian Consultant in Neurology.

VARENICLINE (CHAMPIX)

5. Varenicline’s side-effects include suicidal ideation and behaviours. Varenicline is not to be prescribed to aircrew or controllers at any juncture, whether currently engaged in flying / aircraft controlling duties or not (JSP 950 Lflt 7-3-1: Managing Smoking Cessation - Guidelines for Use by Health Professionals in Defence Medical Services).

6. In the event that this medication has been incorrectly prescribed it must be immediately tapered and withdrawn. A further 3 month period of grounding / non-controlling duties is required once the medication has been stopped and all aircrew / controllers should be reviewed by a MAME before resuming normal duties.
LEAFLET 5-19 ANNEX E: AIRCREW MEDICATION CLEARANCES

Sponsor: DACOS AvMed

1. Advice on suitability of drugs for certain conditions is given in Lft 5-19 and subsequent Annexes. However, there are occasions when aircrew require treatment with other drugs. As noted, no aircrew should be allowed to fly whilst taking a drug which has not been cleared for use. To speed up decisions on whether aircrew can continue to fly unrestricted or in a limited role pending formal approval by the Standing Committee on Aircrew Medical Standards (SCAMS), the Aviation Medicine Therapeutics Working Group (AMTWG) has been set up.

2. The composition of the AMTWG is as follows:
   a. DACOS AvMed.
   b. CFMO (RAF).
   c. CA Medicine (RAF).
   d. CA Av Med (Navy)
   e. CA Av Med (Army)
   f. CA Av Med (RAF).
   g. Command Pharmacist (RAF).
   h. SO1 Casework
   i. Others as required.

3. Requests for clearance of a drug should be made via CFMO (RAF). The following general principles are to be observed:
   a. Where an equivalent drug has already been cleared for use, alternatives will only be considered where the aircrew is unable to tolerate that drug.
   b. New medications requiring enhanced surveillance by MHRA (indicated by the black triangle symbol (▼) in the BNF) will not normally be acceptable.
   c. Clinical need outweighs occupational concerns, so less efficacious medications should not be considered merely to avoid JMES restrictions if this will result in relative harm to the aircrew.
   d. Group clearance to a class of drugs will not be given – all drugs must be considered individually.

4. Medications that have been considered by AHDWG are listed below according to BNF section. Drugs will not normally be reconsidered within 2 years, unless there is pressing new evidence.

5. The AMTWG’s detailed considerations are available for review on the CFMO MOSS page.
<table>
<thead>
<tr>
<th>BNF Section</th>
<th>Drug Name</th>
<th>Formulation</th>
<th>Decision</th>
<th>Comments</th>
<th>Date of decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.6</td>
<td>Mebeverine</td>
<td>135-150mg po tds</td>
<td>Acceptable</td>
<td>Aircrew and Controllers are not to undertake flying or controlling duties for 28 days after treatment is started to rule out side effects, check effectiveness and allow continuing assessment of the underlying disorder (which in itself may require further limitations).</td>
<td>Jul 14</td>
</tr>
<tr>
<td>2.4.1</td>
<td>Irbesartan</td>
<td>150 mg po od</td>
<td>Acceptable</td>
<td>Usage in preference to other AT2RA needs justification.</td>
<td>Jul 08</td>
</tr>
<tr>
<td>2.4.1</td>
<td>Losartan</td>
<td>All</td>
<td>Acceptable</td>
<td>Other AT2RA are preferred</td>
<td>Jul 08</td>
</tr>
<tr>
<td>2.4.1</td>
<td>Valsartan</td>
<td>All</td>
<td>Acceptable</td>
<td>Other AT2RA are preferred</td>
<td>Jan 09</td>
</tr>
<tr>
<td>2.2</td>
<td>Tranexamic acid</td>
<td>Topical</td>
<td>Acceptable</td>
<td>Unlicenced indication when used topically for rosacea (use on specialist advice only). Manage if Lift 5-19 paragraph 7; skin disease may require integration check with AEA. No requirement for colour vision testing.</td>
<td>Jun 13</td>
</tr>
<tr>
<td>2.6</td>
<td>Ezetimibe</td>
<td>All</td>
<td>Acceptable</td>
<td>Must be grounded for a period of 28 days on starting treatment, an additional 7 days if changing to another drug in same class and a further 28 days if adding a further lipid lowering medication (see Lift 5-19 paragraph 17 for full details)</td>
<td>Jul 11</td>
</tr>
<tr>
<td>2.6</td>
<td>Statins</td>
<td>All</td>
<td>Acceptable</td>
<td>Must be grounded for a period of 28 days on starting treatment, an additional 7 days if changing to another drug in same class and a further 28 days if adding another lipid lowering medication (see Lift 5-19 paragraph 17 for full details). Any statin marked with a black triangle is unacceptable for use in aircrew.</td>
<td>Jul 11</td>
</tr>
<tr>
<td>3.1</td>
<td>Botulinum Toxin</td>
<td>All</td>
<td>Limited Acceptability</td>
<td>Aircrew. Botulinum toxin is not approved for use in aircrew. There is a risk of distant muscular effects and a persistent risk of urinary retention when used for refractory bladder dysfunction. Controllers and RPAS operators. These groups are to be unfit solo controlling / RPAS operation. They are also to be unfit service outside base areas.</td>
<td>May 15</td>
</tr>
<tr>
<td>3.1</td>
<td>Tacrolimus</td>
<td>Ointment</td>
<td>Acceptable</td>
<td>For the treatment of refractory dermatitis. Must be grounded for two weeks on initiation of treatment to ensure no nuisance side effects arise.</td>
<td>May 15</td>
</tr>
<tr>
<td>3.2</td>
<td>Cetirizine</td>
<td>All</td>
<td>Not acceptable</td>
<td></td>
<td>Jun 09</td>
</tr>
<tr>
<td>3.2</td>
<td>Desloratidine</td>
<td>5mg po od</td>
<td>Acceptable</td>
<td>Use approved if Loratadine not available</td>
<td>Jun 09</td>
</tr>
<tr>
<td>3.2</td>
<td>Fexofenadine</td>
<td>Up to 180mg p.o. od</td>
<td>Acceptable</td>
<td>Use approved up to maximum 180mg od as long as no prolonged QTc interval on routine ECG.</td>
<td>May 15</td>
</tr>
<tr>
<td>4.2.4</td>
<td>Duloxetine</td>
<td>All</td>
<td>Limited acceptability</td>
<td>Unsuitable for use for psychiatric indications (BNF 4.3.4). Suitable for use for female stress urinary incontinence. Aircrew: one month grounding then 11 months unfit solo pilot/ aircrew (60 / 63). Review with CFMO after 12 months for consideration of unrestricted Service. Controllers: subject to 12 months of Fit to control only when another suitably qualified controller is on duty and in close proximity (230).</td>
<td>Jun 13</td>
</tr>
<tr>
<td>4.3.2</td>
<td>Pramipexole</td>
<td>All</td>
<td>Not acceptable</td>
<td></td>
<td>May 09</td>
</tr>
<tr>
<td>4.3.2</td>
<td>Cabergoline</td>
<td>Oral</td>
<td>Limited acceptability</td>
<td>When used for hyper-prolactinaemic disorders Aircrew are to be grounded / Controllers unfit controlling for the first 3 months. They are then unfit solo flying / controlling for a further 3 months (codes 060, 063, 230) plus unfit for service outside base areas. After this time a clinically and biochemically stable patient may return to unrestricted Service (although the underlying disorder may require other limitations)</td>
<td>Jun 13</td>
</tr>
<tr>
<td>4.8.2</td>
<td>Varenicline</td>
<td>All</td>
<td>Not acceptable</td>
<td>Aircrew inadvertently prescribed Varenicline are to be grounded for 3 months after cessation (Controllers are “Fit to control only when another suitably qualified controller is on duty and in close proximity” code 230). All should be reviewed by a MAME prior to resumption of normal duties.</td>
<td>Nov 14</td>
</tr>
<tr>
<td>5.3</td>
<td>Terbinafine</td>
<td>250mg po od</td>
<td>Acceptable</td>
<td>Aircrew and controllers are not to undertake flying or controlling duties for 28 days after treatment is started. Aircrew and controllers may recommence flying / controlling duties after 1 month providing they experience no adverse side effects from the medication and have normal LFLTs confirmed before resuming full duties.</td>
<td>Jul 14</td>
</tr>
<tr>
<td>5.6.7</td>
<td>Osletamivir</td>
<td>75 mg po od (prophylaxis dose)</td>
<td>Acceptable</td>
<td>Requires 48 hrs grounding before flying</td>
<td>May 09</td>
</tr>
<tr>
<td>6.3.1</td>
<td>Sitagliptin</td>
<td>All</td>
<td>Limited acceptability</td>
<td>All personnel are to be ‘Unfit service outside base areas’. Aircrew, RPAS and all other controllers are to be ‘Unfit solo’ (060 / 063 / 230)</td>
<td>Jan 16</td>
</tr>
<tr>
<td>6.4</td>
<td>Alendronic acid</td>
<td>10mg po od</td>
<td>Limited acceptability</td>
<td>Aircrew and Controllers are not to undertake flying or controlling duties for 28 days after treatment is started for clinical or biochemical observation as appropriate. (Note: the underlying disorder however may require other limitations e.g. unfit ejection seat aircraft or unfit high Gz).</td>
<td>Jul 14</td>
</tr>
<tr>
<td>6.7.4</td>
<td>Growth Hormone</td>
<td>Trans-dermal gel and patches</td>
<td>Limited acceptability</td>
<td>Individual consideration to correct clinically low levels - discuss with CFMO. Levels to be checked until stable, annually thereafter.</td>
<td>May 09</td>
</tr>
<tr>
<td>6.8.3</td>
<td>Testosterone</td>
<td>Injectable Testosterone</td>
<td>Limited acceptability</td>
<td>Individual consideration - discuss with CFMO. Period of at least 4 wks grounding followed by ‘as or with co-pilot’ until 2 weeks post-second dose. 24 hrs grounding after each injection.</td>
<td>Dec 10</td>
</tr>
<tr>
<td>7.1.1</td>
<td>Mirabegron</td>
<td>All</td>
<td>Not acceptable</td>
<td>Mirabegron is unsuitable for use by Aircrew, Controllers or RPAS operators. It has a greater than 1% chance of symptomatic tachycardia and causes UTIs.</td>
<td>Nov 14</td>
</tr>
<tr>
<td>7.1.1</td>
<td>Oxybutinin</td>
<td>All</td>
<td>Limited Acceptability</td>
<td>When used for urinary urge, frequency or incontinence: Aircrew. The use of oxybutynin in the military aviation environment is not approved other than multi-engine (Air Transport Fleet) aircrew who will be made A3 – “unfit solo”. Only the modified release formulation is permitted and individuals must be grounded for the first 4 weeks and demonstrate no postural drop via a 24 hour tape and 3 independent Blood Pressure readings. Controllers and RPAS operators. Only the modified release formulation is permitted. These groups are unfit controlling / RPAS operation for 1 month and are then to be made fit to control only when another suitably qualified controller is on duty and in close proximity (230) or unfit solo RPAS operator (063) for a further 5 months. Unrestricted Service may be possible after 6 months, subject to CFMO or CA AvMed approval</td>
<td>Nov 14</td>
</tr>
<tr>
<td>7.1.2</td>
<td>Dutasteride</td>
<td>All</td>
<td>Acceptable</td>
<td>Requires 28 days grounding when starting followed by a further 6 months A3 “as or with” (Code 060/063). Unrestricted flying permitted if no significant side effects encountered in this period</td>
<td>Dec 09</td>
</tr>
<tr>
<td>7.1.2</td>
<td>Finasteride</td>
<td>5mg</td>
<td>Not acceptable for controlling aircrew, or flight safety / mission critical crew</td>
<td>Finasteride at 5mg for BPH is acceptable for use by Non flight safety/mission critical crew may use Finasteride. JMES A3 “as or with” (Code 060/063) required.</td>
<td>Dec 09</td>
</tr>
<tr>
<td>Section</td>
<td>Drug</td>
<td>Dose/Route</td>
<td>Acceptability</td>
<td>Notes</td>
<td></td>
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<tr>
<td>13.8.1</td>
<td>Finasteride</td>
<td>1 mg</td>
<td>Acceptable</td>
<td>Finasteride at 1 mg is acceptable for use to treat androgenetic alopecia. Must be subject to 7 days grounding/unfit controlling then cleared fit unrestricted duties by a MAME.</td>
<td></td>
</tr>
<tr>
<td>7.1.2</td>
<td>Tamsulosin</td>
<td>400 mcg po od</td>
<td>For BPH only</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7.4.1</td>
<td>PDE-5 inhibitors:</td>
<td>All</td>
<td>Acceptable</td>
<td>Sildenafil, Tadalafil and Vardenafil are all acceptable for aircrew/controllers. On first use individuals are to be grounded/unfit controlling for 24 hr (Sildenafil and Vardenafil) or 72 hr (Tadalafil). Thereafter:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sildenafil</td>
<td></td>
<td></td>
<td>Generic name</td>
<td>JK trade name</td>
</tr>
<tr>
<td></td>
<td>Tadalafil</td>
<td></td>
<td></td>
<td>Sildenafil</td>
<td>Viagra</td>
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<td></td>
<td>Vardenafil</td>
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<td>Vardenafil</td>
<td>Levitra</td>
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<tr>
<td></td>
<td>Tadalafil</td>
<td></td>
<td></td>
<td>Tadalafil</td>
<td>Cialis</td>
</tr>
<tr>
<td>8.2.4</td>
<td>Interferon</td>
<td>All</td>
<td>Not acceptable</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9.1.3</td>
<td>Hydroxicarbamide (hydroxyurea)</td>
<td>All</td>
<td>RPAS operators only</td>
<td>Following a 12 week observation period, a return to RPAS operations with limitation ‘fit to control when a second controller is in close proximity’ may be considered for those receiving hydroxyurea treatment.</td>
<td></td>
</tr>
<tr>
<td>10.1</td>
<td>Adalimumab</td>
<td>40 mg s/c</td>
<td>Limited acceptability</td>
<td>Individual consideration – discuss with CFMO. A3 L3 limitation anticipated.</td>
<td></td>
</tr>
<tr>
<td>10.2</td>
<td>Febuxostat</td>
<td>All</td>
<td>Limited acceptability</td>
<td>Only to be used for management of chronic gout in patients intolerant of Allopurinol. Monitoring serum urate each 2 weeks until lower third of normal range. Monitor LFTs and eGFR monthly. Continue with prophylactic treatment throughout this period plus cover for 3 months (ish) after optimum serum urate is achieved (a minimum of 6 months prophylactic treatment is required on starting Febuxostat)</td>
<td></td>
</tr>
<tr>
<td>13.7.1</td>
<td>Topical retinoids</td>
<td>Tretinoin</td>
<td>Acceptable</td>
<td>Aircrew may recommence flying duties 1 week after treatment has been initiated providing there are no underlying dermatological sequelae (e.g. acute reactions or integration issues with AEA).</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Isotretinoin</td>
<td>Isotretinoin</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Adapalene</td>
<td>Adapalene</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14.4</td>
<td>Oral typhoid vaccine</td>
<td>Oral</td>
<td>Acceptable</td>
<td>Normal vaccination policy applies (JSP 950 Lift 7-1-1 paragraph 44-46)</td>
<td></td>
</tr>
</tbody>
</table>
LEAFLET 5-19 ANNEX F: THE USE OF CAFFEINE AS A STIMULANT IN AIRCREW

INTRODUCTION

1. Caffeine is one of the most commonly consumed psycho stimulants worldwide, working by suppressing the innate adenosine mediated drive to sleep whilst activating arousal. It has been shown to increase alertness in shift workers and improve the capacity for task performance; however when used in excess caffeine can adversely affect the quantity and quality of sleep, as sleep latency is prolonged and slow wave sleep is reduced.

2. Caffeine consumption from all sources can be estimated to around 70 to 76 mg/person/day worldwide, but reaches 210 to 238 mg/day in the US and Canada and more than 400 mg/person/day in Sweden and Finland, where 80 to 100% of the caffeine intake comes from coffee alone. In the UK, the consumption is as high as in Sweden and Finland, but 55% comes from tea, 43% from coffee, and 2% from colas.

ABSORPTION, DISTRIBUTION AND PHARMACOKINETICS

3. Caffeine absorption from the gastrointestinal tract is rapid, reaching 99% about 45 min after ingestion. The pharmacokinetics are comparable after both oral or i.v. administration of caffeine; however absorption is incomplete when the substance is taken as coffee. Very large doses of caffeine have toxic effects; there is an LD50 of about 200 mg/kg in rats. In patients who have been admitted to hospital due to acute caffeine poisoning, levels of a few hundred micromoles per litre have been recorded. The hydrophobic properties of caffeine allow its passage through all biological membranes: there is no blood-brain barrier to caffeine and the blood-to-plasma ratio is close to unity, indicating limited plasma protein binding and free passage into blood cells. Finally, saliva concentrations of caffeine, which are considered to be a reliable index of plasma caffeine levels, reach 65 to 85% of plasma concentrations.

4. Peak plasma caffeine concentration is reached between 15 and 120 min after oral ingestion and equals 8 to 10 mg/l for doses of 5 to 8 mg/kg. Ingestion of a single cup of coffee provides a dose of 0.4 to 2.5 mg/kg. It can therefore be estimated that this gives a peak concentration of 0.25 to 2 mg/l. For doses lower than 10 mg/kg, caffeine half-lives range from 2.5 to 4.5 h, reduced by 30 to 50% in smokers compared with non-smokers, whereas it is approximately doubled in women taking oral contraceptives. The clearance of caffeine is 155 ml/kg/h in adults.

METABOLISM

5. Caffeine is metabolized by the liver to form dimethyl and monomethylxanthines, dimethyl and monomethyl uric acids, trimethyl- and dimethylallantoin, and uracil derivatives. Many of the metabolic steps may be saturable in humans as the elimination half-life for not only caffeine, but also some of its metabolites, is dose-dependent.

NEUROBIOLOGICAL EFFECTS

6. It is known that caffeine increases the turnover of several monoamine neurotransmitters, including 5-hydroxytryptamine (5-HT) dopamine, and noradrenaline. There is evidence that methylxanthines increase the rate of firing of noradrenergic neurons in the locus ceruleus. It has also been shown that the mesocortical cholinergic neurons are tonically inhibited by adenosine and that caffeine consequently increases their firing rate. It was postulated that this effect is of importance in the electroencephalogram (EEG) arousal following caffeine ingestion. Because dopamine and noradrenaline neurons are also involved in arousal, there is ample neuro-pharmacological basis for assuming that central stimulatory effect of caffeine could be related to inhibition of adenosine A1 receptors.

PRACTICAL CONSIDERATIONS

7. Caffeine is readily available, socially acceptable, and relatively safe. That said, the performance effects of caffeine are variable. In general, the effects of caffeine last 4-6 hours after ingestion. It has been reported that large doses of caffeine (3-6 cups of coffee) can temporarily reverse the performance decrements that follow 48 hours of continuous wakefulness. Research in Australian long-distance lorry drivers has shown an odds ratio of crashing of 0.37 (CI 0.27-0.50) in caffeine users as opposed to controls in
one case-control study. Doses of 100-600 mg are effective in people who do not normally use caffeine. However, caffeine should be used judiciously immediately before its effect is needed. Heavy caffeine users (4-5 cups of coffee or servings of caffeinated drinks) develop tolerance quickly; much larger doses are needed to maintain consistent alerting effects. Sudden caffeine withdrawal can produce adverse effects on performance and mood, and often results in headache. Ingesting large amounts of caffeine regularly can render it ineffective in maintaining alertness. Frequently reported side effects include anxiety, tremor, frequent urination, and upset stomach. These same symptoms can be precipitated by withdrawal of caffeine after prolonged use. Additionally, high levels of caffeine ingestion is a rare cause of palpitations, this irregularity of heartbeat would result in a period of grounding pending the medical investigation required iaw AP1269A Lflt 5-02.

8. The following table illustrates the amount of caffeine in common food products and medication:

<table>
<thead>
<tr>
<th>What?</th>
<th>How much caffeine?</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Instant coffee</td>
<td>60-100 mg/cup</td>
<td>Caffeine content depends on how much you put in your cup.</td>
</tr>
<tr>
<td>Fresh coffee</td>
<td>80-350 mg/cup</td>
<td>Caffeine content depends on:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- The type of beans (‘Robusta’ contains more caffeine than ‘Arabica’)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- The way the coffee is made.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- How strong the brew is.</td>
</tr>
<tr>
<td>Decaffeinated coffee</td>
<td>2-4 mg/cup</td>
<td>The amount of caffeine is usually marked on the package.</td>
</tr>
<tr>
<td>Tea</td>
<td>8-90 mg/cup</td>
<td>Caffeine depends on how strong the brew is.</td>
</tr>
<tr>
<td>Cola drinks</td>
<td>35 mg/250 ml</td>
<td>Often contains a lot of sugar.</td>
</tr>
<tr>
<td>Cocoa and chocolates</td>
<td>10-70 mg/cup</td>
<td>Caffeine contents depends on how strong is the brew and other chemical content in the product.</td>
</tr>
<tr>
<td>Chocolate bars</td>
<td>20-60 mg/200g</td>
<td>Contains a lot of sugar.</td>
</tr>
<tr>
<td>Some prescription and over-the-counter medication</td>
<td>20-100 mg/dose</td>
<td>Medicine for cough and headache and slimming products contain caffeine.</td>
</tr>
</tbody>
</table>

9. For promoting alertness, caffeine can be considered a valuable non-regulated pharmacological fatigue countermeasure. Numerous studies have shown that caffeine increases vigilance and improves performance in sleep-deprived individuals, especially those who normally do not consume high doses. Caffeine (generally in the form of coffee, tea, soft drinks or energy drinks) is already used as an alertness-enhancing substance in a variety of civilian and military flight operations, and it has proven safe and effective. Caffeine is used best for the short-term elevation of cortical arousal; regular use may lead to tolerance and various undesirable side effects, including elevated blood pressure, stomach problems, and insomnia. Caffeine is widely available and affects the nervous system within 15 to 20 min. The effects of caffeine last for about 4 to 5 h and may include a more rapid heartbeat and sharply increased alertness/decreased sleepiness; the effects may last up to 10 h in especially sensitive individuals. There are individual differences in the effects of caffeine on sleep. For some personnel, even small amounts can cause problems sleeping. For others, caffeine has no apparent detrimental effect on sleep. Chronic overuse may also cause dehydration, nervousness, and irritability. Tolerance to cortical arousal occurs with the repeated consumption of caffeine at more than about 200 to 300 mg per day. The modern energy drinks (Appendix 1) can contain significant amounts of caffeine, from 80-400 mg per serving. Personnel should consume caffeine sparingly, and save the arousal effect until they really need it. In the U.S Services this is called “tactical caffeine use.”

165 Caffeine Fact Sheet, NSW Health Centre for Drug and Alcohol, Website 22 Feb 02.
10. Relatively uncontrolled caffeine use is also an option in most circumstances, and the use of caffeine, while not recommended as a primary pharmacological fatigue countermeasure, should continue to be sanctioned. Aircrew should avoid habituation to caffeine and take advantage of the cortical stimulant properties of caffeine when it is needed to help ensure safe operations. More specifically, when aircrews are not suffering from the effects of fatigue, they should limit their total daily caffeine consumption from all sources to 200 to 250 mg per day. Additional doses of caffeine should be used during situations in which fatigue elevates the risk of a fatigue-related error. These situations may include low-workload, long-duration transits over land or water during the predawn hours; approach and landing during the predawn hours; and approach and landing at the end of an extraordinarily long crew duty day. In any given 24-h period, the total amount of caffeine consumed should not exceed 1000 mg. Aircrew should be aware of the 4-6-h half-life of circulating caffeine and pre-plan its use such that post duty day sleep is disturbed minimally by caffeine use.

INFORMATION SOURCES

- ASIC PUB ACS (ASMG) 6000 4 March 2011
- Aviation, Space, and Environmental Medicine x Vol. 80, No. 1 x January 2009
- Fatigue Countermeasures — Caldwell et al.
- USAARL leaders guide to fatigue – 1997
### LEAFLET 5-19 ANNEX F, APPENDIX 1: CAFFEINE CONTENTS OF COMMERCIAL ENERGY DRINKS.

<table>
<thead>
<tr>
<th>Product</th>
<th>Caffeine mg/L</th>
<th>Caffeine/serving</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>5-Hour Energy</td>
<td>2349.1</td>
<td>139 mg (2 fl oz or 59.15 ml)</td>
<td>Does not list the actual amount of caffeine in the product but states “Contains about as much caffeine as a cup of coffee”</td>
</tr>
<tr>
<td>AMP Energy</td>
<td>298</td>
<td>71 mg (8 fl oz or 237 ml)</td>
<td>American Rebel bib</td>
</tr>
<tr>
<td>Bacchus-F</td>
<td>303</td>
<td>30 mg (3.38 fl oz or 100 ml)</td>
<td></td>
</tr>
<tr>
<td>Bawls</td>
<td>223</td>
<td>56 mg (8.45 fl oz or 250 ml)</td>
<td></td>
</tr>
<tr>
<td>Blue Charge</td>
<td>300</td>
<td>300 mg (35.195 fl oz or 1000 ml)</td>
<td></td>
</tr>
<tr>
<td>Burn</td>
<td>320</td>
<td>80 mg (8.3 fl oz or 250 ml)</td>
<td></td>
</tr>
<tr>
<td>Cintron Energy Enhancer</td>
<td>422.83</td>
<td>200 mg (16 fl oz or 473 ml)</td>
<td></td>
</tr>
<tr>
<td>Coca-Cola Blāk</td>
<td>194.43</td>
<td>46 mg (8 fl oz or 237 ml)</td>
<td></td>
</tr>
<tr>
<td>Cocaine (drink)</td>
<td>1120</td>
<td>280 mg (8.45 fl oz or 250 ml)</td>
<td></td>
</tr>
<tr>
<td>Crunk Energy Drink</td>
<td>421.94</td>
<td>100 mg (8 fl oz or 237 ml)</td>
<td></td>
</tr>
<tr>
<td>Duff</td>
<td>338</td>
<td>120 mg (12 fl oz or 355 ml)</td>
<td></td>
</tr>
<tr>
<td>Emerge Stimulation Drink</td>
<td>300</td>
<td>75 mg per 250 ml can</td>
<td></td>
</tr>
<tr>
<td>Enviga</td>
<td>282</td>
<td>100 mg (12 fl oz or 355 ml)</td>
<td></td>
</tr>
<tr>
<td>Euro Shopper Energy Drink</td>
<td>320</td>
<td>80 mg (8.45 fl oz or 250 ml)</td>
<td></td>
</tr>
<tr>
<td>Full Throttle</td>
<td>304</td>
<td>72 mg (8 fl oz or 237 ml)</td>
<td>Fuze Adrenaline</td>
</tr>
<tr>
<td>Glacéau Vitamin Energy</td>
<td>317</td>
<td>150 mg (16 fl oz or 437 ml)</td>
<td></td>
</tr>
<tr>
<td>Hype Energy</td>
<td>320</td>
<td>160 mg (16.9 fl oz or 500 ml)</td>
<td></td>
</tr>
<tr>
<td>Irn-Bru 32</td>
<td>320</td>
<td>32 mg (3.38 fl oz or 100 ml)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>80 mg (8.45 fl oz or 250 ml)</td>
<td></td>
</tr>
<tr>
<td>Kore</td>
<td>400</td>
<td>100 mg (8.45 fl oz or 250 ml)</td>
<td></td>
</tr>
<tr>
<td>Kruidvat Power Booster</td>
<td>320</td>
<td>80 mg (8.45 fl oz or 250 ml)</td>
<td></td>
</tr>
<tr>
<td>Lucozade Alert</td>
<td>320</td>
<td>80 mg (8.45 fl oz or 250 ml)</td>
<td></td>
</tr>
<tr>
<td>Lucozade Sport with</td>
<td>160</td>
<td>16 mg (3.38 fl oz or 100 ml)</td>
<td></td>
</tr>
<tr>
<td>Product</td>
<td>Caffeine Content</td>
<td>Notes</td>
<td></td>
</tr>
<tr>
<td>-------------------------------</td>
<td>------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>Monster</td>
<td>75 mg (8 fl oz or 240 ml)</td>
<td>Sold in 8,12,16,24,32 oz cans, 16 oz Can with two servings per can yields 150 mg caffeine. 32 oz Called &quot;B.F.C.&quot;</td>
<td></td>
</tr>
<tr>
<td>Mother</td>
<td>160 mg (500 ml)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mountain Dew</td>
<td>36 mg (8 oz.)</td>
<td>Sold in 8,12,16,24 oz cans &amp; 12,16,20,24,33.8,50.7,67.6 oz bottles</td>
<td></td>
</tr>
<tr>
<td>Mountain Dew Energy</td>
<td>90 mg (500 mL)</td>
<td>Released in the U.K. in July 2010 and in Ireland in Early 2011. Also available in Sugar-Free and Limited Edition 'Game Fuel' (Citrus &amp; Raspberry) flavours.</td>
<td></td>
</tr>
<tr>
<td>Mountain Dew MDX</td>
<td>47 mg (8 fl oz or 237 ml)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NOS</td>
<td>130 mg (8 fl oz or 240 ml)</td>
<td>Sold in 13.5, 16 and 22 oz containers that contain a total of 219, 260 and 357 mg of caffeine, respectively</td>
<td></td>
</tr>
<tr>
<td>Pepsi Max</td>
<td>46 mg (8 fl oz or 237 ml)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pure!</td>
<td>100 mg (300 ml)</td>
<td>Listed ingredients, apple, cherry, strawberry, lemon and guarana</td>
<td></td>
</tr>
<tr>
<td>Red Bull</td>
<td>77 mg (8 fl oz or 240 ml)</td>
<td>110 calories, 27g Sugar, 28g Carbohydrates, 1g Protein, Vitamins B3= 100%, B5= 50%, B6= 250%, B12= 80%</td>
<td></td>
</tr>
<tr>
<td>Red Rooster</td>
<td>30 mg (3.38 fl oz or 100 ml)</td>
<td>75 mg (8.45 fl oz or 250 ml)</td>
<td></td>
</tr>
<tr>
<td>Relentless</td>
<td>160 mg (16.91 fl oz or 500 ml)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RELOAD</td>
<td>130 mg (11.16 fl oz or 330 ml)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rip It</td>
<td>102 mg (8 fl oz or 240 ml)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rockstar energy drink, original</td>
<td>80 mg (8 fl oz or 237 ml)</td>
<td>2000 mg Taurine (16 fl oz or 480 ml)</td>
<td></td>
</tr>
<tr>
<td>Sentex</td>
<td>80 mg (8.5 fl oz or 250 ml)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shark Stimulation</td>
<td>32 mg (3.38 fl oz or 100 ml)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SoBe Adrenaline Rush</td>
<td>78 mg (8.45 fl oz or 250 ml)</td>
<td>Sold in 250 ml cans.</td>
<td></td>
</tr>
<tr>
<td>Sparks (contains 6% ABV)</td>
<td>87 mg (16 fl oz or 480 ml)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spike Shooter</td>
<td>300 mg (8.45 fl oz or 250 ml)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drink</td>
<td>Calories</td>
<td>Caffeine (mg)</td>
<td>Notes</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>----------</td>
<td>---------------</td>
<td>--------------------------------------------</td>
</tr>
<tr>
<td>Street King (drink)</td>
<td>1200</td>
<td>300 mg (8.45 fl oz or 250 ml)</td>
<td></td>
</tr>
<tr>
<td>Tab Energy</td>
<td>304</td>
<td>72 mg (8 fl oz or 237 ml)</td>
<td></td>
</tr>
<tr>
<td>Urge Intense</td>
<td>150</td>
<td>75</td>
<td></td>
</tr>
<tr>
<td>V (Australia, United Kingdom, New Zealand or Netherlands only)</td>
<td>287</td>
<td>31 mg (3.38 fl oz or 100 ml)[17] 78 mg (8.45 fl oz or 250 ml)[17]</td>
<td></td>
</tr>
<tr>
<td>Vault</td>
<td>196</td>
<td>47 mg (8 fl oz or 237 ml)[18]   70.5 mg (12 fl oz 355 ml) 117.5 mg (20 fl oz or 591 ml)</td>
<td></td>
</tr>
<tr>
<td>XS Energy Drink</td>
<td>334</td>
<td>83 mg (8.45 fl oz or 250 ml)</td>
<td>8 Calories, 0g Sugar, 0g Carbohydrates, 1.5g Protein, Vitamins B3= 100%, B5= 100%, B6= 100%, B12= 4900%, 12 Flavours</td>
</tr>
</tbody>
</table>
LEAFLET 5-20: GENERAL SURGERY

Sponsor: CA Surgery

INTRODUCTION

1. This leaflet is concerned with the assessment and management of personnel with relatively common surgical conditions. A document such as this cannot provide guidance for every surgical eventuality; conditions which are not covered in this leaflet will be dealt with on a case by case basis and in consultation with the President of the Medical Board (PMB). Further advice is available in JSP 950 which should be read in conjunction with this leaflet.

MALIGNANCY

2. Recommendations concerning malignant conditions which may present surgically are covered in Lflt 5-17.

INTRA-ABDOMINAL CONDITIONS

3. **Cholelithiasis.** Symptomatic gallstones will warrant removal. The following limitations apply:
   a. **Recruit.** Candidates with evidence of gallstones or biliary disease are to be graded P8.
   b. **Serving Personnel.** Serving personnel are to be graded P7R until successfully treated and fully recovered from any surgical intervention.
   c. **Aircrew.** Aircrew with evidence of gallstones are unfit to fly. They are to be graded P7R until successfully treated and fully recovered from any surgical intervention.

4. **Acute Pancreatitis.** The following limitations apply:
   a. **Recruits.** A single episode of acute viral or traumatic pancreatitis with complete recovery and no evidence of chronic pancreatitis, or diabetes need not be a bar to entry; however, a history of alcohol induced pancreatitis is to result in an award of P8.
   b. **Serving Personnel.** Patients who have suffered an attack of acute pancreatitis are to be graded E5 for a period of 5 years unless successful treatment of any aetiological factor such as gallstones has been successfully treated and the individual has recovered from such treatment. In this instance the RAF Medical Board (RAF MB) is to state that the permanent JMES may be reviewed at the 5 year point if appropriate.

5. **Permanent Stoma.** The underlying reason for the permanent stoma may dictate the JMES. However, in those who are otherwise fully fit the following advice is to be followed:
   a. **Recruits.** Those with a permanent stoma are to be graded P8.
   b. **Ground Branches and Trades.** Those with a permanent stoma are E3, ‘Unfit for service outside of base areas’.
   c. **Aircrew.** Those with a permanent stoma are to be graded A3, ‘Unfit ejection seat aircraft’ and E3, ‘Unfit service outside base areas’. Their continued fitness to fly in other aircraft types will be decided by the supervising consultant and the PMB.

VARICOSE VEINS

a. **Recruits.** Those with gross varices or ulceration are to be graded P8. Those with minor or successfully treated varicosities can be graded P2.

b. **Serving Personnel.** Asymptomatic varices will not affect grading. Gross or symptomatic varices require referral for surgical opinion, and an appropriate JMES is to be awarded until the individual has recovered from any treatment.

**INGUINAL, FEMORAL AND INCISIONAL HERNIAS**

7. Limitations.

a. **Recruit.** Candidates with untreated hernia are to be graded P8. A soundly repaired hernia will not affect fitness to serve, unless associated with another disqualifying condition.

b. **Serving Personnel.** An appropriate JMES is to be awarded pending surgical opinion. If the hernia is large, or at risk of strangulation, urgent surgical opinion is to be sought. A normal JMES may be awarded to those successfully treated.