BR 1750A

HANDBOOK OF NAVAL MEDICAL STANDARDS

(APPLICATION OF THE PULHHEEMS SYSTEM)

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RECORD OF CHANGES

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FOREWORD

BR 1750A HANDBOOK OF NAVAL MEDICAL STANDARDS (APPLICATION OF THE PULHHEEMS SYSTEM)

1. This BR sets out the Royal Naval Medical Standards as a single Service interpretation of JSP 346 PULHHEEMS – A Joint Service System of Medical Classification.

2. This revision of BR 1750A has sought to update the accuracy and, therefore, improve the use of this publication. The publication may, at first glance, appear unchanged but it is strongly advised that this book is studied assiduously to appraise the reader of any vital changes to the implementation of Royal Naval Medical Standards and application of the PULHHEEMS system.

3. The 2004 revision is effective on receipt or on 30 September 2004, whichever is the later.

4. This publication will be subject to regular review, co-ordinated by the Sponsor (MDG(N) see page ii). All updates, when issued, are to be filed appropriately within the existing binder for BR 1750A and recorded on Pages iii or iv as appropriate.

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THE PULHHEEMS SYSTEM

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CHAPTER 1

THE PULHHEEMS SYSTEM

0101. Introduction

1. The assessment of physical and mental fitness for service in the Royal Navy is based on the system described in JSP 346 PULHHEEMS - A Joint Service System of Medical Classification. Medical examinations are to be made i.a.w. that authority as modified by the instructions contained in this publication.

2. The instructions in JSP 346 are necessarily detailed, being intended to act as a guide, not only to serving Medical Officers but also to the inexperienced examiner who may be called upon to assess the fitness of a recruit for entry to one of the Services.

3. The system of medical classification described in JSP 346 is intended to meet the requirements of all 3 fighting Services. It places emphasis on such Army requirements as ability to march and handle weapons. For Naval purposes, physical fitness must be interpreted in terms of fitness to remain effective afloat under war conditions in any part of the world. PULHHEEMS categories 1, 5 and 6 are not used in the RN. Category P4 is used to denote pregnancy (see Para 0412). Climatic restrictions are to be covered by P3 with an additional caveat.

4. Assessment of fitness for female members of the Services is essentially the same as for men. Allowances must, however, be made for their different physique, as women are unlikely to attain the strength and endurance demanded of men.

5. The tables in Annex A are to act as a guide to the interpretation of the degrees of each quality.

0102. Medical Officers Authorised to Review Routine PULHHEEMS Assessments

1. All Service Medical Officers are competent to review the routine PULHHEEMS assessments of Officers of Commander rank and below, and of all Ratings.

2. The routine PULHHEEMS assessment of Flag Officers and Captains, Royal Navy (and equivalent Royal Marine and QARNNS ranks) is to be carried out by the Principal Medical Officer of the ship or establishment who may seek consultant advice as necessary.

0103. Validity of Routine PULHHEEMS Assessment

1. The routine PULHHEEMS assessment of an Officer or Rating is valid, i.e. ‘in-date’, providing the last assessment was made not more than 10 years previously until age 30, not more than 5 years previously between age 30 and age 50, and every 2 years thereafter.

2. Personnel in certain specialist branches or duties, requiring PULHHEEMS assessment or other special medical examination, health screening and counselling are given in Part II of this publication.

0104. Recording PULHHEEMS Assessments

1. Routine assessments of fitness are to be recorded as a PULHHEEMS profile using the functional interpretation of degree of each quality at Annex A.

2. Whenever a routine PULHHEEMS assessment is made, the medical examination is to be recorded on F Med 143 and the PULHHEEMS profile on F Med 4.

3. Aircrew, diving and submarine medical examinations, when combined with health counselling, will serve the purpose of a routine PULHHEEMS examination.

4. F Med 1 is to be used for entry, release and Naval Service Medical Board of Survey (NSMBOS) examinations.

0105. Definition of 'Officer' and 'Rating'

Unless the text specifically states otherwise, the terms 'Officer' and 'Rating', when used in this BR, are to be taken to include corresponding ranks, rates, and other ranks of the RN, RM, RNR, RMR, RFR, QARNNS, QARNNS(R) and attached personnel from other Services serving with these arms.

0106. Medical Standards on Entry and Assessment After Entry

1. The standards of medical fitness laid down in JSP 346 and as amplified in this book are to be applied with discretion in that clinical judgement is to allow some latitude in the interpretation of these rules. Specialist advice should be sought where appropriate. Following such specialist advice, authority to implement any waiver is to be sought from the Medical Director General (Navy) (MDG(N)).

2. Apart from eyesight standards and such matters of precise measurement, a candidate with a borderline medical disability, who is well motivated and otherwise acceptable, should not be barred from entry. However, Final Examining Medical Officers are to be especially vigilant when examining potential recruits for direct entry to the Submarine Service and attention is drawn to the requirements in Chapter 9.

3. The possibility that a few cases may have to be discharged on medical grounds at a later date is understood and is acceptable. Where doubt exists as to the interpretation of this policy, the individual case should be referred to MDG(N) for decision.

4. In the case of serving personnel of the Royal Navy, the PULHHEEMS profiles at Appendix I are to act as a guide to the standard of physical fitness required for each category. In certain cases, it may be found that there are disabilities present which call for a lower assessment than has been laid down. In these cases the discretion of the medical examiner or board is to be exercised, and disposal will depend on whether the individual is, despite his disability, fit to perform his full duties at sea in any part of the world.

5. PULHHEEMS assessment of a serving Officer or Rating which fails to correspond with the profile of a particular branch or category is not necessarily an indication for rejection or invaliding (see Para 0404).

6. The profiles are intended to be a guide to the physical requirements for entry, re-engagement, promotion or advancement. If the assessment in the case of any individual is valid i.a.w. Para 0103, and corresponds to that laid down, no further medical examination is required unless specifically demanded by individual paragraphs in this publication.

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ANNEX A TO CHAPTER 1

FUNCTIONAL INTERPRETATION OF DEGREES OF EACH QUALITY

(a) **Male**

Degree	**P**	**U**	**L**	**HH**		**EE**	**M**	**S**
Factors to be considered	Age, build, strength and stamina.	Strength, range of movement and general efficiency of upper arm, shoulder girdle and back.	Strength, range of movement, and efficiency of feet, legs, pelvis-girdle and lower back.	Audiometrically assessed acuity of hearing. The sum of hearing loss at: FREQUENCIES		Visual acuity. A simple record of visual acuity which has no relationship with any other quality. Eye disease might affect the P quality.	Mental capacity	Emotional stability. Personality.
				Lower	Upper			
2	Fit for full sea and field service in any part of the world. Able to withstand exposure and fatigue for normal periods. *Fit for general (including commando) service compatible with age. Capable of standing moderate degrees of exposure.	Muscle power average. Must be able to handle arms and do heavy manual work. *Capable of lifting his own weight off the ground. Full use of both hands and able to fire a rifle (rapid).	Can run, climb, jump, crawl and perform all kinds of manual labour. Capable of getting about in a ship with average ability and safety under war conditions. *Capable of marching under normal conditions and of doubling along road (and able to fight afterwards).	84 dB or less	123 dB or less	Not less than 6/9	Ability under Naval conditions to learn to perform successfully all his duties. Includes those who can be trained as tradesmen and specialists.	Emotionally fit to perform Naval duties adequately under Service conditions in any part of the world. No fear of reasonable heights.
				Acceptable practical hearing for Service purposes.				

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Degree	P	U	L	HH		EE	M	S
3	Fit for restricted service in any part of the world. Restrictions on service to be stated in PULHHEEMS medical box, e.g. 'service in a ship carrying a Medical Officer'. *Restricted service; not able to stand exposure.	Must be capable of less severe forms of manual work than U.2. Some restriction of muscle power or range of movements. Must be able to wear breathing apparatus and undertake basic NBCD for moderate periods. *Capable of using a pick and shovel for moderate periods. Must be able to use weapons for defensive purposes.	Capable of walking 5 miles in an emergency. Able to stand for periods of at least 2 hours. Some restrictions of muscle power or range of movements. Must be able to undertake basic NBCD/ firefighting for moderate periods. *Capable of marching 5 miles along roads in an emergency. Able to stand for 2 hours.	150 dB or less	210 dB or less Impaired hearing. The hearing level at which most personnel are unfit for entry to the Service.	Not less than 6/12	Ability under Naval conditions to learn to perform simple tasks without supervision.	Although having a history of emotional instability is at present well adjusted and fit to serve in any part of the world, ashore or afloat
7	Fit to serve in a restricted capacity in home shore or harbour duties.	Capable of sedentary and routine work of a lighter type. (Includes personnel fit for limited shore service). May serve overseas in base area with access to Service hospital.	Able to walk 2 miles per day at own pace. Can stand for moderate but not prolonged periods. Unfit for sea service. May serve overseas in base area with access to Service hospital.			Not less than 6/60	Mental capacity renders him capable only of performing simple duties under supervision, including a minimum of responsibility. Service in UK only.	Emotionally fit to perform Naval duties adequately under living conditions favourable to the individual ashore in the UK.
8	**PERMANENTLY UNFIT FOR NAVAL SERVICE**							

** Royal Marines only.*

(b) **Female**

Degree	**P**	**U**	**L**	**HH**		**EE**	**M**	**S**
Factors to be considered	Age, build, strength and stamina.	Strength, range of movement and general efficiency of upper arm, shoulder girdle and back.	Strength, range of movement, and efficiency of feet, legs, pelvis-girdle and lower back.	Audiometrically assessed acuity of hearing. The sum of hearing loss at: FREQUENCIES		Visual acuity. A simple record of visual acuity which has no relationship with any other quality. Eye disease might affect the P quality.	Mental capacity	Emotional stability. Personality.
				Lower	Upper			
2	Fit for duties involving an average degree of physical stamina, and other work involving lifting and prolonged standing or walking in any part of the world.	Fit for duties involving lifting of fairly heavy weights, and able to perform duties involving a considerable range of movements of the upper extremities.	Must be capable of work involving being on the feet most of the day. Normal amount of marching and drill required.	84 dB or less	123 dB or less	Not less than 6/9	Ability under Naval conditions to learn to perform successfully all her duties. Includes those who can be trained as tradeswomen and specialists.	Emotionally fit to perform duties adequately under any conditions in any part of the world.
				Acceptable practical hearing for Service purposes.				
3	Fit for duties of a light nature with reasonable accommodation and messing facilities. Restrictions on service to be stated in PULHHEEMS medical box, e.g., ‘temperate climates only’.	Fit for light duties or those not requiring full strength or range of movements of upper extremities. Must be able to wear and use breathing apparatus and undertake basic NBCD for moderate periods.	Only the normal amount of marching and drill. Must be able to undertake basic NBCD/ firefighting for moderate periods.	150 dB or less	210 dB or less	Not less than 6/12	Ability under Naval conditions to learn to perform simple unskilled tasks.	Although having a history of emotional instability is at present well adjusted and fit to serve in any part of the world in a role which is not primarily a fighting one.
				Impaired hearing. The hearing level at which most personnel are unfit for entry to the Service.				
4	**Pregnancy**							

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Degree	P	U	L	HH	EE	M	S
7	Capable of performing useful duties within the limits of her disabilities. Not likely to break down if suitably employed and allowed reasonable living conditions, time for regular meals and rest. Service in the UK only.	Capable of sedentary and light duties not involving lifting or carrying of weights or full manual dexterity and within the limits imposed by her disability. Unfit for sea service.	Must be able to walk at least a mile in her own time and be capable of useful sedentary employment without fear of breakdown. Unable to march or do drill. Unfit for sea service.		Not less than 6/60	Because of low mental capacity is capable only of simple unskilled duties under supervision including a minimum of responsibility. Service in UK only.	Emotionally fit to perform naval duties adequately under living conditions favourable to the individual in the UK.
8	**PERMANENTLY UNFIT FOR NAVAL SERVICE**						

CHAPTER 2

EXAMINATION ON APPLICATION TO ENTER AND RE-ENTER

CONTENTS

ANNEX

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CHAPTER 2

EXAMINATION ON APPLICATION TO ENTER AND RE-ENTER

0201. Examination on Application to Enter or Re-enter - Officers

1. PULHHEEMS assessment and, where indicated i.a.w. Para 0207, large plate chest X-ray examination, is carried out at the Central Air and Admiralty Medical Board (CAAMB) on the following applicants: (Cadets, Bursars, Scholars, Graduates, Naval College entries, Medical, Dental and Chaplain Branches):

a. Royal Navy.

b. Royal Marines.

c. QARNNS.

2. Aircrew candidates are to have PULHHEEMS assessment, initial flying medical, large plate chest X-ray examination and a flying medical category assigned at CAAMB.

0202. Examination on Application to Enter or Re-Enter - Ratings (Including QARNNS)

1. PULHHEEMS assessment is to be made by a Final Examining Medical Officer (FEMO) or by a Naval Medical Officer appointed to act as FEMO i.a.w. BR 689 - Recruiting Instructions.

2. **Royal Marines**. PULHHEEMS assessment is to be made by a FEMO.

0203. Re-Examination After Delay in Entry of Ratings

1. **Less than 3 months.** Rating candidates whose entry has been delayed for a period not exceeding 3 months from the date of their original PULHHEEMS assessment may be accepted without re-examination at the discretion of the FEMO.

2. **Three months to 1 year.** Rating candidates whose entry has been delayed for more than 3 months but not more than 1 year from the date of their original PULHHEEMS assessment will be accepted without further examination by the FEMO on production of a health certificate signed by the candidate, or by a parent/ guardian if he is less than 18 years, stating that no illness or injury has occurred meanwhile. The health certificate is to be attached to the candidate's F Med 1.

3. **More than 1 year.** Rating candidates whose entry has been delayed for more than 1 year are to be re-examined by a FEMO or, if this is impracticable, by the Medical Officer of the Rating's new entry establishment who is to act in the capacity of a FEMO.

4. **Delay due to medical reasons**:

a. **Less than 3 months**. Rating candidates whose entry has been delayed for medical reasons may, if the delay is less than 3 months from the date of their original PULHHEEMS assessment, be accepted without re-examination at the discretion of the FEMO in the light of the candidate's doctor's report.

b. **More than 3 months.** If the delay exceeds 3 months, the candidate is to be re-examined by the FEMO or, if this is impracticable, by the Medical Officer of the candidate's new entry establishment who is to act in the capacity of FEMO.

0204. Disabilities Discovered at Time of Application to Enter

1. Disabilities which are cause of rejection are given in JSP 346. This sets out the minimum generic standards for entry to HM Forces. Higher standards may be applicable for specific branches, as detailed in subsequent chapters and applicable PULHHEEMS categories.

2. **Tuberculosis.** JSP 346 advises that candidates with active tuberculosis are graded P8. Pre-entry screening should be aimed at identifying potential recruits with symptoms suggesting tuberculosis for whom a chest X-ray is obligatory. Those with an abnormal chest X-ray are unfit for service and should be referred back to their General Practitioner. Those with a normal chest X-ray may be accepted for service by FEMOs or the President CAAMB. The procedures for re-screening of recruits at the new entry establishment are at Annex A.

0205. Dental Standards for Entry or Re-Entry

1. Recruits and re-entrants are not usually rejected for reasons of dental decay, or other oral conditions that are treatable by a general dental practitioner. The standards of dental fitness for all personnel are as follows:

a. The possession of an acceptable and functional occlusion from either the natural teeth, or retentive and well-fitting prostheses.

b. Healthy gums and oral mucosae, with no obvious soft tissue disease or deformity.

2. If any of the following conditions are found by the examining Medical Officer, F Med 1 is to be annotated 'Subject to dental re-examination'. The opinion of a Service Dental Officer is to be obtained as to suitability for recruitment before the P assessment is made:

a. Untreated cleft-lip and/ or palate, or any gross abnormalities of the dento-facial complex and associated soft tissues, both congenital and acquired, that may affect the wearing of protective headgear or respirators.

b. Gross oral neglect with active dental caries and/ or severe periodontal disease.

3. Due to the proven difficulties of continuing orthodontic treatment during the initial training period, potential new entrants who are undergoing active orthodontic treatment with fixed or removable devices will normally be expected to complete the course of treatment prior to entry. However, active orthodontic treatment is not a contra-indication to recruitment and orthodontic appliances are not to be removed to facilitate entry. If the orthodontic treatment cannot be completed prior to entry the orthodontic appliance is to be stabilised as much as possible. The civilian orthodontist is to arrange the transfer of case records to the Consultant Advisor in Orthodontics for appropriate continuing care.

4. If the ongoing orthodontic treatment is unusually complex or involves a multidisciplinary approach (e.g. oral surgery and/ or complex restorative dentistry), the potential recruit is to be examined by a Service consultant in orthodontics who will decide on a candidate's acceptability.

0206. Examination on Entry - RN, RM and QARNNS Ratings

1. Recruits who enter within 1 year of examination by a FEMO are, on arrival at their new entry establishment, to be examined and their medical documents scrutinized by the Medical Officer of that establishment.

2. The examination is to be limited to determining whether any condition has arisen since the FEMO's examination which renders the recruit unfit for service or whether any condition noted by the FEMO has so materially worsened as to render the recruit unfit for service. In either case, action is to be taken i.a.w. Para 0208.

3. The examination is not to be used to confirm or refute the FEMO's decision as to fitness for entry. The FEMO's decision is final and is not to be questioned by the Medical Officer of the new entry establishment except in the following circumstances:

a. Recruits whose entry has been delayed for medical reasons for more than 3 months from the date of their original PULHHEEMS assessment and who have not been re-examined by a FEMO are to be re-examined by the Medical Officer of the new entry establishment who is to assume the capacity of a FEMO.

b. If, during training, a recruit reports sick on his own initiative with a complaint already noted and accepted by the FEMO, or if he is referred by the Executive because he appears unable to carry out his duties as a result of such a complaint, then the Medical Officer of the new entry establishment is no longer bound by the FEMO's decision and may deal with the case as appropriate under current instructions.

c. If, during training it becomes obvious that the recruit is suffering from a medical condition that was unknown to the FEMO, or where there is obvious error in the initial medical examination. In both these cases the criteria for discharge will be that the recruit no longer satisfies the minimum standards for retention in service in a P2 category rather than the entry requirements. Failure to declare will be dealt with under the fraudulent entry regulations.

4. Recruits who have not been examined or re-examined by FEMO within the last year are to be re-examined by the Medical Officer of the new entry establishment who is to assume the capacity of a FEMO.

5. All recruits are to have their audiometry repeated as soon as possible after entry and the record retained in the F Med 4 for comparison with future readings.

6. If there is doubt about how a case should be handled advice should be sought from MDG(N).

0207. Chest X-Ray on Entry

1. Routine chest X-ray on entry is only mandatory for aircrew and direct entry submariners.

2. It is no longer a mandatory requirement for other personnel on entry except where clinical examination suggests cardiorespiratory disease or abnormalities.

0208. Disabilities Discovered During Phase 1 Training

1. Ratings or other ranks who during their initial Phase 1 training, are found to be unfit under the terms of Para 0206, are to be discharged from the Service on medical grounds. This will normally be the first 8 weeks of training for RN ratings, and the first 15 weeks for RM recruits; however, the time may be extended due to backclassing, rehabilitation, and leave. Discharge under this mechanism must be effected within the 1st year of joining after which a Naval Service Medical Board of Survey will be required. It should not be delayed pending final diagnosis of the condition. Full details of each case dealt with under this instruction are to be reported to MDG(N).

2. Ratings and other ranks discharged under the Phase 1 training rule are to be medically categorized either:

   a. P0(R) if the condition resulting in discharge is potentially remediable either with the passage of time or specific treatment, personnel may be considered for re-entry if the condition resolves, subject to approval by MDG(N).

   b. P0(P) for those personnel with conditions leading to discharge which are considered to be irremediable, i.e. below Naval employability standards.

3. Recruits who are considered to be unfit for service in circumstances other than those discharged under the mechanisms above should be fully investigated, and if necessary brought forward for survey and invaliding. In other circumstances it may be more appropriate to consider discharge ‘unsuitable’, or, where information has been withheld at the initial medical examination, as ‘fraudulent entry’.

0209. Examination on Application to Re-Enter - Re-Entry Within 28 days

1. Ratings discharged from the Service who request to re-enter and who are otherwise acceptable and able to re-join within 28 days of their release, are to be examined by the Medical Officer of the establishment at which they re-enter.

2. The examination is to determine whether any gross condition has arisen since their release medical examination which renders them unfit for further service, in which case their re-entry is to be cancelled.

3. The release F Med 1 of Ratings who are found to be fit are to be certified 'discharge cancelled, fit to continue service' against the Medical Officer's signature and the date, and retained in the Rating's F Med 4.

0210. Examination on Application to Re-Enter - Re-Entry Within 5 years

Ratings discharged from the Service who request to re-enter within 5 years of their release are to be examined by a FEMO. The applicant's previous F Med 4 and enclosures are to be obtained and scrutinized by the FEMO before this examination. The FEMO is to exercise his discretion and accept candidates with minor defects who may be desirable from the Service point of view. No applicant who suffers from a chronic complaint is to be accepted.

0211. Examination on Application to Re-Enter - Re-Entry After 5 years

Ratings discharged from the Service who request to re-enter more than 5 years after their release are to be treated as new entries, except that their previous F Med 4 and enclosures are to be obtained and scrutinized by the FEMO before they are examined.

0212. Application for Re-Entry After Invaliding

Ratings discharged from the Service by invaliding who request to re-enter are not to be examined until MDG(N) approval has been obtained and the candidates previous F Med 4 and enclosures together with a copy of the invaliding medical report have been scrutinized by the FEMO.

0213. Examination on Re-Entry

Ratings who re-enter the Service after examination by a FEMO are to be examined by the Medical Officer of the establishment at which they enter i.a.w. Para 0206.

0214. Royal Fleet Reserve

No medical examination is required as a PULHHEEMS assessment will have been carried out when the Rating transfers from the Active to Reserve Service.

0215. RNR, RMR, RNXS, QARNNS(R)

A PULHHEEMS assessment is to be carried out at the time of enrolment. F Med 1 is to be used and retained in the medical envelope F Med 4.

0216. Minimum Standards of Age and Height Measurements on Entry

1. The minimum height standard for both men and women joining the Royal Navy is 151.5cm, irrespective of age on entry. Candidates who do not meet this requirement should be referred to the Institute of Naval Medicine to undertake a reach test. This minimum height also applies to Aircrew; however, candidates should be advised that they may be excluded from some specialisations on the basis of anthropometric measurements which will be taken as part of the aircrew medical.

2. Aircraft Handlers are required to have a minimum height of 166 cm and a maximum of 193 cm.

3. The correlation of height and weight of men and women shown in Appendix II may be used for guidance. Weight should be measured with a minimum of clothing and height without shoes. Attention is also drawn to JSP 346 Para 0206.

4. There is a minimum weight standard for entry to the Royal Marines of 60 kg.

0217. Special Tests on Entry - Sickle Cell Disorders, Thalassaemia Trait and G6PD Deficiency

1. All new entrants of tropical African, Mediterranean, Middle Eastern, Indian or West African origin or descent, are to be screened for sickle cell disorders, thalassaemia trait and G6PD deficiency.

2. Screening of Officer candidates should be carried out at the Central Air and Admiralty Medical Board. Screening of Ratings and Royal Marines should be carried out, after entry, at new entry training establishments.

3. Results of screening are to be annotated on the F Med 4. Positive cases of sickle cell disorder and thalassaemia trait are to be referred to an appropriate hospital for further evaluation by a haematologist.

4. Sickle cell disease is usually incompatible with military service. Sickle cell trait is currently a bar to service in the Royal Marines and as Aircrew. Symptomless sickle cell trait is no longer a bar to diving or service in submarines. Cases of doubt advice should be sought from DOH(N).

5. Thalassaemia major is incompatible with military service. Thalassaemia trait, however, is not usually a bar to any duties and if detected access to appropriate counselling should be offered in the NHS.

6. G6PD deficiency is not a bar to any duties, but its diagnosis and documentation are important because of the recognized causes of exacerbation which may be encountered during service.

0218. Blood Grouping

Arrangements are to be made for all new entrants to be blood grouped on joining the Service. A notation of blood group is to be made in the space provided on F Med 4, recorded on the PHCIS record and on the ID Card; blood group is also to be marked on Naval Identity Disc 21170 as required by BR 2170 Volume 1, Para 1009.

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ANNEX A TO CHAPTER 2

SCREENING FOR TUBERCULOSIS

The following procedures, based on recommendations of the British Thoracic Society, will be applied to Officer and Rating entrants to Naval service:

a. Pre-entry screening is aimed at identifying potential recruits with symptoms suggesting tuberculosis for whom a chest X-ray is obligatory. Those with an abnormal chest X-ray are unfit for service and should be referred back to their General Practitioner. Those with a normal X-ray may be accepted for service by FEMOs (see Figure 2A-1 below).

b. On entry all recruits will be re-screened for the presence of suspicious symptoms using the questionnaire at Figure 2A-2. BCG status will also be ascertained by the entry establishment. Only the presence of a BCG scar will be taken as evidence of previous immunization. No further action is required for those recruits who are asymptomatic and have satisfactory evidence of immunization. Recruits who are found to have suspicious symptoms at re-screening should have a chest X-ray and be referred to a Naval chest physician who will advise on the subsequent management of the case.

c. Asymptomatic recruits with no evidence of previous immunization (i.e. scar) should be Heaf tested and the following action taken:

Heaf Grade 0/1: Give BCG. The site should be inspected after 6 weeks. In the absence of a satisfactory scar the Heaf Test should be repeated and, if negative, a further vaccination should be given.

Heaf Grade 2/4: Recruits should be given the result and advised to report the development of suspicious symptoms. The Heaf Test result should be recorded on F Med 4.

d. Fs Med 4 on all recruits should be annotated clearly to show the action taken in each case. This will enable retrospective audit of the quality of this policy to be conducted.

e. Entry establishments will keep records, to be submitted annually at the end of December to the Consultant Adviser in Communicable Disease Control (CACDC). The following data are required:

(1) Number of recruits by BCG status.

(2) Number of recruits given Heaf Tests and the results.

(3) Number of recruits given BCG and the number and degree of adverse reactions experienced which led to a disruption of training.

(4) Numbers referred to a chest clinic/ physician.

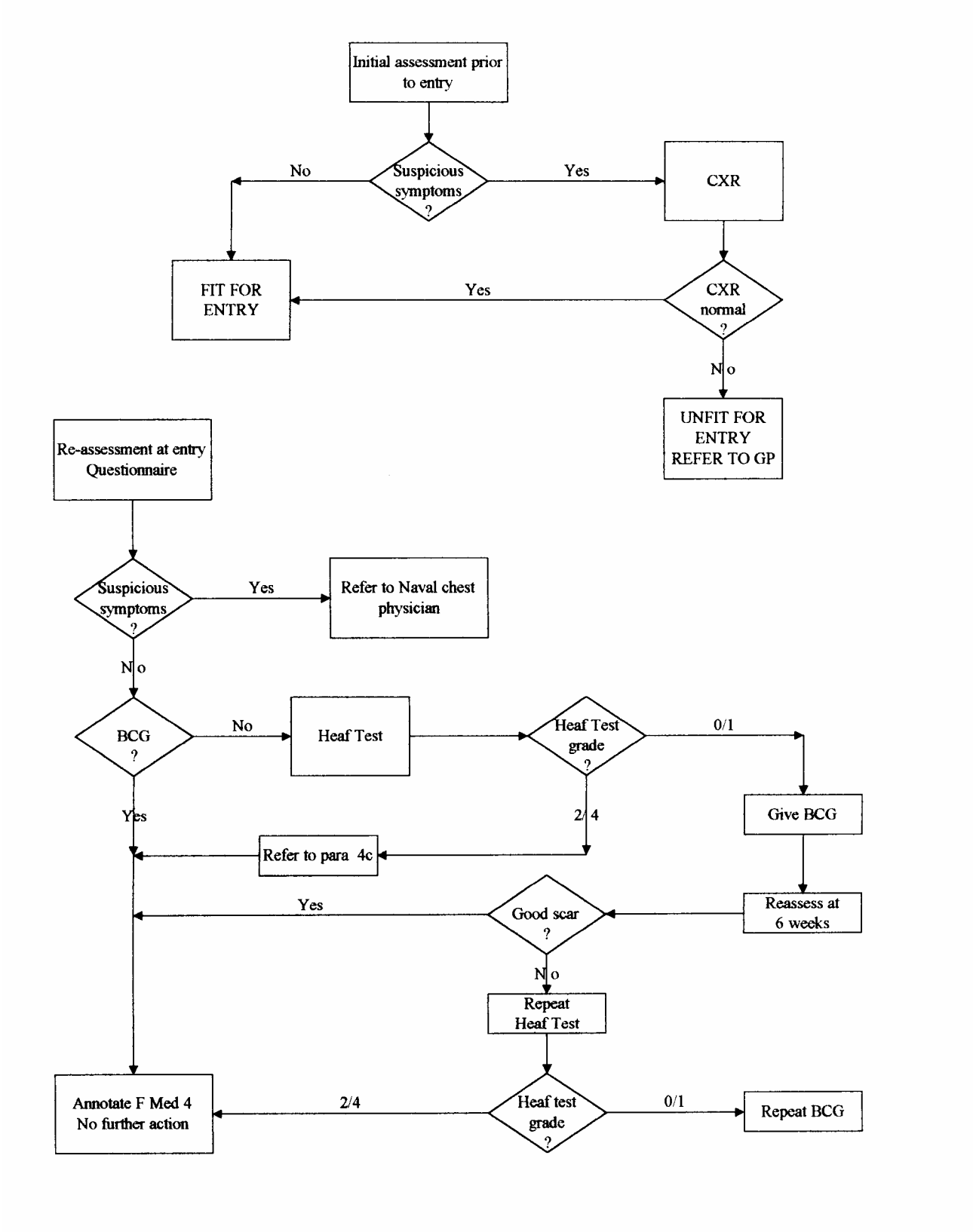

Figure 2A-1. TB Screening – Potential Recruits

Name..... Initials.....

Service Number.....

Rank/ Rate.....

This questionnaire is to find out if there has been any major change in your health since your recruiting medical examination:

1.	Do you feel in good health?	Yes/ No
2.	Is your weight steady?	Yes/ No
3.	If no, are you gaining or losing weight?	Gaining/ Losing
4.	Do you feel listless, weak or tired?	Yes/ No
5.	Have you a cough or wheeze?	Yes/ No
6.	Do you produce sputum?	Yes/ No
7.	Have you ever produced blood or blood stained sputum?	Yes/ No
8.	Do you sleep well?	Yes/ No
9.	Do you suffer from night sweating?	Yes/ No
10.	Is there any other factor about your health that should be considered? Please specify.	

Figure 2A-2. Health Questionnaire - TB

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CHAPTER 3

ROUTINE MEDICAL AND DENTAL EXAMINATIONS DURING SERVICE

CONTENTS

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CHAPTER 3

ROUTINE MEDICAL AND DENTAL EXAMINATIONS DURING SERVICE

0301. Scrutiny of Medical Records

1. The medical and dental records of Officers and Ratings are to be scrutinised (to check the current PULHHEEMS profile, vaccinations and other outstanding medical needs) on the following occasions:

a. On joining a ship or establishment.

b. On notice of re-appointment or draft.

2. All outstanding medical needs are to be followed up and an examination is to be carried out if:

a. The PULHHEEMS assessment is not valid, i.e. not in-date.

b. The notice of re-appointment or draft is to the Submarine Service.

0302. Frequency of Routine PULHHEEMS and Counselling

1. The routine PULHHEEMS assessments of all serving and reserve personnel are to be reviewed at the age of 30 years, then at 5 yearly intervals until the age of 50 years, and every 2 years thereafter. A health screening and counselling programme is to be carried out at the same time.

2. Personnel who undergo special medical examinations at a frequency no less than in Sub-Para 1 above, and in which an F Med 143 is completed, may have their PULHHEEMS assessments based upon such examinations and do not require additional examinations.

3. Audiometry is to be repeated on all personnel 1 year after entry and thereafter i.aw. the Hearing Conservation Programme (see Para 0608) or in conjunction with routine PULHHEEMS protocol.

0303. Frequency of Chest X-Ray During Service

Routine periodic chest X-ray is now only required for:

a. **Submariners, Aircrew and Service and sports divers** i.a.w. the appropriate chapters in this publication.

b. **Classified asbestos workers**. As required under the Control of Asbestos at Work Regulations 1987 and subsequent amendments (advice may be taken from the local Naval Medical Officer of Health (NMOH)).

0304. Personnel from Other Services

1. Personnel from other Services serving with the Royal Navy or Royal Marines are subject to the conditions of Paras 0301, 0302 and 0303**.**

2. Foreign nationals of countries where clinical examination suggests cardiorespiratory disease or abnormalities are to have a chest X-ray on joining unless it is known that they have recently had a satisfactory X-ray examination.

0305. Frequency of Cervical Cytology Screening

1. **Age and frequency of screening**. All women between the ages of 20 and 64 are to be invited to attend for a cervical smear every 3 years. Additionally, women under 20 years of age who are, or have been, sexually active may be invited to participate in the programme. Women who have had a hysterectomy, and for whom there is no indication for vault smears, no longer require screening. Prior Notification Lists (Pre-lists) of women identified as due call/ re-call from the central database will be issued by Warwickshire Health Authority (WHA) each month. It is the responsibility of medical centres to determine which of these patients require call/ recall notices.

2. **Additional screening**. As long as the last smear was taken within the past 3 years and was negative, additional cervical screening is not required unless clinically indicated. The following situations do not constitute clinical indications for additional screening:

a. Repeat smear 1 year after first smear.

b. Insertion of an IUCD.

c. Starting/ taking oral contraceptives or HRT.

d. Pregnancy.

e. Infection or discharge.

f. Multiple sexual partners.

g. Heavy smoking.

h. Family history of cervical cancer.

3. **Opportunistic screening (Chlamydia)**. Young sexually active men and women are at risk from chlamydial infection that may be asymptomatic in females, but carries a significant risk of causing infertility. Smear takers may wish to discuss this with women and consider screening for chlamydial infection. If so, the local microbiology laboratory should be consulted and specimens sent in accordance with locally agreed procedures.

4. Details of administrative procedures are to be found in BR 1991.

0306. Fitness for Command Courses

1. In general terms if a Serviceman is in medical category P2 and in date for PULHHEEMS and RNFT he can be regarded as fit to proceed on command course. The requirement to be within weight limits has been superseded by the need to be fit for task. Medical officers may be required to certify this fitness before the individual proceeds on course as part of the pre-joining documentation.

2. If an individual is permanently unfit for the full course, but may be fit for a modified course missing out certain physical elements, they should be referred to the President Naval Service Medical Board of Survey where consideration will be given to placing them in medical category P2Z (which has replaced P2U3 and P2L3). Personnel in temporary downgraded medical categories will not normally be eligible for such courses.

3. Fitness for modified Royal Marine Command Courses requires full Medical Board of Survey referral.

0307. Fitness for Other Service Courses/ Activities

1. Many courses involving physical activity require medical certification of fitness. A medical form should normally be distributed with pre-joining instructions and should be explicit about what medical standards are required although in many instances it will be limited to confirmation of current MedCat status.

2. If no form is supplied by the candidate, the guidance may be sought from Director of Health (Navy) (DOHN) at the contact point in Para 1206. Alternatively, information may be sought from the sickbay of the sponsor organisation for the specific course.

0308. Ratings' Medical Fitness for Promotion or Advancement

A valid PULHHEEMS assessment, which corresponds with the profile for the branch concerned, is to be accepted as satisfactory evidence of fitness for advancement and promotion.

0309. Advancement/ Promotion in a Temporarily Reduced Category

1. Any personnel with a temporary PULHHEEMS assessment below the profile for his branch or specialised duties, who is recommended and due for advancement, is to be given a special medical examination. If the Medical Officer can certify, after specialist consultation if necessary, that the Rating may reasonably be expected to reach the required medical standard within 6 months, he may be advanced.

2. In cases where the Medical Officer/ specialist/ consultant does not consider that the Rating will reach the required medical standard within 6 months, consideration is to be given to refer the Rating for Naval Service Medical Board of Survey (NSMBOS) i.a.w. BR 1991 Chapter 7.

0310. Advancement/ Promotion in a Permanently Reduced Category

1. Personnel can only be assigned a permanently reduced PULHHEEMS category on the recommendation of a NSMBOS and can only be retained in Service with the approval of the Royal Naval Medical Employability Board (RNMEB). As part of this process the individuals suitability for advancement, taking into account their disability, is considered.

2. Any personnel with a permanently reduced PULHHEEMS category below the profile for his branch or specialised duties, who is due for advancement/ promotion is to be given a special medical examination. The examining Medical Officer is to review any conditions set out by the RNMEB:

a. **Personnel retained with restricted advancement/ promotion**. Personnel retained by RNMEB on condition of restricted advancement will not normally be advanced unless the Medical Officer, after specialist consultation if necessary, considers that the condition for which the individual was boarded has improved significantly. All such cases are to be referred back to NSMBOS.

b. **Personnel retained with full advancement/ promotion prospects**. Personnel retained by RNMEB with full advancement prospects may be advanced provided their condition has not deteriorated since their NSMBOS. Personnel found unfit for advancement under these conditions are to be referred back to NSMBOS.

0311. Medical Fitness for Promotion to Warrant Officer

Evidence of medical fitness may be based on a scrutiny of the candidate's last routine PULHHEEMS provided the last assessment is not more than 1 year old. If the candidate's last PULHHEEMS is older than 1 year or does not conform to the requirement of his specialisation, a special medical examination is to be made to determine the candidate's fitness for promotion.

0312. Medical and Visual Fitness for Promotion to Officer

1. RN Upper Yardmen (UY) and RM Corps Commission (CC)Candidates

a. Candidates for UY and CC must be category P2 when they appear before the Admiralty Interview Board (AIB). Unless a PULHHEEMS assessment was made within the last 12 months, a PULHHEEMS assessment is to be made before the candidate appears before the AIB. A certificate to this effect is to be completed at section 8c RN Form S3300c.

b. Before CW papers are raised all candidates are to be examined by an optician for refraction, which is to include Uncorrected and Corrected Visual Acuity:

(1) Medical Centres are to forward the optician's report accompanied by the candidates F Med 4 and F Med 7 to the Central Air and Admiralty Medical Board (CAAMB), requesting a decision be made on the specialisations the candidate is visually fit for. Appropriate wording for the F Med 7 would be:

'This Upper Yardman candidate for "……" specialisation is referred for assessment of his/ her visual fitness for promotion.'

(2) Visual fitness for all specialisations including any requirement for retesting of Colour Perception will be communicated back to the unit via a F Med 7 from CAAMB.

c. **Medical waiver**. Exceptionally candidates who are graded P2Z (previously P2U3orL3) may be considered for a medical waiver to Sub-Para a. above. Applications for waiver must be supported by a medical certificate from the candidates PMO. Medical waivers are not granted to RM candidates who are required to undertake full commando training as part of their Officer training.

2. **RN Senior Upper Yardman (SUY) and RM Senior Corps Commission (SCC) Candidates**

a. Candidates for promotion as SUY and SCC must be category P2 with a PULHHEEMS profile meeting the requirements of the candidate's particular branch or sub-specialisation.

b. The medical report at Section 8c of RN Form S3300c may be based on a scrutiny of the candidate's last routine PULHHEEMS assessment provided this is in-date i.a.w. Para 0103.1; except in the following circumstances when the assessment is to be not more than 1 year old:

(1) Before attendance at the Admiralty Interview Board (AIB).

(2) Before undergoing professional or qualifying courses for promotion to Officer.

(3) Before promotion to Officer on joining BRNC or CTCRM.

c. If the candidate's PULHHEEMS assessment is older than specified or does not conform to the requirements of his specialisation, a special medical examination is to be made to determine his fitness for promotion and the details recorded on F Med 143.

d. Warfare Branch SUY candidates(excluding those for whom a Bridge Experience Certificate is not required i.a.w. BR 8748 Para 1204.1.a.iii) are to have their eyesight standard confirmed by their parent establishment for suitability to branch:

(1) Before being reported on RN Form 3300c for the first time.

(2) On presentation at AIB.

e. **Medical waiver**. Personnel permanently medically downgraded at a NSMBOS, whose retention in the Service has been approved by a NSMEB in a medical category no lower than P3P (physical restriction indicated), may seek a waiver of the requirement in Sub-Para a. above. Existing UY, SUY and SCC candidates may also continue to be considered for promotion if they are medically recategorised P3P subject to the granting of a waiver. The procedure for waiver application is detailed in BR 8748 Para 1210.5.

f. **SUY Aircrew only**. Aircrew candidates who are successful at the AIB are to attend CAAMB for an aircrew medical.

g. SUY WESM candidates who will undertake periscope watchkeeping duties require the same visual standards as Warfare Officers (see Para 0904).

0313. Officers' Transfer to Longer Commissions

Officers who are selected for transfer to longer Commissions should be in medical category P2. Officers should be in date for PULHHEEMS as detailed in Para 0302. Officers under the age of 30 should undergo a routine PULHHEEMS medical.

0314. Examination of Personnel Selected for 2OE(5) and 2OE(10)

1. Ratings and RM Other Ranks accepting transfer to the 2OE are to complete and sign MOD Form S61 which also must be signed by a Medical Officer. Service on 2OE is subject to medical fitness which is to be established by medical examination. The Medical Officer is required to certify, on Form S61, that the Rating concerned is in a Medical Employability Category permitting Active Service. The following guidelines in assessing medical fitness for the 2OE are to be applied.

a. Candidates who have an expectation of being fully fit for Active Service (sea going for RN and operational deployment for RM) for the period of the 2OE, i.e. P2 or P3 Permanent (with the relevant caveat, but fit for full sea service) are to be passed FIT.

b. Those in a permanently reduced medical category who have already been accepted as medically fit for the 2OE by RNMEB are to be passed FIT.

c. Decision on personnel in a reduced medical category, but who have sound prospects for being fit for sea, may be deferred for up to 6 months. For managerial reasons it is important that a decision be taken at the earliest possible time. If still unfit after 6 months, candidates must enter the pool for possible re-selection the following year.

d. Doubtful cases are to be referred to the RNMEB via NSMBOS.

e. All others are to be failed.

2. When medical clearance has been given, Form S61 is to be signed by the Commanding Officer and forwarded to Commodore Naval Drafting no later than 30 September (Senior Rates) and 31 January (Junior Rates) of the year in which the Board sat.

0315. Examination for Extensions of Service

1. The authority to approve extensions of service, either Extension of Active Service (EAS) or Extended Service (ES), rests with Commanding Officers or the relevant manning authority depending on the circumstances set out in BR 8748 Para 0215.

2. Individuals are usually to be in medical category P2 although others in a permanently reduced medical category may also be accepted. Medical Officers are to ensure that the individual is fit for the requirements of the Service but, i.a.w. BR 14 Para 0121, a medical examination is not required for extensions of less than 3 months. If applicable the medical certificate on Form S61 should be completed i.a.w. the instructions given on the form and where required a report on the medical fitness of the individual is to be included.

3. For those in a permanently reduced medical category further referral to NSMBOS or NSMEB is not required unless their medical category is in doubt.

0316. Examination for Release or Discharge from the Service

1. Every Officer and Rating is to have a final medical examination, including audiometry. The results of this examination are to be recorded in detail on F Med 1. Officers and Ratings may be released in a reduced medical category.

2. The requirement for chest X-ray on release or discharge is to be determined on the basis of occupational history and clinical examination.

3. **Personnel released or discharged within 6 months of entry**. In the case of personnel released or discharged within 6 months of entry, provided that the chest X-ray (if necessary) and audiogram on entry were reported as normal, these may be accepted for the purpose of discharge. No further chest X-ray or audiogram is necessary, unless these are indicated on clinical grounds. The date and result of the entry X-ray are to be noted on F Med 1.

4. **Re-scrutiny of release medical following delay in release from the Service**. In the case of personnel going on EVT courses etc immediately prior to release or discharge, the examination is to be carried out before they start such courses, with the proviso that there is to be a re-scrutiny of the individual's F Med 1 within 48 hours of release or discharge.

5. When an Officer or Rating is released or discharged from the Service in a reduced medical category, other than by invaliding, this fact is to be clearly noted on F Med 1. There are no medical grounds for delaying a Rating's or Officer's release from the Service except i.a.w. BR 1991 Para 0718 and BR 8587 Para 0504.c.

0317. Volunteers for the RN and RM Careers Service

On written request from the Director of Naval Recruiting, a scrutiny of medical documents is to be carried out by the Medical Officer of the volunteer's ship or establishment. Candidates must be medically fit i.a.w. Appendix I.

0318. Frequency of Dental Examination During Service.

All personnel are to receive an Initial Dental Inspection on entry into the Service. They will receive further Periodic Dental Inspections based on previous Dental Risk Category. Arrangements are to be made for any necessary treatment to be undertaken.

CHAPTER 4

PULHHEEMS RE-ASSESSMENT AFTER ENTRY

CONTENTS

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CHAPTER 4

PULHHEEMS RE-ASSESSMENT AFTER ENTRY

0401. Disabilities or Illnesses Discovered or Originating After Entry

Disabilities or illnesses which are discovered, or arise, after entry are to be considered in relation to their effect on function. Standards are laid down as a guide, but every case is to be judged individually, on its merits, and the decision as to disposal depends upon whether or not the condition prevents the efficient performance of duty.

0402. Temporary PULHHEEMS Assessment

1. A temporary PULHHEEMS assessment may be made to cover a period up to 6 months as shown in the table below (See also Para 0412 Pregnancy). No Officer or Rating is to remain on restricted duty by virtue of a temporary PULHHEEMS assessment for a period exceeding 18 months, which is to include the time during which the patient was unfit for any form of duty. A permanent medical assessment must be made within this period and if the patient remains unfit for full duty, he is to be referred to the Naval Service Medical Board of Survey (NSMBOS) to determine his highest medical employability category (Para 0404). Referrals to NSMBOS should normally take place at the 12 month period. The individual is to be boarded before they have been downgraded for 15 months so that if they are subsequently invalided they can leave the Service around the 18 month point.

2. A medical category, e.g. P3R, P7R, is only to be used if there is a genuine likelihood of the patient's return to full duty within 18 months. If, at any time, this likelihood ceases, the patient is to be brought forward for survey with the aim of invaliding, or retention in a permanently reduced category. Similarly, where an individual has been in a remedial medical category, for the same condition, for a period exceeding 18 months accrued in 3 years, he is to be referred to the NSMBOS.

3. The primacy for making temporary medical downgrading decisions on Service personnel rests with single Service primary care occupational health services and not with secondary care. For the RN this means Medical Officers with the responsibility for delivery of primary care are responsible for temporary medical downgrading. They are to be advised in this by Service consultants in occupational medicine, normally the respective area Naval Medical Officer of Health. Secondary care consultants are to restrict themselves to providing an occupationally orientated prognosis together with as much generic advice as possible on medical restrictions to employment; however, an RN consultant may recommend a PULHHEEMS category to a primary care medical practitioner.

4. When a Serviceman has been treated by a civilian General Practitioner, been sick-on-shore, attended or been admitted to hospital, he should report to his Service medical centre at the first opportunity and in any case before his return to work to ensure his employability and medical category are properly assessed.

5. All Naval consultants or specialist registrars in occupational medicine or psychiatry and GMPs are authorised to make a temporary downgrading of a PULHHEEMS category for a period not exceeding 6 months at any one time. All other Naval Medical Officers may downgrade for periods not exceeding 2 months at any one time; longer periods are subject to the supervision of the appropriate area Naval Medical Officer of Health (NMOH) (See also Para 0412 Pregnancy). Further periods of downgrading are permissible subject to regular review. As soon as an individual returns to full fitness he should be upgraded.

6. Medical officers from other Services and their CMPs should seek advice from RN Medical Officers (normally NMOH or major establishment PMOs) before downgrading unless working under RN auspices when the principles outlined above should be followed.

Appointment	Downgrade Period
Naval consultant or registrar in occupational medicine or psychiatry	6 months
GMPs (including CMPs) employed in Naval establishments	6 months
Naval consultants or registrars other specialisations in secondary care	Advisory/ Recommend
Consultants or registrars other Services any specialisation	Advisory
Other Naval Medical Officers in primary care	2 months
Medical Officers and CMPs other Services	Refer to RN MO

7. All changes and reviews of medical category should be recorded electronically and on the F Med 4. Where appropriate they need to be discussed with line management and appropriate signal action taken. Fs Med 7A are to be raised and forwarded to the Defence Analytical Services Agency (DASA) within 14 days (see BR 1991 Chapter 3).

8. Whenever personnel are placed in category P7R, or reviewed while in this category, a suffix from the following table is to be added to the PULHHEEMS classification and reported in the signal notification and Fs Med 7/ 14 summary.

Suffix	Meaning
A.	Fully employable ashore or in a ship in harbour in own trade/ skills.
B.	Fully employable ashore in own trade/ skills.
C.	Employable in restricted duty ashore or in a ship in harbour in own trade/ skills.
D.	Employable in restricted duty ashore only.

0403. Exposure to Environmental Hazards (P2X)

1. From time to time routine medical examinations reveal evidence of past exposure to suspected or known environmental hazards to health. The great majority of personnel concerned are nevertheless fully fit for general service but, as a precautionary measure, they are to be advised against further exposure to the particular hazard. In order to ensure that these personnel are appointed or drafted accordingly, medical category P2X has been introduced and should be used for all appropriate cases. P2X is not a reduced medical category, it is solely an administrative measure to prevent the development of occupational disorders.

2. In all cases the relevant medical documents (Fs Med 4 and 7/ 14/ 19/ 23) of affected personnel are to be endorsed, in red, with details of the exposure to be avoided. When such notations are made, the Officer or Rating involved and his Commanding Officer, are to be informed accordingly. The relevant manning authority is to be informed by MedCat signal.

0404. Permanent Alteration of a PULHHEEMS Assessment

1. A permanent alteration of a PULHHEEMS assessment can only be recommended by a NSMBOS.

2. When Officers and Ratings are found to be permanently unfit for full Naval service they are to be brought before a NSMBOS, to determine their correct medical category, i.a.w. the instructions laid down in BR 1991 Chapter 7.

0405. Enuresis

Unless enuresis is merely a symptom of a more serious disease, it is not to be regarded as grounds for invaliding or for discharge as fraudulent entry, but consideration is to be given to the Rating being Discharged Shore.

0406. Multiple Sclerosis

1. The decision of when a patient diagnosed with multiple sclerosis should be forwarded to a Naval Service Medical Board of Survey (NSMBOS) is that of the Medical Officer in charge of the case since the course the disease may run is so varied that it is rarely, if ever, possible to forecast its progress. There are instances where individuals may continue to serve as P2, however, in other cases it is possible that the working environment may aggravate the condition.

2. Although referral to NSMBOS will be necessary once the appropriate time limits for downgrading have been met, the Board will be aware that retention for some time after a firm diagnosis has been reached will affect the pension awarded. This will be based on the whole disablement present at discharge. The final decision on retention continues, however, to be made by the Royal Naval Service Medical Employability Board.

0407. Fitness for RN Fitness Test

1. The ability to pass the RN Fitness Test (RNFT) is now taken as a requirement for promotion and to remain in the Service. In order to be equitable, a comprehensive programme of remedial training and alternative testing arrangements has been introduced to ensure that all personnel who are fit for deployment have the opportunity of demonstrating their fitness. To this end, medical restrictions from RNFT should only be temporary and in association with an acute injury or illness. Permanent restrictions will only be granted by a Naval Service Medical Board of Survey and will normally be in association with a P7P category.

2. Should a Serviceman be found to be unable to attempt or pass the RNFT due to an underlying medical condition, a suitable programme of remedial cardiovascular training will be organised by the a member of the PT staff in consultation with a Medical Officer. This may include non-impact cardiovascular exercises such as swimming or cycling. After 3 months of remedial training, the Serviceman will retake the RNFT, if capable. Inability to pass will lead to another 3 months of remedial training at the end of which, the RNFT will be attempted again. If at this stage, there is a medical condition which prevents him running, the Serviceman will be allowed to complete the Rockport Walk. If he is unable to physically complete this, he should be referred by the unit Medical Officer to the Environmental Medicine Unit at the Institute of Naval Medicine who will consider if any alternative method of fitness testing is appropriate. They will carry out such a test and advise on whether a suitable standard has been achieved. If there is no suitable test, the Serviceman will then be forwarded to a NSMBOS for formal assessment of his medical category as it is expected that few personnel who are unfit for any kind of fitness testing will be fit for sea service. This process is outlined in the flow diagram at Annex A.

0408. Obesity

1. There are strict weight limits laid down in JSP 346 as part of the tri-Service entry criteria, however, once in service the major determinant of acceptable weight will be based on fitness for task which is to include meeting the standards of the RNFT. In practice most individuals who are outside weight limits or obese on the Body Mass Index (BMI) scales will be unable to pass their RNFT, however, there are a number of individuals with high muscle mass who should not be disadvantaged. Obesity may also cause difficulty in passing through escape hatches and will limit employment in specialist roles such as diving or aircrew. Ratings/ RM other ranks who are unable to perform their duties satisfactorily due to obesity may be referred by a Commanding Officer to their ship or establishment Medical Officer. The tables of height/ weight given in Appendix II make an allowance for skeletal size and should be used as a guide to assess the degree of obesity.

2. The Medical Officer is to clinically examine and investigate as appropriate to exclude any pathological cause for obesity where after the patient should be offered dietary and general fitness advice. He should also liaise with the unit physical training instructor over a suitable programme of remedial training. A suitable time-scale should be chosen for the individual to lose weight which should not normally be less than 3 months. If the individual remains unfit for task due to failure to lose weight the Commanding Officer should then issue a formal warning to the individual that he must lose the required amount of weight within the specified period. During this period, the individual's Divisional Officer should monitor his progress and provide encouragement and advice.

3. At the end of the specified period, the individual will be further examined by the Medical Officer who will advise the Commanding Officer if the individual has been successful or whether the specified period should be extended if appropriate.

4. If the individual has not taken reasonable steps to lose weight within the specified period, the Commanding Officer is to be so informed and Discharge Shore (MedCat P2) may be authorised.

0409. Pulmonary Tuberculosis

1. **Management of patients with tuberculosis**. It is a legal requirement that all cases of tuberculosis, regardless of the organ system involved, must be notified i.a.w. current Service instructions to Naval authorities and to the local Proper Officer on F Med 85 (see BR 1991 for further details).

2. The clinical management of the patient will remain the responsibility of the consultant in charge of the case. Medical category will be determined and reviewed i.a.w. current Service instructions. Unit Medical Officers, aided by the local Naval Medical Officer of Health, will identify close contacts of the index case and institute follow-up action.

3. In general, non-pulmonary tuberculosis is considered to carry a low risk of transmission, but close contacts should be identified and traced as set out in BR 1991. Pulmonary tuberculosis may be described as smear-positive when acid-fast bacilli are detectable by direct microscopy in sputum, or smear-negative. In the latter case, the diagnosis is confirmed by isolation of acid-fast bacilli from sputum culture.

0410. Seasickness

1. Officers and Ratings who suffer from chronic seasickness are to be categorized P3R (frigates and above only) for 12 months, on the authority of consultant occupational physicians and the Principal Medical Officers of HMS NELSON, NEPTUNE and DRAKE only.

2. At the end of the 12-month period, any RN Medical Officer may upgrade the individual to P2 if the response to service in frigates and above has been satisfactory. If seasickness persists throughout the period in spite of appropriate drug treatment, or recurs on reversion to service in smaller ships, referral to a consultant physician is required unless consultant opinion has already been obtained.

3. If the consultant considers the seasickness is of constitutional origin, a recommendation is to be made to the executive for administrative action i.a.w. BR 8373 Para 4302, BR 8748 Para 1010.9 or otherwise as appropriate. If the seasickness is considered a symptom of an underlying medical disorder and persists in spite of appropriate medical management for that condition, referral to a NSMBOS is required. The referral is to be for the medical condition and not for the symptom of seasickness.

0411. Blood Borne Viral Disease

The discovery of either Human Immunodeficiency Virus (HIV) Infection, Hepatititis B and Hepatitis C virus should be dealt with individually on clinical grounds and take account of the inherent risks of transmission associated with specific employment groups e.g. health care workers. Specialist advice should be sought in grading from area Naval Medical Officers of Health, and patients are likely to require referral to a Naval Medical Board of Survey to be assigned a permanent medical category. Only HIV cases with frank Aquired Immune Deficiency Syndrome are likely to be recommended P8, others will be graded as appropriate to their individual requirements.

0412. Pregnancy

1. On suspicion or declaration of pregnancy, the medical centre is to carry out a confirmatory test. If pregnancy is confirmed, the Servicewoman should be placed in medical category P4. This is to be recorded on the F Med 4 and PHCIS; F Med 7A and appropriate MedCat signal are to be raised. F Med 790 – Certificate of Pregnancy is to be used to inform the Commanding Officer/ personnel management authority (Unit Personnel Office).

2. Although P4 is to denote pregnancy and not the maternity leave associated with it, for practical purposes the P4 grading will remain in force until the Servicewoman is re-assessed on return to duty after maternity leave or she leaves the Service; therefore, a period of 12 months is to be used as a predicted end date on initial grading.

3. Any Medical Officer or CMP of any Service may downgrade P4 12 months on the evidence of a pregnancy test.

4. The P4 grading precludes sea service or operational deployment but may be compatible with work outside of the UK or on ships alongside, subject to a satisfactory risk assessment.

a. Servicewomen serving or working in ships outside UK waters will be landed and returned to the UK at the earliest opportunity.

b. Servicewomen serving or working in ships, either in UK waters or alongside, will be landed at a port nearest to a Naval Service shore establishment.

c. Landbased Servicewomen on operations will be withdrawn.

d. A workplace risk assessment should be organised by her line manager.

5. When the Servicewoman completes her maternity leave, and prior to any return to work, she is to be reviewed by a Naval GMP/ CMP and her fitness to return to work assessed and an appropriate MedCat determined.

6. Should the pregnancy not proceed or if illness occurs during or following pregnancy an appropriate medical category should be used as indicated by the clinical condition of the patient:

a. A reduced MedCat is only to be used if there are medical reasons to do so.

b. Downgrading, and area restrictions, are not to be used for welfare or other non-medical reasons.

c. Individuals are not to be medically downgraded in order to facilitate breastfeeding; this is a personnel management issue not a medical matter.

7. All Servicewomen who exercise their right to early discharge from the Service while pregnant or during maternity leave are to have a pre-release medical examination.

8. For further guidance on the management of Servicewomen who are pregnant or on maternity leave see BR 8784 Chapter 5 and current Joint Service Defence Council Instructions.

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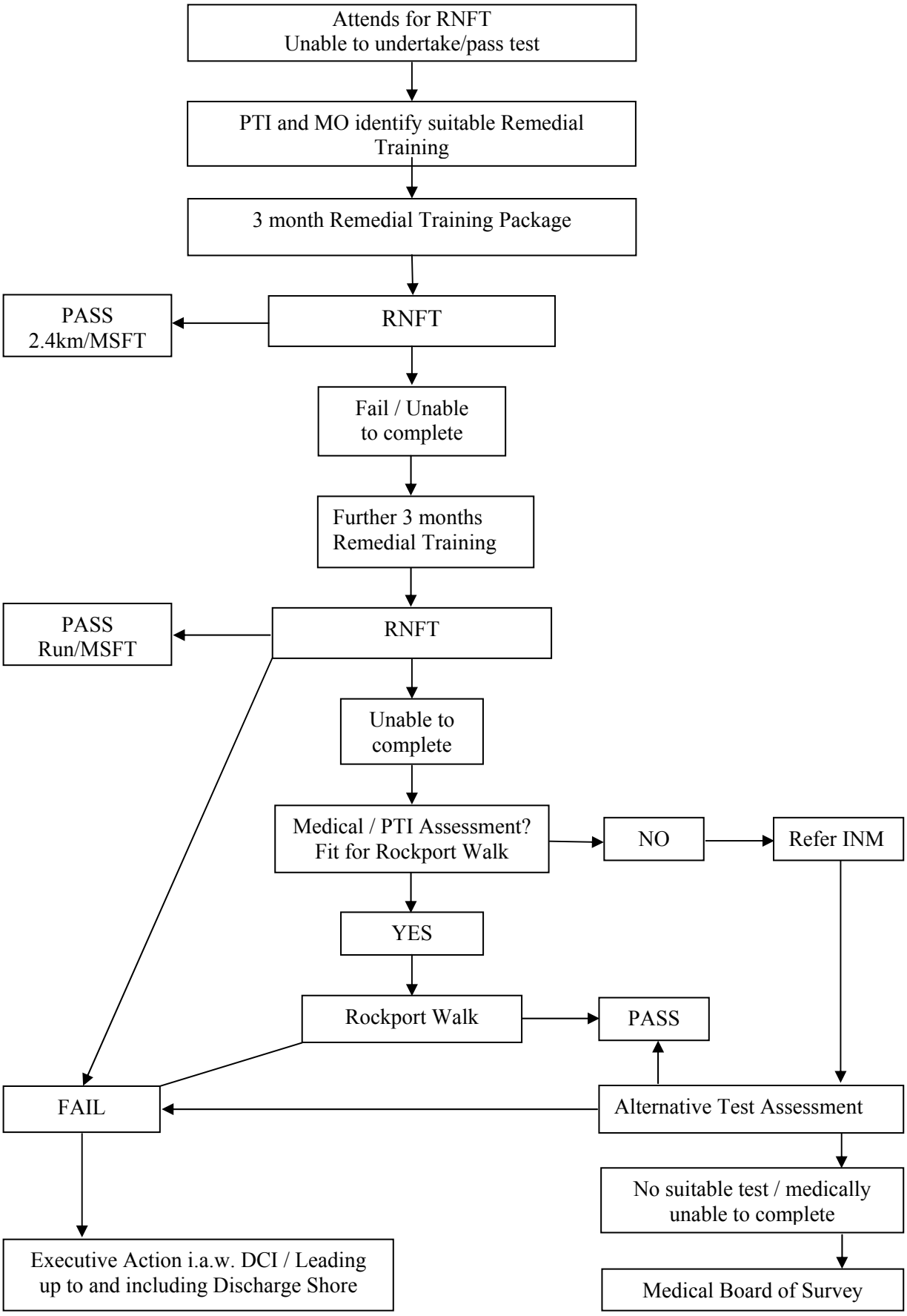
ANNEX A TO CHAPTER 4

FITNESS FOR RNFT-FLOW DIAGRAM



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CHAPTER 5

EYESIGHT AND COLOUR PERCEPTION STANDARDS

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ANNEXES

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CHAPTER 5

EYESIGHT AND COLOUR PERCEPTION STANDARDS

0501. Visual Acuity Standards

1. Visual acuity standards applicable to all personnel on the Active and Reserve Lists of the Royal Navy, Royal Marines and QARNNS who joined the Service AFTER 1 January 1995 are shown in the table below:

Standard I				
Requirements	**Right Eye**	**E**	**E**	**Left Eye**
Visual acuity to be achieved without correcting lenses	6/12 N5	3	3	6/12 N5
Visual acuity to be achieved with correcting lenses	6/6 N5	3/1	3/1	6/6 N5
Refraction limit				
Total hypermetropia	+3.00 sphere			+3.00 sphere
Astigmatism	+1.25 cyl			+1.25 cyl
Myopia (in any meridian)	-0.75 sphere or cyl			-0.75 sphere or cyl
Standard II - Entry Standard				
Requirements	**Right Eye**	**E**	**E**	**Left Eye**
Visual acuity to be achieved without correcting lenses	6/24	5	6	6/36
Visual acuity to be achieved with correcting lenses	6/6 N5	5/1	6/2	6/9 N5
Refraction limit				
Spectacle correction (in any meridian)	+3.00 sphere -2.50 sphere or cyl			+3.00 sphere -2.50 sphere or cyl
Standard II - Serving Personnel (On the trained strength)				
Requirements	**Right Eye**	**E**	**E**	**Left Eye**
Visual acuity to be achieved without correcting lenses	6/60	7	8	<6/60
Visual acuity to be achieved with correcting lenses	6/6 N5	7/1	8/2	6/9 N5
Refraction limit				
Spectacle correction (in any meridian)	±6.00 sphere or cyl			±6.00 sphere or cyl
Standard III				
Requirements	**Right Eye**	**E**	**E**	**Left Eye**
Visual acuity to be achieved without correcting lenses	6/60	7	8	<6/60
Visual acuity to be achieved with correcting lenses	Either 6/6 N5 or 6/9 N5 or 6/12 N5	7/1 7/2 7/3	8/5 8/4 8/3	6/24 N10 6/18 N10 6/12 N10
Refraction limit				
Spectacle correction (in any meridian)	± 6.00 sphere or cyl			±6.00 sphere or cyl

2. Prior to January 1995, a lower minimum standard of vision was acceptable as there was no generic requirement for individuals to undergo weapon training. There was also a higher level of vision required for those with bridge watchkeeping responsibilities. The past standards are outlined in Annex A.

3. In interpretation of these standards, the current standards apply to all serving personnel, with the exception of those personnel who entered their current branch before 1 January 1995 in Standard II where the lower unaided visual acuity and higher refraction limits remain applicable.

0502. Method of Testing - Visual Acuity

1. Distance visual acuity is tested using Snellen's charts viewed directly at a distance of 6 metres (20 feet) or in a properly adjusted mirror at 3 metres. Specifications, including general recommendations on lighting, are contained in British Standard 4274 part 1 2003. Detailed procedures for testing are outlined in JSP 346.

2. Before being given an appointment for an initial medical examination, the recruit is to be questioned as to whether he or she wears spectacles or contact lenses and the following procedure adopted:

a. Recruits who wear spectacles are to be instructed:

(1) To bring their spectacles with them when attending the medical examination;

(2) To bring a written spectacle prescription which can be obtained from any optician.

b. Recruits who wear contact lenses (hard or soft) and already have spectacles are:

(1) To be given an appointment at a date no earlier than that which will allow them not to wear contact lenses for 48 hours before the medical examination.

(2) To bring their spectacles with them when attending the medical examination.

(3) To bring a written spectacle prescription which can be obtained from any optician.

c. Recruits who wear contact lenses but do not own spectacles are:

(1) To be given an appointment at a date no earlier than that which will allow them not to wear contact lenses for 48 hours prior to the examination, but to bring them to the examination, if their civilian appointment allows.

(2) To have their VA checked and recorded unaided first, then to fit their contact lenses and have their aided VA checked and recorded.

(3) To be warned that should other selection procedures prove successful, they will be required to be in possession of spectacles and an appropriate prescription at their initial medical examination.

(4) Serial 83 of F Med 1 is to be annotated 'VA checked with CL only'.

3. At the initial medical, recruits are again to have their VA tested uncorrected and corrected wearing spectacles, having not worn lenses for 48 hours. They should be in possession of a spectacle prescription.

4. Where there is any doubt about a recruit's visual acuity and in particular when he is on the borderline of the appropriate entry standards, a report from an optician should be obtained.

0503. Ocular Pathology

1. The following previous ocular pathology or surgery is a bar to acceptance for entry to the Royal Navy:

a. Intraocular transplants in young persons.

b. Post penetrating injuries to either eye.

c. Post keratotomy surgery for myopia.

d. Post retinal detachment surgery.

e. Keratoconus.

2. If the examining doctor is in any doubt as to the candidate's acceptability he is to seek the opinion of a Service consultant in ophthalmology.

0504. Near Vision Testing

Near vision is tested using Times Roman print on reading charts approved by the British Faculty of Ophthalmologists.

0505. Method of Recording PULHHEEMS Equivalent (PE)

Snellen figures	6/6	6/9	6/12	6/18	6/24	6/36	6/60	<6/60
PE	1	2	3	4	5	6	7	8

Right Eye	Left Eye
P E Unaided	P E Unaided
PE with spectacles	PE with spectacles

0506. Colour Perception (CP)

There are 5 standards for colour perception graded as follows:

Standard	Test Specification
1	The correct recognition of coloured lights shown through the small paired apertures of the Holmes Wright lantern at LOW brightness at 6 metres distance in complete darkness.
2	The correct recognition of the first 17 plates of the ISHIHARA test (24 plate abridged Edition 1995 or later) shown in random sequence at a distance of 50 – 100 cm under standard fluorescent lighting supplied by an artificial daylight fluorescent lamp (British Standard 950:1967).
3	The correct recognition of coloured lights shown through the paired apertures on the Holmes Wright lantern at HIGH brightness at 6 metres distance in complete darkness.
4	The correct recognition of colours used in relevant trade situations, and assessed by simple tests with coloured wires, resistors, stationary tabs, etc.
5	Unable to pass any of the above tests.

0507 Method of Testing Colour Perception - Ishihara Test

1. Ishihara plates are to be used as screening for all entries.

2. Candidates who pass the Ishihara test are graded CP2 and require no further testing except for those whose critical visual task requires a categorisation of CP1.

3. Candidates who fail the Ishihara test are further tested for CP3 or CP4 according to requirement.

4. The Holmes Wright Lantern is to be used to discriminate CP1 and CP3. Appropriate trade testing (normally using a wire board) will discriminate between CP4 and CP5.

5. Full details of procedures to be used in Colour perception testing is at Annex B.

0508. Retesting of Colour Perception

Colour perception does not normally change significantly throughout life. It will require retesting, therefore, only in certain circumstances:

a. Before employment in a specialisation requiring a different colour perception standard as shown in the regulations.

b. If there is any doubt concerning the existing grading.

0509. Corneal Refractive Surgery

1. Corneal Refractive Surgery sometimes known as excimer laser treatment, for correction of myopia (short-sightedness) is becoming much more widespread and available on the highstreet. The procedure, remains relatively new and, even drawing on world-wide experience, there is only limited evidence on the long term effects. There is the potential for disturbances of night vision in some individuals, particularly in the presence of glare. However, the following methods of surgical correction of myopia or hypermetropia are now considered compatible with service on an individual case by case basis for non specialist employment groups:

a. Photorefractive keratectomy (PRK).

b. Laser epithelial keratomileusis (LASEK).

c. laser insitu keratomileusis (LASIK)

d. Intrastromal corneal rings (ICRs) otherwise known as intrastromal corneal segments (ICSs).

Incisional refractive surgery such as radial keratotomy or astigmatic keratotomy is not acceptable for service.

2. The standards for new recruits are covered in JSP 346 Paras 0305 and 0306. Calculation of spherical equivalent (equivalent spherical error- ESE) is described at Annex C.

3. Serving personnel who wish to have such treatment are to be informed that these procedures are not available from Service sources, and if carried out privately, could have an adverse effect on their future Service career by rendering them unfit for duty. It is also not currently acceptable for Aircrew.

4. Service personnel who have had corneal surgery (conventional or laser) carried out, may remain P2 but are to be referred to a Service consultant ophthalmologist for assessment. If their vision has deteriorated below the necessary standard for their branch they will require to be brought before a Naval Service Medical Board of Survey (NSMBOS).

0510. Spectacles and Contact Lenses

There is in general no restriction on the wearing of spectacles or contact lenses (including onboard submarines) provided that the required corrected standards of visual acuity are met. Contact lenses may not, however, be worn under AGRs, are not permitted in operational Service diving and are not to be worn by Aircrew. (SGPL 10/99 gives details of exceptions for Aircrew). Those who may wear contact lenses and choose to do so must always have a pair of defence spectacles to wear as an alternative. Defence spectacles are provided from public funds if required for the efficient performance of duties, contact lenses are not.

0511. Use of Contact Lenses

1. Contact lenses may well provide advantages over spectacles enhancing peripheral vision and reducing reflection and aberration. They are also more compatible than spectacles with specialist equipment such as night vision goggles. Gas-permeable hard contact lenses cannot be recommended for military use as they cannot be worn on an extended wear basis should the need arise. Tinted lenses are also not permissible. The decision whether or not to wear contact lenses must remain with the individual. The individual must also be responsible for ensuring proper care of contact lenses. The vast majority of complications and ocular pathology arising from contact lens wear are associated with inadequate care of the contact lenses. Lenses must be of a soft type and are to be used on a daily wear basis but to have the facility for extended wear if required. That is to say that in normal working they should be inserted at the start of the working day and removed before any periods of sleep but could be left in for an extended period should the operational need arise. The extended period should not be more than 7 days.

2. At all times a pair of spectacles of up to date prescription must be available to the individual. If either eye becomes red or painful the individual must remove both contact lenses and return to wearing his spectacles and report to a Medical Officer within 24 hours.

0512. Application of Eyesight and Colour Perception Standards

Specialisation/ Branch	VA Standard	Colour Perception
Officers		
Aircrew	I	1
Warfare	II	1
ATC, FDO	III*	3
RM Officers	III*	4
Pilots	I	1
Bridge Watchkeepers	II	1
All other Officers	III*	4
Ratings		
Warfare Branch	II	3
Except:		
AW, AWW	I	3
Missile	I	3
WSM	II	4
REG	II	4
Fleet Air Arm		
ACMN	I	1
METOC	III*	3
PHOT	III*	3
AC	I	3
AH	III*	3
Engineering Branch	III*	4
Except		
Air Eng Mechs	III*	2
Air Eng Artificers	III*	2
Air Eng Tech	III*	2
All Other Ratings	III*	4
RM Other Ranks	III	4
Except	I	
Aircrew	I**	1
Snipers	I**	3
Landing Craft	I**	2
Swimmer Canoeists	III*	3
QARNNS	III*	4

* *See Para 0501.2.*

** *Contact lenses not permitted.*

0513. Deterioration of Eyesight in Service

1. Any serving personnel whose unaided vision in the better eye falls below the standards for branch or the minimum standards for service (6/60 correction greater than ±6.0 dioptres for personnel enlisted after 1 Jan 95 or maximum correction ±7.0 dioptres before Jan 95) is to be referred for ophthalmic opinion and then to NSMBOS for determination of permanent medical category.

2. **Bridge Watchkeepers**. Officers with bridge watchkeeping responsibilities are required to remain within VA Standard II (corrected) and should be tested annually to ensure that this standard is maintained. Those with the following restrictions must be referred to a service consultant in ophthalmology and thence to NSMBOS to determine permanent medical category:

   a. Those whose VA cannot be corrected to VA II.

   b. Those who require greater than 6 dioptres correction to achieve VA II.

   c. Those whose uncorrected vision is worse than 6/60 in either eye.

3. **Aircrew**. Aircrew who are found for the first time to require corrective lenses are to be refracted and then referred to Central Air and Admiralty Medical Board (CAAMB) for assessment of their flying medical category.

4. **Submarine seaman specialists**. Submarine seaman specialists whose correction is greater than ±3 dioptres (i.e. outside the range of periscope optical correction) are to be referred for an ophthalmic opinion and thence to the Senior Medical Officer Submarines, Institute of Naval Medicine.

5. **Seaman Ratings**. Applicants for entry must meet Visual Standard II. However, OM Ratings for AW/ AWW Specialization must achieve Visual Standard I in service.

6. **Royal Marines Officers and Other Ranks**. Royal Marines personnel specialising in Aircrew, bridge watchkeeping and other specialist duties must achieve the standards for that specialisation.

0514. Binocular Efficiency

Bifoveal fixation and perfect binocular functions are not essential requirements unless specified but a squint must be cosmetically acceptable. Limits to heterophoria where applicable are as follows:

Function	Efficiency	Applicable
Maddox rod at 6 metres	Esophoria 6 prism dioptres Exophoria 6 prism dioptres Hyperphoria 1 prism dioptre Hypophoria 1 prism dioptre	All RN RM Aircrews
Maddox rod at 33cm	Esophoria 6 prism dioptres Exophoria 16 prism dioptres Hyperphoria 1 prism dioptre	
Other functions	Recovery on cover test must be rapid, convergence must be maintained at less than 10 cm, stereopsis must be present; anisometropia must not exceed 3.00ESE	

0515. Refraction

These eyesight standards set limits to the amount of refractive error allowed and it is essential that this is determined at the entry medical examination:

a. **Hypermetropia**. In a young person, considerable hypermetropia may be present without any apparent effect on either near or distance vision. If hypermetropia is suspected the individual should be referred to an optician for refraction.

b. **Myopia**. Short sight affects distance visual acuity and its presence is obvious. The candidate should be asked to provide a spectacle prescription that will show the degree of myopia present.

0516. Other Abnormalities of the Eyes or Visual System

Any abnormalities of the eye or visual system (congenital, traumatic or pathological) may be cause for rejection even though visual function is within the standard limits, a decision regarding visual fitness for duty must then be made by a consultant ophthalmologist.

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ANNEX A TO CHAPTER 5

VISUAL ACUITY STANDARDS APPLICABLE TO ALL PERSONNEL ON THE ACTIVE AND RESERVE LISTS OF THE ROYAL NAVY, ROYAL MARINES AND QARNNS WHO JOINED THE SERVICE BEFORE 1 JAN 1995.

Standard I				
Requirements	**Better Eye**	**E**	**E**	**Worse Eye**
Visual acuity to be achieved without correcting lenses	6/9 N5	2	3	6/12 N5
Refraction limit				
Total hypermetropia	+2.50 sphere			+3.50 sphere
Astigmatism	+0.75 cyl			+1.00 cyl
Myopia	-0.25 sphere or cyl			-0.75 sphere or cyl
Standard IA				
Requirements	**Better Eye**	**E**	**E**	**Worse Eye**
Visual acuity to be achieved without correcting lenses	6/12 N5	3	3	6/12 N5
Visual acuity to be achieved with correcting lenses	6/6 N5	1	1	6/6 N5
Refraction limit				
Total hypermetropia	+3.50 sphere			+3.50 sphere
Astigmatism	+1.00 cyl			+1.00 cyl
Myopia	-0.75 sphere or cyl			-0.75 sphere or cyl
Standard II				
Requirements	**Better Eye**	**E**	**E**	**Worse Eye**
Visual acuity to be achieved with or without correcting lenses	Either 6/6 N5 or 6/9 N5 or 6/12 N5	8/1 8/2 8/3	8/5 8/4 8/3	6/24 N10 6/18 N10 6/12 N10
Refraction limit spectacle correction (in any meridian)	±7.00 sphere or cyl			±7.00 sphere or cyl

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ANNEX B TO CHAPTER 5

PROCEDURES FOR COLOUR PERCEPTION TESTING

Ishihara Book Test

1. Examination Method:

   a. The test is conducted using only good diffused daylight directly onto the test plates or the alternative illuminant (fluorescent daylight lamp to BS950 Part 1 1967), all other light being excluded.

   b. The test plates are presented to the examinee at a distance of 50-100cm (20-40 inches) for not more than 5 seconds. The examinee may wear spectacles if appropriate. The winding line plates for illiterates normally need not be presented.

   c. Each number is read aloud by the examinee. They are not allowed to trace or handle the plates.

   d. The number of plates miscalled is recorded in the box on the examination form.

   e. The plates can fade with age. The 1995 or later edition should be used.

2. Assessment If no error is made the examinee is graded CP2, but it should be noted that certain numbers might be miscalled by colour normals particularly when under stress. If not more than 3 plates are miscalled, the miscalled plates are shown again. If no errors are made on the second presentation, a grading of CP2 may be given. Those failing the test will require further assessment with lanterns or trade testing to determine if their colour vision is CP3, 4 or 5.

Lantern Test

3. The Holmes-Wright Lantern Test is constructed to simulate in controlled conditions, the critical visual task of seamen. The test is usually performed by Service ophthalmologists or other approved persons. The lantern is regarded as a form of trade test displaying pairs of vertically arranged lights in a combination of red, green and white. These are viewed at a distance of 6m (20 feet) either by direct vision or mirror reversal, in light surroundings or in total darkness as laid down in current instructions. The candidate may wear spectacles if he wishes and may be ‘dark adapted’ if necessary. The colour pairs may be changed by rotating the colour setting flange at the rear of the lantern, the colour pairs present being indicated by the code number visible in windows on each side and at the rear of the lantern.

The Code Numbers represent:

1	R2	2	G2	3	W	4	G2		
	W		R1		W		R2		
5	R1	6	R1	7	W	8	G1	9	G1
	R2		G1		G2		R2		G2

The intensity of the lights presented may be varied by the filter change lever at the rear of the lantern, the setting being:

DEM for demonstration only.
HIGH BRIGHTNESS
LOW BRIGHTNESS

4. In order to reduce errors the examination method and instruction to the examinee are to be followed exactly in each case:

a. The examinee is to be seated with the lantern apertures at eye level.

b. Connect the lantern to 230/240 volt supply and switch on with the rotary switch at the rear of the lantern. No warming-up period is necessary.

c. Turn the filter lever to DEM and the colour setting flange to Code 1.

d. Say to examinee: “This is a test to find out whether you can readily recognise the colours of red, green or white. The colours are shown in pairs, one above the other, in any combination of red, green or white. Name both colours calling the one on top first. The top colour you see now is red”.

e. Turn the colour flange to Code 2. Say to examinee: “The top colour you see now is green”.

f. Turn the colour flange to Code 3. Say to examinee: “The top colour you see now is white”.

g. Turn the filter change lever to HIGH or LOW BRIGHTNESS as appropriate. Turn the colour flange to Code 4, 6, 8 or 2 (i.e. any red, green combination). Say to examinee: “Start now, naming first the top then the bottom colour. Do not use any words other than red or green or white. You will be given 5 seconds to name the colours”. If the examinee uses any colour name other than red, green or white he is to be reminded that only these words are to be used. No other comments are to be made by the examiner.

h. Show each colour pair to the examinee in consecutive order. Each response must be given within 5 seconds.

5. The lantern is not to be opened except for routine annual servicing, at which time the lamp is to be changed.

Trade Test

6. RN trade testing is normally carried out at new entry using a coloured wire board. These are obtainable from DNR (SO3NMD).

7. The test is to be conducted in a well lit area and the candidate may wear glasses if necessary.

8. Three minutes are given to complete the test.

9. If the candidate matches all the wires correctly, he is CP4. If any of the wires are incorrect he is CP5.

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ANNEX C TO CHAPTER 5

CALCULATION OF SPHERICAL EQUIVALENT (EQUIVALENT SPHERICAL ERROR –ESE)

The spherical equivalent is the algebraic sum of the spherical component of refraction plus half of the cylindrical component of the refraction.

For example:

Spherical +4.00D with cylindrical +2.00D = (+4) + (2/2) = ESE 5.00
Spherical – 7.00D with cylindrical +3.00D = (-7) + (3/2) = ESE -5.50

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CHAPTER 6

AUDIOLOGY STANDARDS

CONTENTS

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CHAPTER 6

AUDIOLOGY STANDARDS

0601. Hearing Standards

1. All personnel receiving any PULHHEEMS medical examination must undergo audiometry to correctly determine their hearing standard. The hearing standard is derived from a sum of the total hearing loss (dB) within the low and high frequencies as measured by 'pure-tone air conduction' audiometry.

2. Hearing standard profiles:

Hearing Standard	Low Frequency sum (0.5, 1 & 2 KHz)	High Frequency sum (3, 4 & 6 KHz)
1	<45 No single level to be more than 20dB	<45 Level not to be more than 30dB at 6kHz or 20dB at any other frequency
2	<84	<123
3	<150	<210
8	>150	>210

0602. Entry, Re-Entry and Re-Engagement Standards

All personnel entering, re-entering or re-engaging the Royal Navy, Royal Marines, QARNNS or the apposite reserve forces are to be at least H2:H2. The extant exceptions to the above rules are for the following personnel (who should be H1:H1):

a. Royal Navy Aircrew.

b. OM (Under Water).

c. OM (Electronic).

d. OM (Sensors Submarine).

e. OM (Tactical Submarine).

f. Communications Technician.

g. Seaman Survey Recorder.

h. Royal Marine Aircrew.

i. Royal Marine Landing Craft.

0603. Sonar Operators – Hearing Standards

1. In order that sonar equipment may be operated with full efficiency it is necessary to ensure that sonar operators meet specified standards of hearing at selection and subsequently during service. In addition to these standards, precautions are required to maintain the health of the ears and to minimise damage to hearing from exposure to excessive noise.

2. Sonar operators are required to meet Hearing Standard H1:H1 as defined for Naval personnel in JSP 346 Para 0209 and measured by 'pure-tone air conduction' audiometry. OM(W)s are recruited into Naval service at a common hearing standard of H2:H2. After Phase 1 training, those OM(W)s selected as potential candidates for UW training are to be referred for audiological assessment to ensure that they meet the required standard. Only those that meet the required standard may be accepted for UW training. Hearing loss in either ear must not exceed the following (dB) values at the specified frequencies:

a. General Service (Ops (Sonar)/ OM(W))

Frequency (Hz)	Hearing Loss (dB)
500	20
1000	20
2000	20
3000	20
4000	20
6000	30

b. Submarine Sonar (active/ Passive). Examination of a wider frequency spectrum is required for SM personnel.

Frequency (Hz)	Hearing Loss (dB)
125	20
250	20
500	20
1000	20
2000	20
3000	20
4000	20
6000	30
8000	30

0604. Sonar Operator Candidates – Aural Examination

Although a healthy ear is desirable, candidates may be considered aurally fit who have ear drums showing scarring, chalk patches or even healed perforations, if the hearing acuity is within the above limits and no treatment (other than wax removal) has been required during the previous 5 years. If doubt exists over the suitability of an individual for selection for sonar duties, they should be referred to a consultant in ENT for assessment and opinion.

0605. Frequency of Examination and Health Surveillance

1. Audiometry is to be conducted on the following occasions:

   a. To confirm that potential candidates for UW training meet the required standard.

   b. Annually for all Sonar Operators.

2. Medical staff are to ensure that the results of audiograms are recorded on the F Med 242. A copy is to be retained with the F Med 4 (annotated appropriately).

3. It is the responsibility of the Sonar Operator's Divisional Officer to ensure that periodic audiometry is carried out and that the History Sheet S 124F is annotated at Section 8.

4. Annual audiometry may be carried out in any suitably equipped medical centre. The following cases must be referred to the Audiology Department at HMS NELSON:

   a. Personnel requesting a branch change to Sonar/ UW.

   b. Sonar Operators, tested elsewhere, who fall below the required standards on any occasion.

5. Sonar personnel are to have their ears examined clinically before audiometry to identify and correct any condition which may reduce hearing efficiency. This should normally be done by a Medical Officer, or by the audiologist at HMS NELSON who will refer candidates to a Medical Officer as necessary.

0606. Fitness of Sonar Personnel

1. The Principal Medical Officer (PMO) of HMS NELSON is the final authority on aural fitness for established Sonar personnel. Judgements will be made after careful consideration of reports from the Audiology Department, the Sonar Officer (regarding ability and performance) and the Consultant Adviser to MDG(N) in ENT.

2. Sonar personnel, below the Rate of CPO, whose hearing fails to comply with the standards above to the extent that it interferes with Sonar/ communicating ability and performance at sea are to be assessed as permanently unfit (aurally) to continue Sonar operations.

0607. General Precautions

1. High intensity noise or sudden pressure changes may cause hearing damage. This may arise from:

   a. Prolonged exposure to continuous noise, e.g. in machinery spaces, pneumatic tools, aircraft engines, etc.

b. Exposure to high levels of impact noise, e.g. gunfire (including saluting guns, small arms and the use of blank ammunition).

c. Exposure to blast.

d. Noise exposure outside the Service environment, e.g. discotheques, concerts, personal stereos, power tools, etc. These should not be overlooked as noise hazards which may give rise to temporary or permanent damage to hearing.

2. Every effort is to be made by Sonar Operators to avoid personal exposure to these hazards.

3. Ships and establishments should ensure that potentially noise hazardous areas are identified, assessed and correctly marked i.a.w. current statutory requirements. Careful consideration should be given to the provision of hearing protection to Sonar Operators in noisy environments, even if the noise assessment indicates that it is not mandated.

4. Ratings suffering from ear complaints such as discharge, pain or difficulty with hearing are to report to a medical centre at the earliest opportunity.

5. Dirty, or poorly maintained, headsets represent a risk of spreading ear infections. It is important that they are properly maintained, especially when headsets are used by different personnel.

0608. Hearing Conservation Programme

1. The Noise at Work Regulations 1989 (NAWR) define the responsibilities of both employers and employees with regard to noise within the workplace. The basic tenet is to reduce the risk of damage to hearing through exposure to noise by keeping it to the lowest reasonably practicable level. It is MOD policy that the NAWR will apply in full throughout all parts of the MOD, subject to the General Agreement between MOD and the Health and Safety Executive (HSE) on the observance and audit of Health and Safety legislation within the MOD. Further guidance is available in JSP 375, Volume 2, Leaflet 6.

2. The noise assessments, to be carried out in order to generate baseline noise assessments for all ship types, will identify the personnel noise exposure throughout the working day by taking into account the average noise levels in working areas and the time spent within them. The abbreviation for this term is $L_{EP,d}$ and it is measured in units of dB(A). The First Action Level (FAL) is determined as a daily personal noise exposure of $L_{EP,d}$ = 85 dB(A).

3. A further measure used is the Peak Action Level (PAL), this recognises noise from loud noises of a short duration, such as gunfire or percussive tools. The PAL is a level of sound pressure of 200 Pascals, this is roughly equivalent to 140 dB.

4. To assist with the identification of which personnel will require to undergo audiometry as part of the hearing conservation programme, DMedOps and the Institute of Naval Medicine have reviewed noise assessments carried out across the Navy, and have identified those jobs likely to involve exposures to the FAL and PAL (Table 6-1). These have been classified as follows:

a. **Group A** – Those who are currently working in an at risk job (Very likely to exceed the FAL or PAL).

b. **Group B** – Those whose job may occasionally be at risk (May exceed the FAL or PAL).

c. **Group C** – Those who are not in an at risk job (Very unlikely to exceed FAL or PAL).

Table 6-1 Occupational Noise in the RN/ RM: "At Risk" Groups

"At Risk" Group	Group A	Group B
AFLOAT		
MEMs	✓	
MEAs	✓	
Engineering Officers		✓
WEAs	✓	
Aircrew (RN & RM)	✓	
AE Staff/ Ground air maintenance crews	✓	
Flight deck handlers	✓	
SAR personnel	✓	
Special sea duty men		✓
Sonar (ship)		✓
Sonar (submarine)		✓
Comms personnel		✓
Sea Gemini winch operators		✓
Clearance Divers		✓
Shipwrights	✓	
LCVP/ LCU Coxswains		✓
Gunnery personnel	✓	
ASHORE		
Bandsmen/ Musicians	✓	
CFM/ SFM personnel	✓	
RM doghandlers		✓
RM BV drivers		✓
RM training exercises using firearms	✓	
RM Sustained Firing Groups	✓	
Firing range staff	✓	
RM Platoon Weapons	✓	
RM Special Forces		✓
Troop Air Carriers	✓	

5. The responsibility for identifying those at risk from exposure to noise rests with the Commanding Officer, but as a guide, personnel identified as being in group A should have audiometry undertaken every 2 years. Those in group B may require to be part of a hearing conservation programme and will require to be individually assessed. Group C are extremely unlikely to require being part of a hearing conservation programme and will only need audiometry as part of the routine PULHHEEMS protocols. In view of the frequency with which Naval personnel change billets, it is also recommended that the requirement to undergo biennial audiometry should continue for 1 year after leaving an at risk group.

6. Audiometry testing of these personnel is to be carried out on the following occasions:

a. Before commencing work in a hearing protection zone (unless already under surveillance as part of a hearing conservation programme).

b. Every 2 years whilst employed in risk groups A and B or as identified by noise assessment.

7. The Medical Department is to ensure that audiometry is carried out on all personnel identified to them as requiring audiometry as part of the hearing conservation programme. Hearing surveillance is one of the Clinical Governance Benchmarks to be reported to MDG(N). The requirement is for 90% of personnel in group A to be in-date for audiometry; in order to meet this it will be necessary to have a register and recall system for the personnel at risk.

8. The audiogram should be compared with previous assessments and any changes evaluated by a Medical Officer to determine potential significance. Advice may be sought from the appropriate Naval Medical Officer of Health in cases of doubt. Referral to an ENT specialist should be made on clinical grounds or when there has been a change in the H category.

9. All audiograms are to be retained in the F Med 4 and the result entered onto PHCIS and onto the table on the back of the F Med 4.

CHAPTER 7

STANDARDS FOR AIRCREW, AIR TRAFFIC CONTROL, FIGHTER CONTROLLER AND AIRCRAFT CONTROLLER

CONTENTS

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CHAPTER 7

MEDICAL STANDARDS FOR AIRCREW, AIR TRAFFIC CONTROL, FIGHTER CONTROLLER AND AIRCRAFT CONTROLLER

0701. Medical Standards for Aircrew

All candidates for aircrew duties attracting Special Service Pay (Flying) are required to be medically examined at the Central Air and Admiralty Medical Board (CAAMB). Medical documents, with a PHCIS medical record either exported to floppy disk or printed, are to arrive at CAAMB at least 7 days before the date of the medical.

0702. Provisional Medical Examination of Aircrew Candidates (RN & RM)

Provisional examination of aircrew candidates is to be made as follows:

a. **Officer candidates for Pilot or Observer**. An Officer candidate is to be considered fit for final medical examination at CAAMB if the PULHHEEMS assessment is in-date and conforms to:

P	U	L	H	H	E	E	M	S
2	2	2	1	1	$\frac{3}{1}$	$\frac{3}{1}$	2	2

and CP 1

b. **Rating candidates (including Upper Yardmen) for Pilot or Observer**. Requirements before attending AIB are:

(1) Medical category P2 assessment to be no longer than 1 year ago.

(2) Refraction meets VA1; CP1 or 2. Any doubts as to fitness for aircrew duties are to be referred to CAAMB.

c. **Rating candidates for transfer to the Aircrewman Branch**. The PULHHEEMS profile should conform to:

P	U	L	H	H	E	E	M	S
2	2	2	1	1	$\frac{3}{1}$	$\frac{3}{1}$	2	2

and CP1 or CP2

and form F Med 4 (and PHCIS medical record) is to be forwarded to CAAMB for scrutiny (BR 1066 Para 1909).

d. **Candidates for duties attracting Flying Extra Pay**, e.g. vibration recorders and local Aircrewmen, are to be examined by their own Medical Officer to aircrew standards and annually thereafter. Those candidates with safety critical tasks, e.g. winch operator, are to achieve a corrected visual acuity of 6/6; candidates without safety critical tasks e.g. vibration recorder may be Visual Acuity III: cases of doubt are to be referred to CAAMB. (Those who regularly form part of the crew of a helicopter (without pay) are to be similarly examined).

e. **Candidates for Aircrew duties with the Royal Marines** are to be examined i.a.w. the relevant Sub-Paras a, b or c above.

0703. Final Medical Examination

1. Final examination at CAAMB is mandatory for:

a. Pilots.

b. Observers (including UY and SUY).

c. Transfer to the Aircrewman Branch including RM Aircrewmen.

d. Personnel for Naval Contract Service as aircrew.

e. Volunteers for RNR Air Branch aircrew:

(1) Volunteers who are currently serving with an in-date, appropriate flying medical category are to be examined by their own Medical Officer; the completed F Med 144 is to be sent to CAAMB for endorsement.

(2) Volunteers who are no longer serving in the Royal Navy or who do not have an in-date appropriate flying medical category must attend CAAMB.

f. Re-entrants to the Royal Navy for flying duties.

2. The flying medical examination of aircrew candidates and personnel is to be carried out i.a.w. the procedures laid down in AP 1269A. The following special instructions also apply:

a. **Anthropometry**: All aircrew candidates will be measured on the anthropometric rig at CAAMB and checked against the current minima and maxima for aircraft types and aircrew equipment assemblies. Borderline cases at the minimum end of the scale will be assessed as unfit but may be re-measured and reassessed after a year has elapsed. Cockpit checks will be required in the relevant aircraft types for borderline cases. Helmet fitting checks are essential for borderline cases. Weight for candidates for aircrew is not to exceed 15% of the ideal (JSP 346 Appendix 7) unless skinfold thickness is acceptable.

b. **ECG**. An ECG is required for all aircrew candidates at CAAMB.

c. **EEG**. An EEG is required for candidates for Pilot and Observer duties and, transfer to the Aircrewman Branch.

d. **Chest X-ray**. All candidates are to have a large plate chest X-ray as part of the final medical examination at CAAMB. If the candidate has had a normal chest X-ray in the Service for clinical or other reasons prior to joining CAAMB, a further chest X-ray is not necessary.

e. **Dental**. Dental standards are i.a.w. Para 0205. In cases of doubt an RN Dental Officer's opinion is to be obtained.

f. **Visual**. Visual standards are i.a.w. Chapter 5.

g. **Hearing**. Candidates' hearing is to be assessed by pure tone audiometry and the H1 standard is to be achieved in both ears i.a.w. JSP 346 Para 0209. In some circumstances, candidates may fail on aural grounds despite being H1 on audiometry. Cases of doubt are to be referred to a Naval otologist.

h. **Haemoglobinopathies**. (See Para 0217). The presence of haemoglobinopathies may be a cause for rejection on clinical grounds.

i. **Blood grouping**. Blood grouping is to be repeated i.a.w. Para 0218 for candidates who cannot produce satisfactory proof of their blood group.

j. **Asthma**. Any diagnosed history of asthma is a bar to entry for all aircrew specialisations.

0704. Flying Medical Categories

1. Flying medical categories indicate medical fitness to perform flying duties within the current standards. They are recorded as follows:

a. The letter A represents fitness for flying duties as a Pilot. The letter B represents fitness duties as any other member of aircrew, e.g. Observer or Aircrewman.

b. The numerals placed after the letter A or B denote the type of duties for which an individual is medically fit viz:

A1/- Fit for full flying duties as a Pilot.

A2/- (....) Fit for limited flying duties as a Pilot. The limitation is to be stated.

B1/- Fit for full flying duties as aircrew other than Pilot.

B2/- (....) Fit for limited flying duties as aircrew other than Pilot. The limitation is to be stated.

c. The letters p, t or h will be placed after both A and B to indicate the degree of unfitness or limitation of unfitness as follows:

p Permanently Unfit. Awarded only by CAAMB and indicates permanent unfitness for flying duties. (See Para 0710 below).

t Temporarily Unfit. This category may be awarded by any Medical Officer who has charge of aircrew. In no circumstances may such a category be continued for more than 6 months without referral to CAAMB.

h Home Service Only. This category may only be awarded after formal consultation with CAAMB. In no circumstances may such a category be continued for more than 6 months without referral to CAAMB.

d. Examples of flying medical categories:

At/- A Pilot temporarily grounded.

Ap/- A Pilot permanently grounded by CAAMB.

B2h/- An Observer or Aircrewman who is restricted to UK disembarked flying only.

Ap/Bp/- Personnel permanently unfit for all aircrew duties.

e. The RAF system of medical categories is described fully in AP 1269A for those Medical Officers with charge of RAF aircrew.

f. Foreign and Commonwealth aircrew serving with the Royal Navy whose medical category is in doubt are to be referred to CAAMB as STANAG 3526 applies.

0705. Annual Medical Examination for Aircrew

All aircrew require annual medical examination, as do personnel receiving Flying Extra Pay. Candidates for flying training are to be examined annually after the CAAMB initial flying medical. If 3 years elapse before starting flying training, re-examination at CAAMB is mandatory. Aircrew appointed to general service or Corps duties are to keep their flying medical category in-date. If they are 3 or more years out-of-date they are to be referred to CAAMB prior to recommencing flying. Aircrew medicals are normally to be valid for 1 year from the date of the last medical; however, if undertaken up to 45 days before the expiry of the previous medical the validity is to run for 1 year from the expiry date of that medical.

a. Audiometry every 2 years is a requirement. Aircrew whose hearing standard, determined audiometrically, has fallen from the previously recorded H category are to be retested after at least 24 hours in a noise-free environment and, if still below standard, are then to be referred to a Naval otologist either directly or via CAAMB.

b. Electrocardiography is mandatory for aircrew and is to include the normal 12 leads at rest and lead III on inspiration. Traces, together with details of height, weight and blood pressure, on F Med 289 are to be sent to CAAMB. Those aircrew reported as having potentially significant abnormalities on their ECGs are to be referred to a Service medical specialist by their own Medical Officer for full cardiovascular evaluation. A copy of the medical specialist's report is to be forwarded to CAAMB. ECG is to be carried out as follows:

(1) All aircrew.

(a) At Initial Medical Board at CAAMB.

(b) At age 20 if more than 2 years since initial ECG.

(c) At ages 25, 30, 32, 34, 36, 38, 40.

(2) Pilots, as in (1) above, then:

(a) Annually from age 41 to 50 if appointable for flying duties.

(b) Six-monthly after age 50 if in a flying appointment.

(3) Observers and Aircrewmen, as in (1) above, then annually from the age of 41 if appointable for flying duties.

c. Chest X-rays are only needed where clinically indicated.

d. Medical Officers are to take special note of the unclothed weight and compare it with the average weights at each height, which are given in the tables in JSP 346 Appendix 7. Whenever the weight of the aircrew exceeds the given figure by 15% or more, advice on weight reduction is to be given, unless BMI, skin fold measurement or assessment at INM indicates that their body fat is acceptable. CAAMB will provide detailed advice. If assessed as overweight a careful assessment is to be made of cardiovascular risk factors, physical fitness and physical ability to conduct their duties (including emergency escape from the aircraft). Concerns in these areas may necessitate the award of a temporarily reduced medical category or immediate referral to CAAMB, otherwise they will be given 6 months in which to reduce weight, under supervision, after which their case is to be referred to CAAMB if they still exceed the limit stated above. Medical Officers examining aircrew flying in aircraft with ejection seats are to be conversant with the unclothed weight limits for the seats.

0706. Medical Officers Authorised to Conduct Annual Aircrew Medicals

Annual medical examination of aircrew will only be carried out by a Medical Officer who has completed a course at the RAF Centre for Aviation Medicine or CAAMB or has spent 6 months in an air station or aircraft carrier under the supervision of an aviation medicine specialist.

0707. Recording of Annual Aircrew Medicals

1. Detailed findings of the examination and its result are to be entered onto F Med 143.

2. Medical Officers are to ensure that the current flying medical category of all aircrew personnel is recorded in their Flying Logbook. To distinguish the annual medical examination from other notations the word 'Annual' should be inserted at the time this examination is completed, e.g.:

A1/- (ANNUAL) expiry 1 October 96.

3. Medical Officers are to inform Squadron Commanding Officers, or the appropriate responsible Officer, of any change in the medical category of their aircrew, whether of a temporary or permanent nature, in addition to entering the notation in the Flying Logbook:

E.g. If a Pilot develops a need for spectacles his category would be changed by CAAMB from A1/- to A2/- (with corrective flying spectacles) and this should be reported.

0708. RNR Air Branch Medical Examinations

1. Aircrew and Air Traffic Control Officers will be examined initially at CAAMB and the appropriate standards for age and experience will be applied. (See Sub-Para 5 below).

2. Other RNR Air Branch Officers and Ratings require the same profile as their General Service equivalents except that Air Engineering Ratings are required to be CP 2.

3. RNR Air Branch aircrew may be eligible to be given a waiver from RN annual aircrew medical examinations provided:

a. They have an in-date JAR Class 1 medical certificate.

b. They are not required to fly in fast jet/ ejection seat aircraft.

4. Reserve aircrew must give the Medical Officer, face to face, a verbal declaration of health (including details of any illness or hospitalization) during the preceding 12 months. This is to be recorded on the F Med 5 or PHCIS. A full or limited examination may then be deemed appropriate and an appropriate limitation on the medical category may be indicated.

5. F Med 4 and Flying Logbook are to be annotated with the appropriate flying medical category, e.g. A1/- (JAR Waiver). The expiry date of the medical category is not to be more than 1 year from the date of the waiver and no later than the expiry date of the JAR medical certificate.

0709. Sickness of Aircrew Personnel

1. In general, aircrew are not eligible to receive flying pay if they remain medically unfit to fly after being continuously grounded for 12 months. The exact regulations are to be found in BR 1950. Medical Officers concerned with the temporary grounding of aircrew are to bear this in mind and must ensure the category is reviewed every 3 months. If temporary grounding is still necessary after 6 months, the matter is to be referred to CAAMB.

2. When members of aircrew have been placed on the sick list onboard or in hospital or are referred to a specialist for consultation, the relevant medical documents are to be completed. If, following illness or injury, it is considered that a Medical Board is not necessary, and that no revision of a flying medical category is required, the notation 'flying medical category unaffected' is to be made on the appropriate F Med. Where there is a possibility of doubt, all cases are to be referred to CAAMB. A copy of F Med 23 of all aircrew personnel brought before a Medical Board of Survey is to be sent to CAAMB.

3. When a neuropsychiatric case is ready for discharge from hospital to home, arrangements are to be made for the case to be seen at CAAMB.

4. Before aircrew are referred to the Naval Service Medical Board of Survey they must attend CAAMB for consideration of their flying medical categories (and probable referral to the Naval Aircrew Advisory Board).

0710. Permanent Alterations to the Flying Medical Category

CAAMB is the only establishment authorized to allocate a permanent alteration of a flying medical category. Aircrew are seen only by appointment at CAAMB. They should bring with them their Flying Logbook, Fs Med 4 and 7 with detailed clinical notes and a PHCIS medical record either exported to floppy disc or printed. Cases referred to CAAMB for psychological reasons are to be dealt with i.a.w. current instructions in BR 767 N115.130. Cases where the flying medical category has been altered may be referred to the Naval Aircrew Advisory Board by CAAMB for recommendations as to their future employment and executive disposal.

0711. Spare

0712. Reconsideration of Permanent Flying Medical Categories

1. A flying medical category of Ap/- or Bp/- is given only after a full investigation when it is considered that the individual is medically unfit for further flying duties.

2. If, on the expiration of at least 12 months from the allocation of an Ap/- or Bp/- category (or other downgrading), an Officer or Rating considers that he has recovered completely from his disability, he may submit to his Commanding Officer that his return to flying duties be considered. If, in the opinion of the Commanding Officer, the submission is justified, the application is to be forwarded to Naval Secretary (Officers) or Commander-in-Chief Fleet (Ratings) with his covering remarks. In the event of approval being given, instructions regarding medical re-board will then be issued.

0713. AIDS/ HIV Infection

At present it is MOD policy not to screen for HIV infection, however, aircrew who are discovered to be HIV positive are to be referred to CAAMB to ascertain their correct flying medical category.

0714. Psychological Disorders in Aircrew

All Medical Officers in charge of aircrew personnel are to be conversant with the provisions relating to disposal for psychological reasons contained in BR 767 N115.130 - Naval Aviation Orders.

0715. Secondment, Exchange or Loan Service

Following a period of duty with foreign or Commonwealth armed forces, the medical documents of aircrew personnel must be scrutinised at CAAMB. The responsibility for forwarding the documents to CAAMB rests with the ship/ establishment to which aircrew personnel are reappointed on return from secondment, exchange or loan service.

0716. Re-engagement of Aircrew

When considering the re-engagement of Ratings of the Aircrewman Branch, Medical Officers are to ensure that, as far as can be reasonably forecast, they will be able to fly until the new engagement is completed. All cases of doubt; medical, psychological or psychiatric, should be referred to CAAMB.

0717. Medical Standards for Female Aircrew

1. **Pregnancy**. It is the responsibility of a female aircrew member to report to the PMO as soon as she suspects she may be pregnant. She is to be temporarily grounded and is not to serve at sea while pregnant.

2. **Post-natal examination**. The post natal examination (PNE) is normally conducted at 6 weeks post partum; relevant aircrew are not normally to fly before they have had this examination and been found fit for their full duties. Only CAAMB may carry out the return to flying medical; aircrew remain At/- or Bt/- in the interim. If they are found to be unfit to fly after the PNE, a return to work for employment on ground duties associated with flying may be authorised until the individual is fully fit to fly, or alternatively she may be granted further maternity leave up to the maximum allowed. Although it is feasible for an individual to return to flying soon after the PNE, it is recommended that flying should not be resumed until the full period of maternity leave has been completed.

3. Aircrew known to be pregnant are not to be subjected to:

a. Decompression training.

b. Simulated ejection experience on a test rig.

c. Wet STASS training.

d. Underwater escape training ('dunker').

0718. Epileptiform Seizures

1. Aircrew who suffer an isolated epileptiform seizure are to be grounded immediately. They may be referred to any Service consultant in medicine or neurology, but the decision about a flying medical category is to be made by CAAMB (usually Ap/Bp).

2. If an individual suffers a convulsion or unconsciousness as a consequence of a procedure related to training in aviation medicine, the Medical Officer in charge of training is to assess the individual. The Consultant Adviser in Aviation Medicine is to be informed and if there is any suspicion that the convulsion or unconsciousness was secondary to underlying pathology, he or she is to be referred as in Para 0709.2 above. However, if the Medical Officer is satisfied that the convulsion was a physiological response to the conditions experienced, no referral or change to the flying medical category will be necessary.

0719. Asthma

The following guidelines are to be observed:

a. Aircrew suspected of having asthma are to be temporarily grounded and referred to a Service chest physician for assessment.

b. CAAMB will then re-assess the flying medical category.

c. Aircrew with asthma or a past history of it are not fit to undergo Wet STASS training.

0720. STASS Training

Aircrew and others who are required to undertake STASS training in the Underwater Escape Training Unit have a very small risk of cerebral arterial gas embolism (CAGE). To minimise CAGE they are issued with a questionnaire designed to screen out those at risk; the questionnaire needs no involvement by medical staff unless there is a YES answer in Part B. Guidance for medical staff is given in Part C and uses the analogy of the CVS and respiratory criteria for submarine escape training in Chapter 9.

0721. Medical Standards for Contractor's Aircrew Flying in MOD Aircraft

Contractor's aircrew are to meet medical standard of in-service aircrew. All initial medicals are to be carried out at CAAMB and thereafter at the parent air station. After their initial medical, waivers may be granted for those who are not flying ejection seat aircraft i.a.w. Para 0708.3. Those who are flying ejection seat aircraft must undergo full Service aircrew medicals i.a.w. this publication. In cases where there is doubt as to the aircrew's flying medical category, the individual must be referred to CAAMB in the same way as for Service Aircrew.

0722. Passenger Flying in Non-Passenger Service Jet Aircraft

See JSP 550 D340.135 and Table 340.135.

0723. Air Traffic Controllers, Fighter Controllers and Aircraft Controllers

This is applicable to Air Traffic Controllers on entry and while undertaking control duties; it applies to Fighter Controllers while employed on FC duties; it also applies to AC Junior Ratings on selection and qualified AC Senior Ratings directly engaged in ATC or FC duties.

Minimum Profile:

P	U	L	H	H	E	E	M	S	
					7	8			CP 2
2	2	2	2	2	1	1	2	2	

Notes:

1. *Contact lenses may be worn to achieve corrected vision of 6/6.*
2. *If cannot achieve CP2 on Ishihara then to be referred to CAAMB to assess whether CP1.*

2. **Medical Officers Authorised to Conduct ATC/ FC/ AC Medical Examinations:**

a. **Initial exams** may be conducted by any Medical Officer who has a diplomate in aviation medicine working in the same Naval Air Station/ ship. Others are to be referred to CAAMB.

b. **Annual exams** may be conducted by a Medical Officer who has had aviation medicine training (e.g. on NEMO's course)

3. **Validity**. One year from the end of the month in which the examination was conducted. If undertaken up to 45 days before the expiry of the previous medical, the validity is to run for 1 year from the expiry date of that medical.

4. **Special Requirements**:

a. **ECG** at initial medical then:

(1) Every 5 years to age 30 then:
(2) Every 2 years to age 39 then:
(3) Every year to age 49 then:
(4) Every six months age 50+.

b. **Audiometry** at initial medical then:

(1) Every 5 years to age 40 then:
(2) Every 3 years.

c. **Chest X-ray and EEG** only if clinically indicated.

5. **Disqualifiers:**

a. **Hypertension.** Blood pressure consistently above 160 systolic or 95 diastolic, with or without treatment is incompatible with controlling duties.

b. **Migraine** is an absolute contra-indication for selection for ATC/ FC/ AC duties. Those already serving who develop migraine are to be referred for consultant opinion and, if the diagnosis be confirmed, to CAAMB to change the medical category. If sudden incapacitation is expected then individuals will be removed from controlling duties. If sudden incapacitation is unlikely then individuals may be permitted to continue controlling duties provided there is another qualified controller in the vicinity.

c. **Medical History** suggesting the risk of:

(1) Sudden Disorientation.

(2) Sudden loss of Consciousness.

(3) Sudden loss of mental or emotional control.

(4) Epilepsy.

(5) Diabetes Mellitus.

(6) Coronary artery disease.

(7) Cerebrovascular accident.

(8) Functional psychosis.

CHAPTER 8

STANDARDS FOR DIVING AND HYPERBARIC EXPOSURE

CONTENTS

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CHAPTER 8

STANDARDS FOR DIVING AND HYPERBARIC EXPOSURE

0801. Medical Officers Authorised to Conduct Medical Assessments

1. Medical examinations of regular and reserve Service personnel for diving, hyperbaric exposures and submarine escape training are to be performed by Service Medical Officers and civilian medical practitioners who have completed the Standard Underwater Medicine Course at the Institute of Naval Medicine (INM). In order to remain eligible to perform these medicals, they must have attended a refresher course at INM within the previous 5 years.

2. Only physicians approved by the Health and Safety Executive (HSE) may perform medicals on MOD-employed, non-uniformed civilian divers. Medical Officers who are required to perform such examinations should apply to the HSE, having first completed the Standard Underwater Medicine course at INM or an HSE recognised civilian alternative. The Assistant Director Naval Officer Career Management (Medical) should be informed of appointment as a HSE Approved Medical Examiner of Divers (AMED). The following medical standards apply to Service personnel only. HSE provides its standards for civilian professional divers to AMEDs.

0802. Assessment of Fitness

1. Requirements for the medical examination of various categories of Service divers are given in Table 8-1. The Service occupational diver group includes Clearance Divers, Ships' Divers, Swimmer Canoeists and Search and Rescue (SAR) Divers. Requirements for the medical examination of personnel involved in submarine escape training are given in Table 9-1.

2. The investigation of candidates with conditions which might make them unfit is to be initiated by the examining physician, with specialist opinions sought as appropriate. The candidate is to be considered temporarily medically unfit until a definitive decision is made.

3. If investigation fails to resolve the issue of fitness, Service candidates should be referred to Senior Medical Officer (Diving Medicine) (SMO(DM)) at the Institute of Naval Medicine (INM). Initially, referral should be by F Med 7 supported by all relevant documentation, which is to include the subject's F Med 4, along with the results of any investigations or consultations. INM will arrange for the patient to attend if this is necessary. The final authority on medical fitness to dive or undergo other hyperbaric exposure rests with the Consultant Adviser in Diving Medicine; under normal circumstances this will be delegated to SMO(DM).

Table 8-1 Requirements for the Medical Examination of Divers

	Service Occupational Diver		Acquaint Dive	Military Recreational Diver	
	Aptitude	Qualified		Initial	Qualified
Physical examination	Yes	Annual	Yes	Yes	Every 5 years to age 40, every 3 years to age 50 and annually thereafter
Blood pressure	≤140/80 mmHg	≤150/95 mmHg	≤150/95 mmHg	≤150/95 mmHg	
Dental examination[1]	Yes	Annual	Yes	Yes	Yes
Visual Acuity (uncorrected)	6/36, 6/36 and 6/24 with both eyes[2]				
Visual Acuity (corrected)	See Note 2			6/24 with both eyes	
Colour perception	CP3				
Exercise tolerance test	Yes	Annual		Yes	At each examination
Urine test	Yes	Annual	Yes	Yes	At each examination
Spirometry	Yes	Annual		Yes	At each examination
Full blood count	Yes	As clinically indicated		Yes	
ECG	Yes	Annually after age 35		Yes	At each examination from age>= 40 years
Audiometry	Yes	3 yearly		Yes	
Chest X-ray	In 12 months prior to diving	As clinically indicated		In 5 years prior to diving	
Diver Bone Survey	Clearance Divers only: on completion of training	Clearance Divers only:see Para 0823.3(b)			
Relevant Paragraphs:	0801 to 0824		0805 to 0817, 0828	0801 to 0820, 0825 to 0827	

Notes:

1. Dental examinations may be undertaken by the Medical Officer but, where doubt as to dental fitness exists, the candidate should be referred to a Dental Officer.

2. Swimmer-Canoeist visual standard E3/1 E3/1

4. It is important to consider fitness for immersion and pressure exposure whenever these personnel attend for a medical consultation, whether in a primary or secondary care setting. A relevant medical condition will have an immediate effect on the fitness of a diver and, although prospective submarine escape candidates might not be due to attend for pressurised training for some considerable time; they can face unnecessary delay if assessment is not initiated at the earliest possible opportunity.

0803. Medical Standards

Candidates must be physically and mentally fit and be without evidence of emotional instability. There is no upper age limit, but the discretion of the examining physician should be exercised when assessing the level of general fitness and, specifically, the reserves of pulmonary and cardiovascular function in individual cases. PULHHEEMS assessment must be P2 U2 L2 M2 and S2.

0804. Conditions Influencing Fitness for Diving

It is not possible to provide a comprehensive list of conditions which permanently exclude a candidate. Frequently, a decision is based on the extent of the abnormality or the severity of disease and the individual response to treatment. Conditions which have a bearing on fitness for diving are listed below. By scrutiny of medical documents, direct questioning and physical examination, the following conditions must be excluded. Where positively elicited or identified, these conditions are normally grounds for rejection. However, in cases of doubt, the candidate should be referred to SMO(DM) (see Para 0802.3).

SMO(DM)
Institute of Naval Medicine
Alverstoke
GOSPORT
Hants
PO12 2DL

0805. Dermatological Conditions

Any untreated chronic or acute skin disorder, including the cutaneous manifestations of systemic disease, other than mild, localised conditions, will disqualify a candidate from diving.

0806. Ears, Nose and Throat Conditions

1. The following conditions render a candidate unfit for pressure exposures:

   a. Chronic or recurrent sinusitis.

   b. Chronic or recurrent outer or middle ear discharge.

c. Severe allergic conditions of the upper respiratory tract.

d. Ménière's Disease or previous stapedectomy.

e. Perforation of the tympanic membrane, unless adequately healed or surgically corrected.

2. The following conditions render a candidate, or qualified diver, temporarily unfit for pressure exposures and should be referred to an ENT specialist:

a. Viral labyrinthitis.

b. A history of ENT surgery.

3. Hearing should be of H2 standard on initial medical. Subsequently a reduced category may be acceptable on the advice of an ENT specialist. The tympanic membrane must be clearly seen on examination with evidence of satisfactory Eustachian tube function and adequate ear-clearing by observing the ear drum to be mobile while a Valsalva manoeuvre is performed. Where doubt exists, and in the absence of an upper respiratory infection or catarrh, a cautious exposure to pressure should be carried out in a compression chamber. The chamber depth should not exceed 9 metres. Continued failure to clear ears should be cause for referral to an ENT consultant for formal assessment of Eustachian tube function.

4. Exostoses are acceptable provided they do not occlude the external auditory canal.

0807. Respiratory Disorders

1. The following conditions will render a candidate unfit for pressure exposures:

a. Symptomatic asthma or other form of recurring bronchospasm.

b. Chronic obstructive airways disease or areas of potential air trapping such as lung cysts, bullae and blebs; pleural effusion; lung fistula; bronchiectasis; pulmonary fibrosis; neoplasm and unresolved pneumothorax.

c. Pulmonary tuberculosis, unless limited to an isolated healed and calcified peripheral primary focus (Ghon focus). Such lesions are not necessarily an automatic bar to submarine escape training. However, personnel in whom they are discovered should be referred to the Senior Medical Officer (Diving Medicine) at INM.

d. Sarcoidosis or other restrictive pulmonary condition.

e. Any lung disease, abnormality or penetrating chest injury likely to result in areas of altered lung compliance and/ or pleural adhesions. Candidates with a history of pneumonia with X-ray changes should be referred to SMO(DM).

2. Candidates with a past history of reversible, obstructive airways disease are judged on an individual basis. Isolated attacks of bronchospasm in association with frank chest infections must be discussed with INM. It is of extreme importance to identify any tendency to recurring obstructive airways disease. A current history consistent with bronchoconstriction on exercise or in a cold environment is an absolute contra-indication to pressure exposure; the candidate should be made unfit for pressure exposures and SMO(DM) should be informed of this finding.

3. Candidates with the following histories should be asked to keep a Peak Expiratory Flow (PEF) diary:

a. Past history consistent with reversible bronchoconstriction.

b. Current history of questionable significance.

c. Allergen-mediated bronchoconstriction.

4. The PEF diary should be kept for 28 days, recording best of 3 efforts:

a. On waking and at 1800 each day.

b. Pre- and post-exercise, making a note of this on the diary.

c. If the candidate feels wheezy or short of breath, making a note of this on the diary.

5. If an occupational exposure is suspected then readings should be taken every 4 hours while awake and every 2 hours while at work, with careful notes of circumstances at each reading. If variability that is not attributable to occupational exposure is 15% or greater then the candidate should be made unfit for pressure exposures and SMO(DM) should be informed. All other cases should be referred to INM for pulmonary function testing. If the specialist laboratory shows no evidence of abnormal bronchial lability in response to a challenge or bronchodilator then the candidate may be found fit for pressure exposures (see Annex A - Guidelines for Performing Simple Spirometry).

6. A history of perforating chest injury or open chest surgery may disqualify if there is evidence of residual pulmonary or pleural scarring. The reason for the surgery is to be established. All such cases are to be referred to SMO(DM) (see Para 0802.3).

7. Pneumothorax, other than spontaneous, may be acceptable providing at least 3 months have elapsed since resolution and it has been determined by detailed pulmonary function assessment that no residual impairment remains. All such cases are to be referred to SMO(DM) (see Para 0802.3).

8. A history of spontaneous pneumothorax usually precludes pressure exposures. Individuals who have been recurrence-free for at least 5 years and in whom it has been determined by detailed pulmonary function assessment that no residual impairment remains may, in exceptional circumstances, be permitted to undergo pressure exposures. All such cases must be referred to SMO(DM) (see Para 0802.3).

0808. Cardiovascular Conditions

1. The following conditions will render a candidate unfit:

   a. Any organic heart disease.

   b. Coarctation of the aorta.

   c. Any history or evidence of coronary insufficiency or myocardial ischaemia, even if treated by coronary bypass grafting.

   d. Cardiomegaly unless it is established by specialist investigation to be the consequence of athletic training.

   e. Peripheral vascular insufficiency.

2. The following conditions must be referred for specialist cardiological opinion prior to referral to SMO(DM) (see Para 0802.3).

   a. Significant atrial or ventricular septal defects, or other potential right to left shunts. These conditions are usually incompatible with pressure exposure unless surgically corrected. Primary screening for right to left shunts, however, is not currently considered justifiable.

   b. Cases of valvular stenosis or regurgitation.

   c. All arrhythmias except sinus arrhythmias and ventricular extrasystoles which disappear with increasing heart rate.

   d. Conduction defects. Right bundle branch block may be acceptable provided it is determined by specialist opinion that it is an isolated finding.

3. Abnormalities found on cardiovascular examination, such as murmurs, and on ECG must be investigated to an appropriate extent before a decision on fitness is made.

4. Symptomatic haemorrhoids and severe varicose veins are relative contra-indications to diving.

0809. Alimentary System Conditions

1. The following conditions will render the candidate unfit:

   a. Chronic inflammatory bowel disease.

   b. Acute or chronic active hepatic disease.

   c. Gall stones.

   d. History of pancreatitis.

e. Abdominal wall herniation unless adequately repaired.

f. Hiatus hernia.

2. Peptic ulceration also disqualifies a candidate unless there is endoscopic evidence of healing and the candidate has been asymptomatic for at least 1 year. Divers who continue to be prescribed medication after healing is complete should be referred to SMO(DM) for consideration of fitness on a case-by-case basis (see Para 0802.3). In those cases due to Helicobacter pylori infection an individual will be considered fit if they are symptom free and there is evidence of successful eradication.

0810. Musculoskeletal Conditions

1. Candidates must have unimpeded mobility and dexterity. Any limitation should be assessed on the basis of the candidate's ability to perform his work or undertake training and, particularly, its possible impact on safety.

2. The presence of juxta-articular ('A') lesions of dysbaric osteonecrosis precludes further pressure exposures. A shaft ('B') lesion excludes participation in experimental pressure exposures.

3. Successful surgery for prolapsed intervertebral disc may be acceptable provided neurological examination is normal and there is no functional impairment.

4. Musculoskeletal, or referred, pain that might mimic decompression illness must be assessed carefully. If any doubt exists, the case should be discussed with SMO(DM).

0811. Nervous System Conditions

1. The initial neurological examination must be particularly rigorous with attention paid to documenting variations from normal. Similar care should be taken at subsequent examinations to confirm that no hitherto unrecognised neurological change has taken place. This is particularly important if there has been an episode of dysbaric illness since the last routine assessment.

2. Significant neurological abnormalities may merit specialist referral. To avoid possible confusion over a subsequent diagnosis of a dysbaric disorder, it is important that any abnormal findings are reported to the diver and clearly recorded in the Diver's Logbook.

3. Conditions with the potential to preclude pressure exposure are as follows:

a. Epilepsy, including petit mal and partial seizures, and irrespective of any treatment. Febrile convulsions up to the age of 5 years should not be considered a bar to pressure exposure. Individuals who have suffered an isolated seizure but who are not considered to be suffering from epilepsy, should be referred to SMO(DM) (see Para 0802.3).

b. A history of severe head injury is a permanent bar. A head injury will disqualify if any of the following are, or have been, present:

(1) Loss of consciousness of greater than 30 minutes.

(2) Evidence of residual focal neurological sequelae.

(3) A period of post-traumatic amnesia greater than 1 hour.

(4) Any period of pre-traumatic amnesia.

(5) Depressed skull fracture with or without loss of consciousness.

c. Candidates whose head injury occurred more than 5 years prior to the medical and in whom there is no evidence of neurological sequelae may, in exceptional circumstances, be permitted to dive or undergo submarine escape training. All such cases should be referred for assessment to SMO(DM) (see Para 0802.3).

d. Intracranial surgery.

e. Severe speech impediment.

f. Severe motion sickness.

g. Migraine unless mild and unaccompanied by visual, speech, motor or sensory disturbance.

4. A history of bacterial or viral meningitis or encephalitis is compatible with pressure exposure provided that the candidate has been asymptomatic for 12 months and there is no evidence of neurological sequelae.

0812. Mental Health

Psychiatric illness, other than minor reactive or transient non-recurring conditions. A history of past or present psychiatric or psychological disorder, including abuse of alcohol or drugs, should be considered a contra-indication to pressure exposures unless the examining physician is content, having taken specialist advice if indicated, that it is of a minor nature and unlikely to recur. Past or present evidence of alcohol or drug abuse unless a consultant psychiatric opinion is favourable. These latter cases must be referred to SMO(DM) for a final opinion.

0813. Genito-Urinary Conditions

1. Renal calculi and malformations of the urinary system will be cause for rejection unless adequately treated.

2. Sexually transmitted diseases will disqualify until successfully treated. Although specific testing does not form part of a routine medical examination, HIV positive candidates are considered unfit.

0814. Endocrine Disorders

1. Detailed specialist investigation of endocrine conditions is not normally required. However, where abnormalities are detected clinically, these should be investigated and referred to SMO(DM) (see Para 0802.3).

2. Diabetes mellitus requiring insulin and/ or oral hypoglycaemic agents is an absolute contra-indication. Qualified divers who develop diabetes mellitus controlled by diet alone may be permitted to continue to dive if there are no diabetic complications.

0815. Haematological Conditions

1. Requirements for screening tests are given in Para 0820. Abnormalities revealed should be referred for specialist assessment.

2. Asymptomatic sickle cell trait is not a contra-indication to pressure exposure and individuals with frank sickle cell disease will be unfit for entry into military service. Routine testing for sickle cell disease is thus not required. Haemoglobin electrophoresis may be carried out if required at the initial medical.

0816. Dental Standards

1. Candidates require a high standard of dental fitness. Whereas examination by a Dental Officer is not required routinely, candidates are to be dentally in-date. Teeth should be sound or adequately restored and the gum and supporting bones should be healthy. Malformations or missing dentition should be assessed in the light of the candidate's ability to retain a mouthpiece and affect an adequate seal, bearing in mind that dentures should be removed when diving.

2. Crowns and fixed bridgework must be scrutinised annually. If in doubt as to a candidate’s dental fitness, the examining physician should seek the opinion of a Dental Officer.

0817. Gender

Standards for males apply equally to females but pregnant women must not dive or undergo any other pressure exposures.

0818. Additional Investigations

1. **Urinalysis**. Side room examination of the urine for protein and glucose is required annually.

2. **Spirometry**. Lung function tests are required as part of both initial and subsequent examinations. These tests are carried out on Vitalograph wedge-bellows spirometers, which are available at establishment sick bays. Instructions on the correct use of a Vitalograph spirometer are given at Annex A. Further detailed advice is available from SMO(DM). The ratio of FEV_1/ FVC should not be less than 70% while the FVC should not fall below the values for age and height given at Appendix III. This simple lung function test is a screening procedure only and failure to achieve the standards described above should not, on its own, be automatically regarded as a cause for rejection. Annex A Para 5 gives instructions regarding candidates who fail to achieve the stated standards. Candidates whose FVC is in excess of that capable of being measured by the standard Vitalograph spirometer should be referred to the Institute of Naval Medicine, to permit accurate measurement of their lung function.

0819. Fitness and Fatness

1. Divers are to be aerobically fit as gauged by the Harvard Step Test, 1.5 mile (2.4 km) timed run or multi-stage (bleep) test.

2. The Harvard Step Test is to be performed as follows:

   a. The candidate is required to take steps of height 43 cm at a rate of 30 steps per minute for 5 minutes.

   b. After 1, 2 and 3 minutes post exercise a 30 second pulse count is taken. These are added together and a score of 190 or less is regarded as an acceptable level of fitness.

   c. Candidates who fail to achieve this standard should be re-examined following a suitable period of fitness training.

3. If the diver possesses official certification of having completed a 1.5 mile run within 10 minutes and 30 seconds, or achieving a score of 11.01 on the multi-stage (bleep) test in the last 28 days, then the Harvard Step Test may be waived.

4. Average weights for adults in underclothing, according to build, height and sex, are given at Appendix II. Candidates who do not exceed 15% above the appropriate average weight are considered fit to dive.

5. Individuals weighing more than 20% above the relevant figure are generally unfit to dive unless it is considered that, in view of the person's morphology and muscular development, the excess is not due to fat.

6. Where doubt about the possible obesity of a candidate exists, the case is to be referred to the Head of Applied Physiology at the Institute of Naval Medicine who will arrange for an anthropometric assessment. Candidates who are found to be unfit to dive on the basis of obesity should be referred for dietary advice.

0820. Other Investigations for All Categories of Diver

1. **Haematological screening** of Service divers should be carried out as follows:

a. **Initial screening for aptitude.** Nil

b. **Initial full diving medical.** Full blood count. Haemoglobin electrophoresis should be performed only if clinically indicated.

c. **Annual examination.** Haemoglobin estimation on clinical indication at the examining Medical Officer's discretion.

d. **Haemoglobin levels.** Estimation is to be carried out at the nearest Service laboratory within 48 hours of sample collection. The following minimum standards shall be applied:

(1) Males - Haemoglobin 13 g/l^{-1}

(2) Females - Haemoglobin 11.5 g/l^{-1}.

Note: For standardisation purposes, haemoglobin estimation should be performed in the latter half of the menstrual cycle to minimise physiological variations associated with the cycle.

0821. Service Occupational Divers - Procedures

1. The results of the medical examination of Service divers are to be recorded on F Med 143 (Special Medical Examination Record). In addition, the results and date of annual medical examinations and periodic X-rays are to be recorded in the Diver's Logbook (S1627 for Servicemen) and signed by the Medical Officer who performed the examination.

2. The initial examination must be completed in the candidate's ship, establishment or unit prior to presentation for aptitude testing. Candidates for aptitude tests must be provided with a certificate of fitness for Ships' or Clearance diving, or Royal Marine Swimmer-Canoeist aptitude testing. It is to be signed and dated by the examining Medical Officer and is to bear an official stamp. The certificate, which is valid for 12 months, should be sealed and given to the candidate for presentation to the officer conducting the test.

3. Candidates presenting for Clearance Diver aptitude testing who are already Ships' Divers and are medically in-date need not be re-examined - a fitness for aptitude testing certificate may be issued following scrutiny of the medical documents.

4. On being selected for a diving course, diver candidates are to be medically reviewed to ensure that they have been examined i.a.w. Table 8-1 and are currently fit to dive. A completed F Med 143 is to be included with the candidate's F Med 4 and forwarded to the training establishment to arrive before the course is due to start. Exceptionally, in order to avoid delay, documentation may be handed to the candidate for delivery to the training establishment. The establishment should be advised by telephone that this is being done.

5. It is the responsibility of Diving Officers to ensure that divers under their control are certified as medically fit.

6. A diver may decide that he is fit to resume diving after a minor illness provided that it lasted not more than 5 days, was not diving-related and did not require medical advice or treatment. In all other cases, the Medical Officer consulted should annotate the Diver's Logbook if an 'unfit to dive' decision is made. The opinion of a suitably qualified Medical Officer (see Para 0801) must be sought prior to the resumption of diving. Circumstances where this should occur include:

a. Whenever a diver is admitted to hospital for treatment.

b. Whenever a diver is downgraded below P2 U2 L2 M2 and S2.

c. Whenever a diver is involved in a diving incident, pending assessment by INM.

0822. Service Occupational Divers - Medical Standards

1. Divers must be aged 17 or over.

2. Blood pressure is to be recorded with the candidate in the supine position and using the 5th Korotkov sound. It should not exceed 140/80 mmHg at entry to diving. A reading of up to 150/95 mmHg may be permissible in trained divers in the absence of stigmata of hypertension.

3. Visual Standards:

a. Visual acuity is not to be less than R 6/36, L 6/36 and 6/24 in both eyes, uncorrected.

b. Near vision should be at least N5.

c. Colour perception is to be at least CP3.

d. Visual fields should be normal using the confrontation test.

e. Fundi should be normal.

f. A history of detached retina normally precludes diving.

g. Contact lenses are not to be worn in operational Service diving.

0823. Service Occupational Divers - Additional Investigations

1. **Audiometry** is to be performed at the initial medical, then 3 yearly or more frequently on detecting hearing loss, or if indicated clinically. Audiometry should always be performed after any significant middle ear barotrauma.

2. **ECG**. All divers are to have a standard resting 12 lead ECG at initial examination and annually after the age of 35. This should precede the exercise tolerance test. In the event of deviations from normal being detected, the advice of a specialist should be sought before proceeding with the exercise tolerance test.

3. **Radiology**. X-rays should be performed as follows:

a. Chest X-ray requirements:

(1) All divers at initial medical will require screening prior to undertaking training; inspiratory PA chest X-ray to have been taken no more than 12 months prior to initial medical. The format should be as follows:

(a) For analogue radiography – full plate radiographs.

(b) For digital radiography – reported from soft copy in Service hospital units, or, from elsewhere, production of laser hard copy film at full size or no less than 75% of original size or in electronic format on a CD-ROM. If the latter is used then an application to allow viewing of the images at full resolution must be included on the CD-ROM.

(2) Qualified divers require chest X-ray only if clinically indicated.

b. Long bone X-ray requirements (career divers only):

(1) **All career divers**: A full Long Bone Survey (shoulders, hips, knees) is to be performed at the time of initial qualification as a career diver and on ceasing to be a diver or on leaving the Service. Qualified career divers who re-enter military service are to have full survey at re-entry unless they have had a survey within the last 2 years.

(2) Career divers who dive regularly to depths in excess of 50 metres of seawater (msw) should have additional full surveys no more frequently than 5 yearly. 'Regular' is defined as at least 10 dives a year.

(3) Career divers who volunteer for experimental diving should have an additional full survey before their first experimental dive, unless within 2 years of a previous routine survey.

(4) Additional radiography of joints may be indicated clinically.

(5) If in doubt as to the frequency of examination or indications for clinically justified examination, the advice of the SMO(DM), Institute of Naval Medicine or the Consultant Adviser in Radiology, should be sought.

0824. Service Occupational Divers - Delay of 'Additional Investigations'

If, owing to sea or detached service, the 'additional investigations' listed cannot be performed, a diver may, at the examining physician's discretion and subject to the rest of the medical examination being normal, continue to dive after the date of expiry of his last medical. However, this should not normally be permitted for more than 4 weeks.

0825. Service Recreational Divers - Procedures

1. Assessment of fitness for Service recreational diving should only be performed by a medical practitioner who, i.a.w. Para 0801, is authorised to conduct diving medicals.

2. Service recreational divers must be examined prior to undertaking any form of dive training. Subsequent examinations are to be performed at 5 yearly intervals to age 40, 3 yearly to age 50 and annually thereafter. More frequent examinations may be required following dysbaric disease, intercurrent illness or at the instigation of SMO(DM).

3. The result of the examination is to be recorded on F Med 143 (Special Medical Examination Record) and when completed this must be included in the candidate's medical record. Candidates certified as fit to dive are to have their British Sub-Aqua Club (BSAC) Certificate of Fitness signed and stamped for insertion in their logbook. Where possible a non-Service stamp is to be used to avoid revealing the military status of the Service sports diver.

4. Candidates should also complete the health declaration required annually by the BSAC. Any Serviceman who, after completing the declaration, requires the opinion of a medical referee must be referred to SMO(DM) (see Para 0802.3).

0826. Service Recreational Divers - Medical Standards

1. The underwater environment is, by its nature, hostile to air-breathing man and makes no distinction between those who dive for pleasure and those who dive for employment. Because of this the medical standards for Service personnel who participate in recreational diving are, with the limited exceptions described below, the same as those applied to Service personnel employed as divers, Paras 0801 to 0824.

2. **Cardiovascular system.** Mild hypertension is acceptable provided that the resting blood pressure is no higher than 150/95 mmHg, recorded lying down, and that control of hypertension is limited to small doses of diuretics or drugs which have no effect on the candidate's exercise tolerance. An ECG must be performed at the initial examination, at age 40 and at subsequent examinations. An ECG may also be recorded on other occasions when clinically indicated or at the discretion of the examining physician. The ECG is to be performed before the exercise tolerance test (see Para 0823.2).

3. **Visual standards**. There must be no active ocular disease. Visual fields are to be full by confrontation and the fundi must be normal. Visual acuity is not to be less than 6/24 with both eyes; candidates must be capable of reading instruments underwater. The use of corrective lenses and soft contact lenses is permitted and so inadequate visual acuity is unlikely to be a cause for rejection. Colour perception is not a factor in dive safety for recreational divers and so candidates who are CP4 may train as Service sports divers.

0827. Service Recreational Divers - Additional Investigations

1. **Radiology**. Evidence of a full plate chest X-ray, reported as normal and taken within 5 years prior to commencing dive training, is required. Chest X-ray is not required at subsequent examinations unless clinically indicated.

2. **Audiometry**. This must be performed at the initial medical and following any episode of ear barotrauma. Audiometry should only be performed at subsequent examinations if clinically indicated.

0828. Standards for Acquaint Dive or Compression Chamber Exposure

The requirements for this group are given at Table 8-1 and in Paras 0805 to 0817. Blood pressure of up to 150/95mmHg is permitted provided that there are no stigmata of hypertension.

0829. Civilian Professional Divers

1. In the case of non-uniformed civilian professional divers, the examining Medical Officer must ensure that both his personal reference number and the MS80 number are entered in the Diver's Logbook. A clear statement must be included as to fitness to dive and any restrictions on diving are to be recorded and explained to the diver.

2. Examination of civilian professional divers is to be recorded on the HSE forms 'Diver's Medical Record' and 'MS80 Diving Medical Examination'.

3. In cases of doubt as to the fitness to dive of civilian professional divers, the advice of the HSE Diving Medical Adviser should be obtained:

Diving Medical Adviser
Health and Safety Executive Scotland West
375 West George Street
GLASGOW
G2 4LW

0830. Experimental Hyperbaric and Diving Exposure

All experimental hyperbaric and diving exposure conducted by or on Royal Navy, or MOD(N), personnel is subject to independent scientific and ethical scrutiny by the Ministry of Defence (Navy) Personnel Research Ethics Committee (MOD(N) PREC). The Senior Medical Officer (Diving Medicine) (SMO(DM)) at the Institute of Naval Medicine serves as secretary to the MOD(N) PREC.

ANNEX A TO CHAPTER 8

GUIDELINES FOR PERFORMING SIMPLE SPIROMETRY

Introduction

1. Spirometry is the most commonly used screening test for assessing ventilation. It gives a broad range of diagnostic and therapeutic information and is simple enough to be performed virtually anywhere. It is the procedure most commonly applied by the term 'pulmonary function tests' (PFTs). Although it does not necessarily provide a specific diagnosis, it can differentiate between several types of ventilatory impairment. Although obviously important for pre-employment evaluation, it is, perhaps, equally important when used in a serial fashion either to follow the course of a disease or to detect respiratory impairment at an early stage when corrective measures may still be beneficial. It is now used in the Royal Navy to assess fitness for diving and submarine escape training. The instrument most commonly encountered is a 'Vitalograph' of one type or another.

2. Within any large organisation, and the Navy is no exception, methodology may lack standardisation, thus making comparison of results obtained at different locations difficult. If the information is not obtained in a technically correct and standard manner, it may be worse than no information at all.

Method

3. The single most important factor in successful spirometry is very probably the skill and vigour of the technician helping the subject to perform the test. The following guidelines refer to the actual performance of spirometry and adherence to these details is essential.

a. Explain the test to the subject in simple terms. Most people will understand that you are testing 'how hard and fast they can breathe' much more readily than more precise physiological explanations.

b. At least an hour should have elapsed since the subject's last cigarette. Ideally at least 2 hours should have elapsed since a main meal.

c. Postpone the tests if the subject is obviously ill or has had an upper or lower respiratory tract infection within the last 3 weeks.

d. In order to standardise the technique throughout the Navy, a nose-clip should always be used.

e. Dentures and any tight fitting clothing or belts must be removed.

f. The subject should stand in front of the spirometer with the chin slightly elevated and the neck slightly extended. Adjust the height of the spirometer such that the tubing is in a horizontal line between the spirometer and the subject's mouth.

g. Accurately place the stylus on the 'stylus start' position (not the 'zero point') on the record for each of the following manoeuvres.

h. Instruct the subject to take the deepest possible inspiration from a normal breathing pattern, to close his mouth firmly around the mouthpiece and without further hesitation, to blow into the machine as hard, as fast and as completely as possible (common errors here are failing to maintain an airtight seal around the mouthpiece, pursing the lips as with a musical instrument or obstructing the mouthpiece with the tongue).

i. Two practice attempts with the paper carriage stationary are recommended. This will ensure that true measure of vital capacity (VC) is obtained, as certain individuals will not be able to reach full VC in 6 seconds (the total time of travel of the paper carriage).

j. Three good tracings should then be recorded with the paper carriage moving. Active encouragement by the technician throughout the entire duration of the forced expiration is essential to elicit maximum effort. A good trace is one in which the subject makes a complete inspiration, a maximal expiration sustained for at least 5 seconds without coughing and without allowing air to escape round the mouthpiece.

k. If the technician believes that the subject has not made a full inspiration before the forced expiration, has not made a maximal effort or has not continued the expiration for long enough, that particular tracing must be rejected. Variations between the largest 2 VCs of 3 good tracings should not exceed 100 ml.

l. In subjects with even a mild obstructive defect, a true VC may not be obtained within 6 seconds. If an obvious plateau is not obtained within the 6 seconds then 2 alternative approaches may be used to obtain the true VC:

(1) From the manoeuvres described in Sub-Para 3h above, on the assumption that the expiration continued to completion.

(2) After the 1 second mark has been reached, stop the paper carriage while the subject continues to expire, then continue recording until an obvious plateau is reached.

m. If these modifications to the technique are not made, the FEV_1/ FVC ratio will be distorted and too high.

n. From the tracings, measure the forced vital capacity (FVC) and the forced expiratory volume in 1 second (FEV_1). Use the largest FVC and FEV_1 regardless of which of the 3 lines they appear on (i.e. in the calculation of the FEV_1/ FVC percentage they need not be from the same curve).

o. Upon obtaining a satisfactory tracing, the following information must be placed on the tracing itself prior to inserting the tracing in the subject's medical documents as part of the permanent medical record.

(1) Subject's name and Service number (date of birth or hospital number for non-Service personnel).

(2) Date of test.

(3) Medical centre stamp with signature and name of technician.

p. If performance is submaximal whether voluntary or involuntary, this fact should be noted for accurate interpretation of the results.

4. Common causes of unacceptable results are shown in Figure 8A-1: a good record is shown in Figure 8A-2.

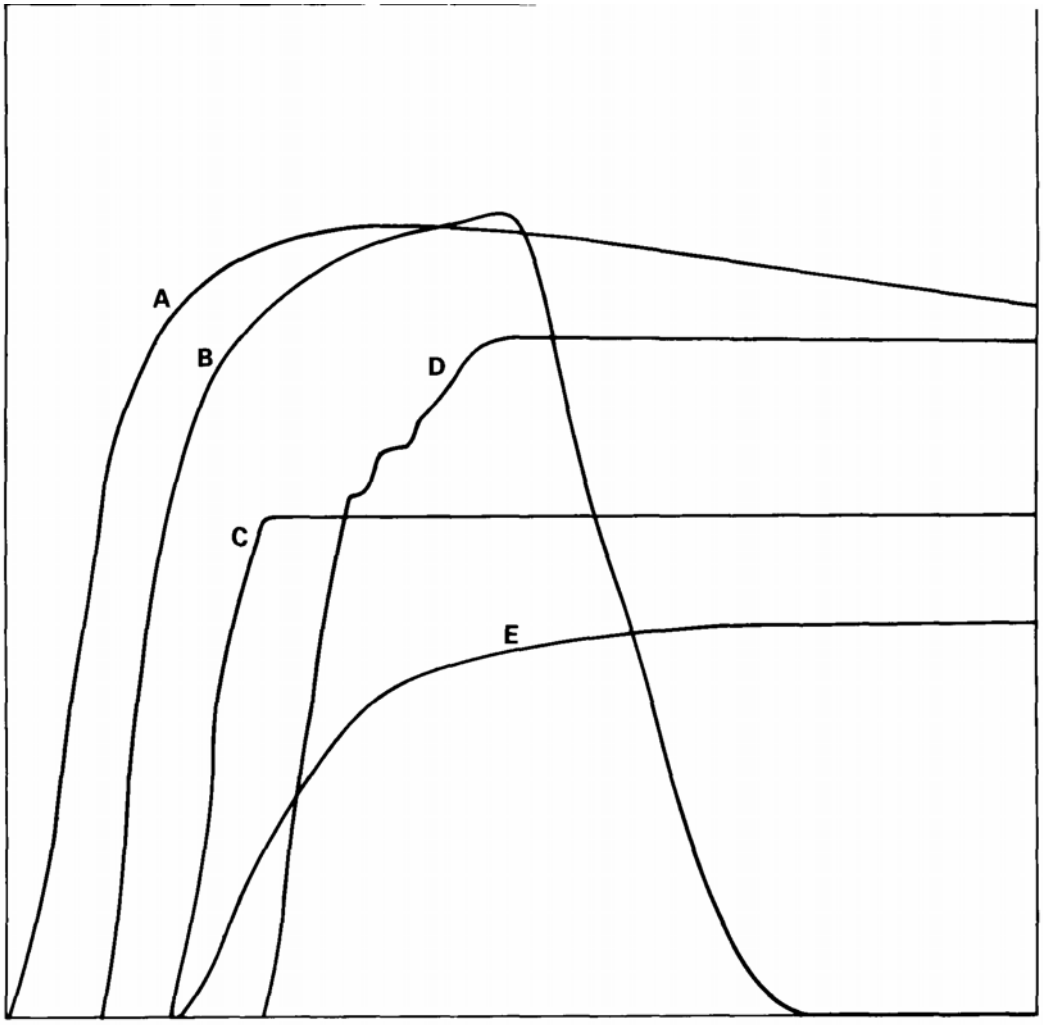

Figure 8A-1 Unacceptable Tracings:

A - Spirometer leaking.
B - Expiration too brief.
C - Cheating (closed glottis).
D - Cough.
E - Inadequate effort.

Note: Tracings have been staggered from the stylus start position for clarity.

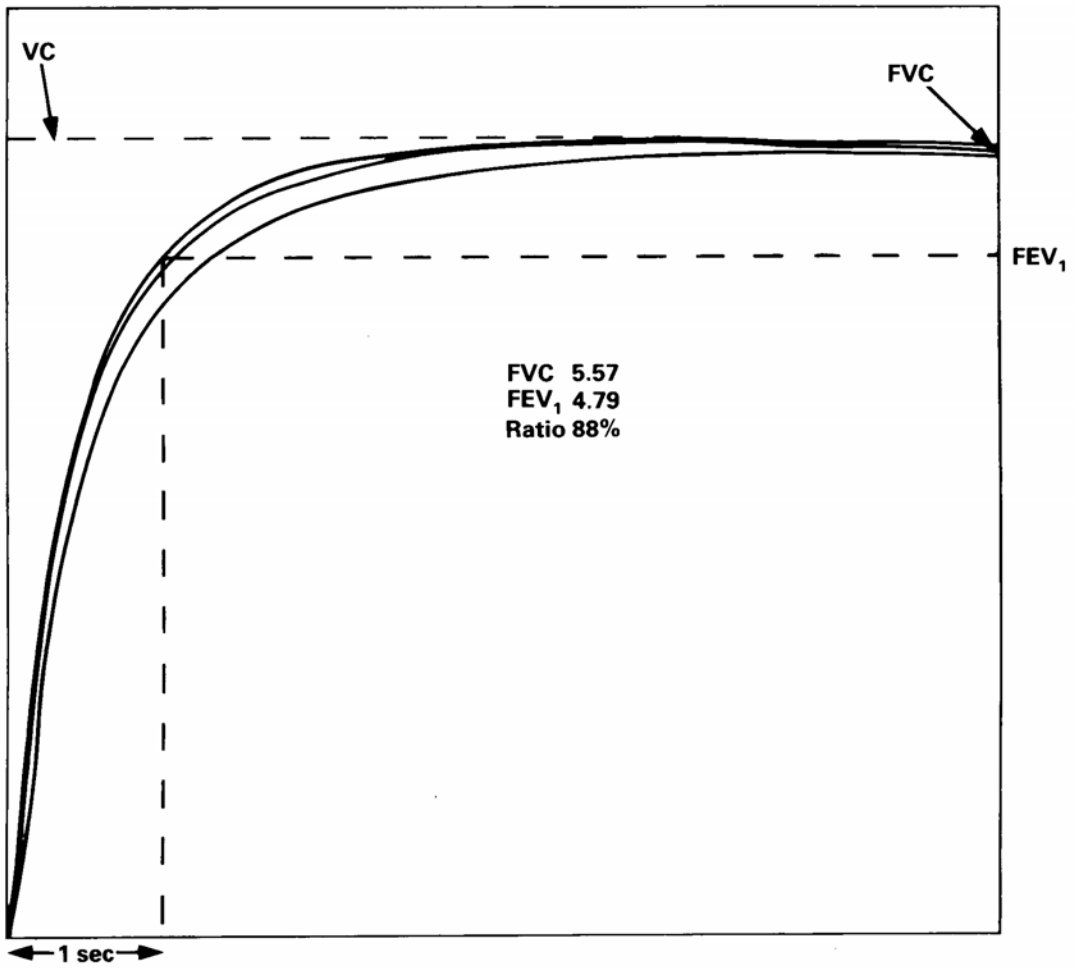

Figure 8A-2 A Good Trace.

Note: It is essential to read FEV_1 and FVC from the same scale.

Additional Notes

5. It is seldom justifiable to deny an individual employment solely on the basis of minimally abnormal screening spirometry. Any abnormalities should be verified by repeat testing after coaching in spirometry technique and after an appropriate period has elapsed to allow any temporary problem, such as respiratory infection, to resolve. A repeat spirometry trace is acceptable if it satisfies the standards laid down and there is no other evidence of residual pulmonary disorder. If the abnormalities are persistent then referral, with full medical documentation, should be made to the Pulmonary Function Laboratory, Institute of Naval Medicine.

6. There are several predictive equations for normal values. One set is given in Table 8A-3. In non-caucasians, the predicted FEV_1 must be multiplied by a correction factor to adjust for ethnic difference. No correction factor is necessary for the FEV_1/ FVC percentage. Cases where ethnic origin is perceived to be the cause of spirometry abnormality should be referred to the Pulmonary Function Laboratory INM.

Table 8A-3 Factors for Converting Gas Volumes from ATPS (Ambient Temperature and Pressure Saturated) to BTPS (Body Temperature and Pressure Saturated)

Room temperature ^{o}C	Conversion factor
15	1.128
16	1.123
17	1.118
18	1.113
19	1.107
20	1.102
21	1.097
22	1.091
23	1.086
24	1.080
25	1.074

Normal values for Caucasians:

FVC = [0.0583 x height (cm)] - [0.025 x age (years)] - 4.241, SE = 0.74

FEV_1 = [0.0362 x height (cm)] - [0.032 x age (years)] - 1.260, SE = 0.55

7. If the tests are follow-up studies, a comparison should be made with the previously recorded highest values for that subject.

8. Small daily and seasonal variations occur. If a high degree of accuracy is required, any follow-up studies should, ideally, be scheduled for the same month and at approximately the same time.

9. Other sources of variation include both biological ones (i.e. fluctuating subject effort) and instrumental ones (i.e. changes in a calibration, values obtained on different types of spirometer). Again, ideally all testing facilities within an organisation should use the same type of spirometer.

10. The automatic correction factor built into the recording paper of some instruments (such as the Vitalograph) is less desirable than direct calculation of the conversion of volumes to lung conditions (body temperature/ ambient pressure saturated with water vapour - BPTS; see Table 8A-3) but better than reading the ATPS scale. However, for normal and routine use, read the FEV_1 and FVC from the right-hand (BTPS) scale.

Never read the FEV_1 and FVC from different scales.

11. Vitalographs can leak; a typical example is shown on Figure 8A-1. Any tracing showing a decrease in volume in the presence of maximal effort is indicative of a leak in the system. This can easily be checked by partially inflating the spirometer and occluding the mouthpiece tube with the palm of the hand. If the stylus drifts towards the baseline, the spirograph is leaking and should not be used until repaired.

12. Deliberate or inadvertent closure of the glottis part-way through forced expiration will result in a sharp bend in the curve and a completely horizontal line for the majority of the trace. This is not hard to recognise but, if missed, will give a falsely low FVC and thus a falsely high FEV1/ FVC ratio. Such traces are unacceptable.

13. Smoking, non-occupational lung diseases and variation in technique are the common cause of alteration in lung function. Nevertheless, since altered lung function might have more potentially serious short-term consequences in occupations such as diving or training settings, such as submarine escape, the subject should be referred for further detailed assessment if abnormalities are persistent.

14. There is some evidence that individuals with supranormal FVCs may not have similarly increased FEV_1s. Thus although the FEV_1 may be greater than predicted, the FEV_1/ FVC ratio may be below.

15. Following full pulmonary function testing, it may be decided that certain individuals with FEV_1/ FVC ratios lower than those normally required for diving and submarine escape training may be declared fit. Such decisions will be made on an individual basis by the appropriate medical authorities on fitness for diving and submarine escape training.

CHAPTER 9

FITNESS FOR SERVICE IN SUBMARINES

CONTENTS

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CHAPTER 9

FITNESS FOR SERVICE IN SUBMARINES

0901. General

1. Before an individual can be declared fit for service in submarines, the dual requirements of fitness for submarine escape training and service at sea in submarines must be assessed.

2. **Fitness to undergo submarine escape training**. This is a mandatory requirement for entry into the Submarine Service. Submarine escape training involves hyperbaric exposures of up to 4 bar with both rapid compression and decompression. Medical examinations of regular and reserve Service personnel for submarine escape training are to be performed by Service Medical Officers and civilian medical practitioners who have completed the Standard Underwater Medicine Course at the Institute of Naval Medicine (INM). In order to remain eligible to perform these medicals, they must have attended a refresher course at INM within the previous 5 years.

3. **Fitness for service at sea in submarines**. A higher standard of medical fitness is required for service in submarines than in the surface fleet. This arises because the medical facilities onboard submarines are more limited and, furthermore, the relatively enclosed conditions within submarines may also exacerbate some conditions. A further major consideration is the nature of submarine operations, one of the most crucial assets a submarine possesses is its ability to remain undetected and this is compromised if it needs to obtain medical assistance. As a consequence it is necessary to exclude some individuals whose pre-existing medical condition may deteriorate at sea and compromise the integrity of a patrol.

4. The medical criteria for specific considerations are collectively considered in Para 0904.

0902. Preliminary Medical Examination

1. Before being drafted for initial submarine training, volunteers or draftees are to have a preliminary medical examination carried out by the Medical Officer of the ship or establishment responsible for their routine medical care. This examination is important to avoid the wasted time and expense of having unsuitable candidates reporting for training.

2. Apart from the conditions listed in Para 0904, which are usually grounds for rejection, a great variety of other conditions raise doubts as to ultimate fitness. The final authority on medical fitness to undergo submarine escape training, rests with the Consultant Adviser in Diving Medicine; under normal circumstances this will be delegated to SMO(DM). Senior Medical Officer (Submarine Escape Training Tank) (SMO(SETT)) retains the authority to disqualify candidates for submarine escape training without reference to INM.:

(SMO(SM))
Institute of Naval Medicine
Alverstoke
GOSPORT
Hants
PO12 2DL

All individuals who are considered to be unfit for submarine service are to be referred to SMO(SM). Referrals on F Med 7 must be accompanied by the F Med 4 and enclosures. It is vitally important that the referral contains as much relevant information as possible so that SMO(SM) is able to reach an opinion on the facts of the case. Incomplete referrals result in SMO(SM) having to seek further information and thus introduce delays. This is unfair on both the individual in question and on the Service.

3. The results of the preliminary medical examination are to be recorded on F Med 143.

4. It is important for examining Medical Officers to realise that the preliminary medical examination is a screening procedure and that further investigation may allow some latitude in the case of failure to comply with some of the requirements of Para 0904.

0903. Temporary Medical Unfitness for Service in Submarines

Where a preliminary medical examination reveals a temporary reason for unfitness which may reasonably be expected to resolve within a maximum of 6 months, DGHR(N) Portsmouth is to be notified by signal and an estimated duration of unfitness given. Eventual establishment of fitness is also to be notified by signal to the appropriate authority. Signals should bear the privacy marking ‘Restricted Medical’.

0904. Medical Standards for Entry to Service in Submarines

1. **General requirements**. Candidates must be physically and mentally fit, height 157cm or over and be without evidence of emotional instability. PULHHEEMS assessment must be P2 U2 L2 M2 and S2. Hearing and eyesight must be to the General Service standard of the appropriate branch.

2. **Additional visual requirements**. Officers who carry out optical periscope watchkeeping duties are required to achieve VA Standard III and CP Standard 1 by the use of periscope optics, i.e. within a bracket of +3.0 DS to -3.0 DS (see Para 0513). Periscope optics will not correct for astigmatism, the degree of which should not exceed +1.25 cyl. Ratings who are known not to be CP1 or 2 following the Ishihara Test and who are required to perform control room watchkeeping duties (in addition to the duties associated with their branch) are to undergo specific trade tests in the control room trainer at the Royal Naval Submarine School. Similarly, Medical Branch Ratings who are known not to be CP1 or 2 are to undergo trade testing at the Institute of Naval Medicine (related to radiochemistry titrations). Both groups are required to achieve CP4. The wearing of contact lenses in the submarine environment is acceptable.

3. **Height and weight**. There are no specific height or weight restrictions to submarine service. Trainees who are found to be obese to the extent that they are unable to perform their duties satisfactorily should be dealt with i.a.w. Para 0408.

4. By scrutiny of medical documents, direct questioning and physical examination, the following conditions must be excluded. Where positively elicited or identified, these conditions are normally grounds for rejection. However, in cases of doubt the trainee should be referred i.a.w. Para 0902.

a. Epilepsy, including petit mal, and irrespective of any treatment (other than isolated childhood febrile convulsions). Individuals who have suffered an isolated fit but who are not considered to be suffering from epilepsy, should be referred to SMO(SM).

b. Severe migraine which is complicated by neurological signs and symptoms.

c. Psychiatric illness other than minor reactive or transient non-recurring conditions. All cases of doubt should be referred to SMO(SM). There may also be a requirement for a recent opinion from a consultant psychiatrist.

d. Past or present evidence of alcohol or drug abuse unless a consultant psychiatric opinion is favourable. These latter cases must be referred to SMO(SM).

f. An active history of peptic ulceration. However, if complete healing is demonstrated endoscopically an individual may be considered fit even if maintenance therapy is needed. Individuals would be considered fully fit if they are free from symptoms, there is no significant scarring on endoscopy, and no maintenance therapy is necessary. In those cases due to Helicobacter pylori infection an individual will be considered fit if they are symptom free and there is evidence of successful eradication.

g. Chronic skin disease, particularly conditions such as cystic acne, eczema or widespread psoriasis, which are difficult to manage or may be exacerbated by the submarine environment.

5. In addition to the above, the medical examination must, as far as reasonably practicable, exclude other organic and functional disorders.

0905. Dental Examination

Personnel should be referred to an RN Dental Officer for a certificate of dental fitness before acceptance. The standards stated in Para 0205 apply and, additionally, mouths should be free from dental caries and the position of the 3rd molar teeth, if present, should be favourable.

0906. Continued Fitness

1. It is vitally important for Medical Officers to consider continued fitness for service in submarines whenever a relevant illness occurs in a submariner, particularly those of a recurring nature or requiring hospital admission. Medical standards for fitness for service at sea in submarines for qualified submariners who develop new medical conditions, or whose existing medical conditions deteriorate, are slightly lower than for new entrants into the Service. This reflects the fact that, when a qualified submariner's health changes, the advantages for both the Service and the submariner may outweigh an increased risk to his health at sea or the risk to the integrity of a submarine patrol. However, these cases must be dealt with on a case-by-case basis that is eventually overseen by a consultant occupational physician, this is particularly important if surgery or treatment is being considered for occupational reasons.

2. If personnel are considered unfit for further service in submarines, the F Med 4 with relevant case history must be referred to SMO(SM) i.a.w. Para 0902. Again it is vital that SMO(SM) is provided with as much relevant information as possible in the referral. SMO(SM) is responsible for notifying submarine appointing and drafting authorities of the outcome of such decisions. It is important to note that a submariner will not normally be retained in the Submarine Service in a temporarily reduced medical category unless there is a reasonable prospect of a return to fitness within 1 year.

3. It is not possible within the scope of this document to give detailed guidance on every condition that may cause a submariners continued fitness to be called into question. However, common causes of referral include:

a. **Asthma**. The development of asthma in a serving submariner does not automatically preclude further service. However, it does exclude further escape training i.a.w. Para 0914. All such cases should be referred to SMO(SM) i.a.w. Para 0903. Referrals should include details of the severity of the condition, current treatment, details of past exacerbations, including the need for hospitalisation, or oral steroids; exercise tolerance (Has the individual passed his RNFT?). Are there any known aggravating factors? It is particularly important to record any history of exacerbation on exposure to cold air since this may limit ability to firefight using EDBA or use the emergency breathing system.

b. **Spontaneous pneumothorax**. Serving submariners who suffer a spontaneous pneumothorax may be able to return to submarine service if their risk of an ipsilateral or contralateral recurrence is considered acceptable. All such cases should be referred to SMO(SM) as detailed above. Any surgery for occupational reasons (i.e. to resurrect a submariner's career) should be discussed with SMO(SM) before it is considered. This should consider the contralateral risk of recurrence since this is know to be increased in individuals who have suffered a spontaneous pneumothorax and may render an individual unfit for further submarine service.

c. **Diabetes**. Guidelines for the medical categorisation of serving individuals with diabetes mellitus are contained in JSP 346 Para 0450. This allows individuals who suffer from mild Type 2 (non-insulin dependent) to remain P2. In order to assess a submariner with Type 2 diabetes mellitus ability to return to submarine service all cases should be referred to SMO(SM).

d. **Psychiatric illness**. Serving submariners with a mental health problem should be managed in the same manner as any other Serviceman. However, the implications on their continued fitness must also be considered. A particular area of difficulty is in individuals who are considered to temperamentally unsuited to submarine service. This is not grounds to make an individual permanently medically unfit for submarine service since these individuals are not ill. These cases should be managed i.a.w. PLAGO Article 0304.

0907. Assessment of Fitness for Submarine Escape Training

1. Requirements for the medical examination of personnel involved in submarine escape training are given in Table 9-1. Some of the chronic, intermittent conditions would not be a bar to pressurised submarine escape training itself but, since they would preclude submarine service, they would render the hazard of pressure exposure unjustifiable.

2. The investigation of candidates with conditions which might make them unfit is to be initiated by the examining physician, with specialist opinions sought as appropriate. The candidate is to be considered temporarily medically unfit until a definitive decision is made.

3. If investigation fails to resolve the issue of fitness, candidates should be referred to SMO(DM). Initially, referral should be by F Med 7 supported by all relevant documentation, which is to include the subject's F Med 4, along with the results of any investigations or consultations. INM will arrange for the patient to attend if this is necessary. The final authority on medical fitness to dive or undergo other hyperbaric exposure, such as submarine escape training, rests with the Consultant Adviser in Diving Medicine; under normal circumstances this will be delegated to SMO(SM). Senior Medical Officer (Submarine Escape Training Tank) (SMO(SETT)) retains the authority to disqualify candidates for submarine escape training without reference to INM.

4. It is important to consider fitness for immersion and pressure exposure whenever these personnel attend for a medical consultation, whether in a primary or secondary care setting. A relevant medical condition will have an effect on the prospective submarine escape candidate; who although may not be due to attend for pressurised training for some considerable time, they can face unnecessary delay if assessment is not initiated at the earliest possible opportunity.

0908. Submarine Escape Training Candidates - Procedure

1. The initial assessment of fitness for pressurised submarine escape training is made by the candidate's unit Medical Officer who undertakes a preliminary medical examination which also assesses fitness for submarine service. The results are to be recorded on an F Med 143.

2. The F Med 4 must be available in SETT before candidates can commence initial submarine escape training. To ensure that training is neither delayed nor even cancelled owing to missing documentation, candidates are to be given their F Med 4 to take to the sick bay on arrival at SETT. Alternatively, the F Med 4 is to be sent to the SMO(SETT) to arrive not less than 7 days before the candidate is due to join SETT.

3. A final medical examination will be carried out at SETT before submarine escape training commences. See Para 0907.3 above)

4. Qualified submariners are required to undergo periodic requalification in submarine escape training while they are liable to serve at sea in submarines. Medical examinations before requalification training are carried out by the Medical Officer of the ship or establishment responsible for the submariner's routine care and reported on SETT Form 1. This medical must be performed within 14 days of the date of requalifying training. In exceptional cases SMO(SETT) may extend this period to 28 days. To ensure that training is not delayed or cancelled due to missing documentation, the candidate is to be given his SETT Form 1 to take to the SETT sickbay on arrival at Fort Blockhouse. Alternatively, the SETT Form 1 may be sent to SMO(SETT) to arrive not less than 7 days before the candidate is due to attend. Cases in which there is doubt as to the candidate's fitness to undergo pressurised escape training should be referred to SMO(SETT). Personnel who have undertaken 1 initial and 3 requalification courses are not required to undergo further pressurised training, but may do so provided they meet the requisite medical standards. Requalifiers are also required to have had a PULHHEEMS less than 12 months before the day of the course. Qualified submariners may become medically unfit for pressurised training at SETT while still possibly remaining fit for service in submarines. Such cases are to be referred to SMO(SM).

0909. Submarine Escape Training Candidates - Standards

1. Submariners must be aged 16 ½ or over. Hearing and eyesight must be to the General Service standard of the appropriate branch and must also satisfy the additional visual requirements of duties required on board submarines (see Para 0904.2). If fitness for submarine service is in doubt then the candidate must be considered temporarily medically unfit for pressurised SETT until a definitive decision is made.

2. There are no specific height or weight restrictions to submarine escape training. The trainee's size must not be so extreme as to prevent him donning a Submarine Escape Immersion Suit or from negotiating the escape tower without risk of becoming stuck. Potential candidates taller than 2 metres should have the opportunity of trying a suit for size at the earliest opportunity in order to avoid nugatory training. Trainees who are found to be obese to the extent that they are unable to perform their duties satisfactorily should be dealt with i.a.w. Para 0408.

3. Personnel should be referred to a DDA Dental Officer for a certificate of dental fitness before acceptance. The standards stated in Para 0205 apply and, additionally, mouths should be free from dental caries.

0910. Submarine Escape Training - Additional Investigations

1. An inspiratory PA chest X-ray must have been taken since enlistment and no more than 12 months prior to pressure exposure. This applies to both initial and requalifying trainees. The images, which can include those made for purposes other than establishing fitness for submarine escape training, must be reported at a Ministry of Defence Hospital Unit with direct access to a Service radiologist and with specific regard for features relevant to submarine escape training. If a recent chest X-ray image has not been reported in these circumstances and is not available for re-inspection, then the investigation must be repeated.

2. Request forms must state 'Pre-exposure screening for Pressurised Submarine Escape Training'. Abbreviation is not acceptable. The report must be quoted on the candidate's SETT Form 1.

3. Original films and reports are not to be routinely sent to SETT. Trainees from overseas will attend Royal Hospital Haslar for radiological examination unless adequate images accompany the candidates. The format should be as follows:

a. For analogue radiography – full plate radiographs.

b. For digital radiography – reporting from soft copy in Service hospital units, or, from elsewhere, production of laser hard copy film at full size or no less than 75% full size or in electronic format on a CD-ROM. If the latter is used then an application to allow viewing of the images at full resolution must be included on the CD-ROM.

4. There is no requirement for a chest X-ray prior to the 9 metre chamber dive required of all initial SETT trainees before commencing pressurised ascent training.

0911. Medical Standards

Candidates must be physically and mentally fit and be without evidence of emotional instability. There is no upper age limit, but the discretion of the examining physician should be exercised when assessing the level of general fitness and, specifically, the reserves of pulmonary and cardiovascular function in individual cases. PULHHEEMS assessment must be P2 U2 L2 M2 and S2.

Table 9-1 Requirements for the Medical Examination of Personnel Involved in Submarine Escape Training

	SETT Candidate		SETT Instructor		Pre-SETT Chamber Dive
	Initial	Qualified	Initial	Qualified	
Physical examination	Yes	Prior to each subsequent SETT attendance. Volunteers over age 35 should have evidence of full PULHHEEMS within previous 12 months.	Yes, examination by SMOSETT	Annual examination by SMOSETT/ MOSETT. On completion of appointment or draft examination by SMOSETT.	Yes
Dental examination[1]	Yes	Yes	Yes	Yes	Yes
Visual Acuity					
Colour perception					
Exercise tolerance test			Yes	Annual	
Urine test	Yes	Yes	Yes	Annual	Yes
Spirometry	Yes	Yes	Yes	Annual	Yes
Full blood count			Yes		
ECG	Not required unless clinically indicated, but must have in-date pass in service fitness test.		At each medical if over 35 years old		
Audiometry	Yes	Yes	Yes	3 yearly and on completion of career as instructor	Yes
Chest x-ray	In 12 months prior to attending SETT			If 12 months elapsed since last pressure exposure	
Diver Bone Survey	No	No	Prior to training	On completion of career as instructor	
EEG			If indicated by medical history		
Relevant Paragraphs:	0907 to 0911				0907 to 0911

Note: 1. Dental examinations may be undertaken by the Medical Officer but, where doubt as to dental fitness exists, the candidate should be referred to a Dental Officer.

0912. Conditions Influencing Fitness for Submarine Escape Training

It is not possible to provide a comprehensive list of conditions which permanently exclude a candidate. Frequently, a decision is based on the extent of the abnormality or the severity of disease and the individual response to treatment. Conditions which have a bearing on fitness for submarine escape are listed below. By scrutiny of medical documents, direct questioning and physical examination, the following conditions must be excluded. Where positively elicited or identified, these conditions are normally grounds for rejection. However, in cases of doubt, the candidate should be referred to SMO(SM).

0913. Ears, Nose and Throat Conditions

1. The following conditions render a candidate unfit for pressure exposures:

    a. Chronic or recurrent sinusitis.

    b. Chronic or recurrent outer or middle ear discharge.

    c. Severe allergic conditions of the upper respiratory tract.

    d. Ménière's disease or previous stapedectomy.

    e. Perforation of the tympanic membrane, unless adequately healed or surgically corrected.

2. The following conditions render a candidate, temporarily unfit for pressure exposures and should be referred to an ENT specialist:

    a. Viral labyrinthitis.

    b. A history of ENT surgery.

3. Hearing should be of H2 standard on initial medical. Subsequently a reduced category may be acceptable on the advice of an ENT specialist. The tympanic membrane must be clearly seen on examination with evidence of satisfactory Eustachian tube function and adequate ear-clearing by observing the ear drum to be mobile while a Valsalva manoeuvre is performed. Where doubt exists, and in the absence of an upper respiratory infection or catarrh, a cautious exposure to pressure should be carried out in a compression chamber. The chamber depth should not exceed 9 metres. Continued failure to clear ears should be cause for referral to an ENT consultant for formal assessment of Eustachian tube function.

4. Exostoses are acceptable provided they do not occlude the external auditory canal.

0914. Respiratory Disorders

1. The following conditions will render a candidate unfit for pressure exposures:

   a. Symptomatic asthma or other form of recurring bronchospasm.

   b. Chronic obstructive airways disease or areas of potential air trapping such as lung cysts, bullae and blebs; pleural effusion; lung fistula; bronchiectasis; pulmonary fibrosis; neoplasm and unresolved pneumothorax.

   c. Pulmonary tuberculosis - unless limited to an isolated healed and calcified peripheral primary focus (Ghon focus). Such lesions are not necessarily an automatic bar to submarine escape training. However, personnel in whom they are discovered should be referred to the SMO(SM).

   f. Sarcoidosis or other restrictive pulmonary condition.

   g. Any lung disease, abnormality or penetrating chest injury likely to result in areas of altered lung compliance and/ or pleural adhesions. Candidates with a history of pneumonia with X-ray changes should be referred to SMO(SM).

2. Candidates with a past history of reversible, obstructive airways disease are judged on an individual basis. Isolated attacks of bronchospasm in association with frank chest infections must be discussed with SMO(SM). It is of extreme importance to identify any tendency to recurring obstructive airways disease. A current history consistent with bronchoconstriction on exercise or in a cold environment is an absolute contra-indication to pressure exposure - the candidate should be made unfit for pressure exposures and SMO(SM) should be informed.

3. Candidates with the following histories should be asked to keep a PEF diary:

   a. Past history consistent with reversible bronchoconstriction.

   b. Current history of questionable significance.

   c. Allergen-mediated bronchoconstriction.

4. The PEF diary should be kept for 28 days, recording best of 3 efforts:

   a. On waking and at 1800 each day.

   b. Pre- and post-exercise, making a note of this on the diary.

   c. If the candidate feels wheezy or short of breath, making a note of this on the diary.

5. If an occupational exposure is suspected then readings should be taken every 4 hours while awake and every 2 hours while at work, with careful notes of circumstances at each reading. If variability that is not attributable to occupational exposure is 15% or greater then the candidate should be made unfit for pressure exposures and SMO(SM) should be informed of this finding. All other cases should be referred to INM for pulmonary function testing. If the specialist laboratory shows no evidence of abnormal bronchial lability in response to a challenge or bronchodilator then the candidate may be found fit for pressure exposures. (See Annex A to Chapter 8 - Guidelines for Performing Simple Spirometry).

6. A history of perforating chest injury or open chest surgery may disqualify if there is evidence of residual pulmonary or pleural scarring. The reason for the surgery is to be established. All such cases are to be referred to SMO(SM).

7. Pneumothorax, other than spontaneous, may be acceptable providing at least 3 months have elapsed since resolution and it has been determined by detailed pulmonary function assessment that no residual impairment remains. All such cases are to be referred to SMO(SM).

8. A history of spontaneous pneumothorax usually precludes pressure exposures. Individuals who have been recurrence-free for at least 5 years and in whom it has been determined by detailed pulmonary function assessment that no residual impairment remains may, in exceptional circumstances, be permitted to undergo pressure exposures. All such cases must be referred to SMO(SM).

0915. Cardiovascular Conditions

1. The following conditions will render a candidate unfit:

   a. Any organic heart disease.

   b. Coarctation of the aorta.

   c. Any history or evidence of coronary insufficiency or myocardial ischaemia, even if treated by coronary bypass grafting.

   d. Cardiomegaly unless it is established by specialist investigation to be the consequence of athletic training.

   e. Peripheral vascular insufficiency.

2. The following conditions must be referred for specialist cardiological opinion prior to referral to SMO(SM).

   a. Significant atrial or ventricular septal defects, or other potential right to left shunts. These conditions are usually incompatible with pressure exposure unless surgically corrected. Primary screening for right to left shunts; however, is not currently considered juistifiable.

   b. Cases of valvular stenosis or regurgitation.

c. All arrhythmias except sinus arrhythmias and ventricular extrasystoles which disappear with increasing heart rate.

d. Conduction defects. Right bundle branch block may be acceptable provided it is determined by specialist opinion that it is an isolated finding.

3. Abnormalities found on cardiovascular examination, such as murmurs, and on ECG must be investigated to an appropriate extent before a decision on fitness is made.

4. Symptomatic haemorrhoids and severe varicose veins are relative contra-indications to diving.

0916. Alimentary System Conditions

1. The following conditions will render the candidate unfit:

a. Chronic inflammatory bowel disease.

b. Acute or chronic active hepatic disease.

c. Gall stones.

d. History of pancreatitis.

e. Abdominal wall herniation unless adequately repaired.

f. Hiatus hernia.

2. Peptic ulceration also disqualifies a candidate unless there is endoscopic evidence of healing and the candidate has been asymptomatic for at least 1 year. Submariners who continue to be prescribed medication after healing is complete should be referred to SMO(SM) for consideration of fitness on a case-by-case basis. In those cases due to Helicobacter pylori infection an individual will be considered fit if they are symptom free and there is evidence of successful eradication.

0917. Musculoskeletal Conditions

1. Candidates must have unimpeded mobility and dexterity. Any limitation should be assessed on the basis of the candidate's ability to perform his work or undertake training and, particularly, its possible impact on safety.

2. The presence of juxta-articular ('A') lesions of dysbaric osteonecrosis precludes further pressure exposures. A shaft ('B') lesion excludes participation in experimental pressure exposures.

3. Successful surgery for prolapsed intervertebral disc may be acceptable provided neurological examination is normal and there is no functional impairment.

4. Musculoskeletal, or referred, pain that might mimic decompression illness must be assessed carefully. If any doubt exists, the case should be discussed with SMO(SM).

0918. Nervous System Conditions

1. The initial neurological examination must be particularly rigorous with attention paid to documenting variations from normal. Similar care should be taken at subsequent examinations to confirm that no hitherto unrecognised neurological change has taken place. This is particularly important if there has been an episode of dysbaric illness since the last routine assessment.

2. Significant neurological abnormalities may merit specialist referral. To avoid possible confusion over a subsequent diagnosis of a dysbaric disorder, it is important that any abnormal findings are reported to the individual and clearly recorded in the F Med 4.

3. Conditions with the potential to preclude pressure exposure are as follows:

a. Epilepsy, including petit mal and partial seizures, and irrespective of any treatment. Febrile convulsions up to the age of 5 years should not be considered a bar to pressure exposure. Individuals who have suffered an isolated seizure but who are not considered to be suffering from epilepsy, should be referred to SMO(SM).

b. A history of severe head injury is a permanent bar. A head injury will disqualify if any of the following are, or have been, present:

(1) Loss of consciousness of greater than 30 minutes.

(2) Evidence of residual focal neurological sequelae.

(3) A period of post-traumatic amnesia greater than one hour.

(4) Any period of pre-traumatic amnesia.

(5) Depressed skull fracture with or without loss of consciousness.

c. Candidates whose head injury occurred more than 5 years prior to the medical and in whom there is no evidence of neurological sequelae may, in exceptional circumstances, be permitted to dive or undergo submarine escape training. All such cases should be referred for assessment to SMO(SM) .

d. Intracranial surgery.

e. Severe speech impediment.

f. Severe motion sickness.

g. Migraine unless mild and unaccompanied by visual, speech, motor or sensory disturbance.

4. A history of bacterial or viral meningitis or encephalitis is compatible with pressure exposure provided that the candidate has been asymptomatic for 12 months and there is no evidence of neurological sequelae.

0919. Genito-Urinary Conditions

1. Renal calculi and malformations of the urinary system will be cause for rejection unless adequately treated.

2. Sexually transmitted diseases will disqualify until successfully treated. Although specific testing does not form part of a routine medical examination, HIV positive candidates are considered unfit.

0920. Endocrine Disorders

1. Detailed specialist investigation of endocrine conditions is not normally required. However, where abnormalities are detected clinically, these should be investigated and referred to SMO(SM).

2. Diabetes mellitus requiring insulin and/ or oral hypoglycaemic agents is an absolute contra-indication. Qualified submariners who develop diabetes mellitus controlled by diet alone may be permitted to continue to serve in submarines if there are no diabetic complications.

0921. Haematological Conditions

1. Requirements for screening tests are given in Para 0820. Abnormalities revealed should be referred for specialist assessment.

2. Asymptomatic sickle cell trait is not a contra-indication to pressure exposure and individuals with frank sickle cell disease will be unfit for entry into military service. Routine testing for sickle cell disease in thus not required. Haemoglobin electrophoresis may be carried out if required at the initial medical.

0922. Additional investigations

1. **Urinalysis**. Side room examination of the urine for protein and glucose is required annually.

2. **Spirometry**. Lung function tests are required as part of both initial and subsequent examinations. These tests are carried out on Vitalograph wedge-bellows spirometers, which are available at establishment sick bays. Instructions on the correct use of a Vitalograph spirometer are given at Annex A to Chapter 8. Further detailed advice is available from SMO(SM). The ratio of FEV_1/ FVC should not be less than 70% while the FVC should not fall below the values for age and height given at Appendix III. This simple lung function test is a screening procedure only and failure to achieve the standards described above should not, on its own, be automatically regarded as a cause for rejection. Chapter 8 Annex A Para 5 gives instructions regarding candidates who fail to achieve the stated standards. Candidates whose FVC is in excess of that capable of being measured by the standard Vitalograph spirometer should be referred to the Institute of Naval Medicine, to permit accurate measurement of their lung function.

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CHAPTER 10

MEDICAL SURVEILLANCE OF CLASSIFIED RADIATION WORKERS

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CHAPTER 10

MEDICAL SURVEILLANCE OF CLASSIFIED RADIATION WORKERS

1001. MOD Policy on Radiation Protection

MOD policy on radiation protection is detailed in JSP 392 Instructions for Radiation Protection which includes instructions on how the Ionising Radiations Regulations, 1999 (IRR99) are to be implemented within MOD. IRR99 provides for the statutory medical surveillance of Classified Persons and Chapter 16 of JSP 392 sets out MOD policy on how this shall be achieved.

1002. Requirements for Medical Surveillance of Classified Radiation Workers

1. In the UK, Medical Officers conducting statutory medical surveillance must be appointed under the relevant regulations by the Employment Medical Advisory Service (EMAS, an arm of the Health and Safety Executive (HSE)). The regional Senior Employment Medical Adviser (EMA) will generally require evidence of a post-graduate qualification in occupational medicine or, at least, equivalent experience and, before appointment under IRR99, must attend a course to a syllabus prescribed by the HSE. One day courses are conducted at the Institute of Naval Medicine (INM), generally in the spring and thereafter according to demand and requirement. The Appointed Doctor will then be visited by an EMA and furnished with both general and regulation-specific guidance notes.

2. However, where exemptions exist (i.e. outside UK territory) it is MOD policy that the minimum standards required by UK health and safety legislation will be met wherever reasonably practical. Accordingly, before deployment, Medical Officers who will, or may be, required to conduct medical surveillance under IRR99, should attend the requisite training, or briefing, at INM where they will be furnished with the necessary guidance notes. Where this is not reasonably practical, then MDG(N) will ensure that the guidance notes are provided.

3. Chapter 16 of JSP 392 details the processes required for the medical surveillance of Classified Persons. By requiring health reviews, ideally, to be conducted in the presence of the Classified Person, MOD policy is also more stringent than the basic legislation.

1003. Further Information and Advice

As detailed in JSP 392, DMSD SO1 OM is responsible for medical policy relating to the health of both occupationally and operationally exposed workers in HM ships and in Naval, Army and RAF units. However, the Submarine and Radiation Division at INM represents the tri-Service focal point for all radiation medicine issues and can be contacted for advice on the clinical assessment of Classified Persons and on other aspects of radiation medicine. Contact details are as follows:

Senior Medical Officer Radiation Medicine
Institute of Naval Medicine
Alverstoke
GOSPORT
Hampshire
PO12 2DL

Tel: Mil 9380 68085
Civ 02392 768085

CHAPTER 11

MEDICAL ASPECTS OF BOXING

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CHAPTER 11

MEDICAL ASPECTS OF BOXING

1101. Introduction

1. The current medical scheme for boxers was adopted by the Combined Services Boxing Association (CSBA) in 1965. The scheme provides for regular medical examination of all boxers, and for the recording of all bouts, injuries and medical suspensions on the CSBA medical record card (F Boxing 162 or ME3) which is issued to each boxer. The F Boxing 162 is the boxing record book, for individuals who box within the unit. The ME3 is the boxing record book, for individuals who box at inter unit, inter-Service level and civilian tournaments. The F Boxing 162 is to be handed in once an ME3 is issued. No boxer may hold both record books.

2. Commanding Officers, Unit Boxing Officers and trainers are responsible for the health of boxers in their units. The regular medical examination of each boxer, and the decision as to their fitness to box, is to be carried out in their unit medical centre.

3. The F Boxing 162 is to be issued to each boxer before taking part in competitive boxing at unit level. An ME3 is to be issued, in any tournament or match arranged with other forces or civilian clubs or boxers affiliated to the Amateur Boxing Association of England (ABAE). Both cards are to carry a photograph of the holder, certified as a true likeness by their unit, and are to be signed by a Medical Officer that he/ she is fit to box. A record card is to be shown to the relevant official before the boxer is permitted to take part in any contest. All bouts are to be recorded on the card and any injury suffered is to be entered with the recommendation of the attending Medical Officer. Amateur boxers must retire on their 34th birthday.

4. Females are allowed to box. The same medical contra-indications apply to both male and female boxers.

5. All Medical Officers (Service and civilian) are expected to perform annual boxing medicals as part of their routine workload.

6. All Service Medical Officers are expected to carry out the pre-bout inspection or be ringside/ Tournament Medical Officer. Civilian Medical Practitioners can be requested to carry out these duties, but are at liberty to decline.

1102. Medical Examination

Military boxers are to be medically examined annually and before each bout. Traditionally this is done at the weigh-in.

a. **Annual medical examination**. At the start of each boxing season (October), every boxer is to be given a comprehensive medical examination by their unit Medical Officer. No boxer is to be permitted to box in any contest, or train, until he/ she has passed this examination. When F Boxing 162 is initiated, the Medical Officer is to complete the front cover of the book and on the inside (pages 2 and 3) write in RED 'Initial Boxing Medical-fit to box (03/04)' (depending on season). When ME3 is initiated, the Medical Officer is to complete the Medical Certificate on the inside of the card, and on the first Medical Data page (right hand side), annotate in RED 'Initial Boxing Medical–fit to box 03/04' (depending on season). At subsequent annual medical examinations, the notation 'Annual Medical-Fit to box 04/05' (depending on season) is to be entered in RED inside the F Boxing 162 card after the last entry for the previous season, or after the last entry on the right hand side of the ME3.

b. The annual certification of fitness to box is to be based on either:

(1) A special medical examination, or:

(2) The boxer's last PULHHEEMS assessment (or similar special medical examination), if dated not more than 1 year previously, and if, at the time of certification, he/ she feels well and has had no illness or injury since the date of their last PULHHEEMS assessment, and their visual standard conforms to sub-para d. below.

c. Boxers are ideally to be medical category P2, and the following conditions will automatically debar:

(1)	Diabetes mellitus.	(2)	Retinal detachment.
(3)	Epilepsy.	(4)	Blindness in one eye.
(5)	Hypertension.	(6)	Colostomy/ ileostomy.
(7)	Nephrectomy.	(8)	Grommets in either ear.
(9)	Unexplained blackouts.	(10)	Skull fracture.
(11)	Orchidectomy.	(12)	Pregnancy.
(13)	Breast implants.		

Boxers may be P2L3 due to knee pain and may wear neoprene knee supports. Presently there is no ruling regarding female breast size. Female boxers do not have to wear breast padding or support.

Note: A recent history of asthma or migraine may debar.

d. Ophthalmic examination is to be assessed by the Snellen's method. Boxers are to have an uncorrected visual acuity no less than 6/12 in the good eye or 6/24 in the worse eye. The wearing of spectacles or contact lenses in the ring is prohibited:

(1) **Refractive corrective surgery**. Those having had photorefractive keratectomy (PRK) or laser insitu keratomileusis (LASIK) may be acceptable, but opinion should be sought from a Service consultant ophthalmologist. Those who have undertaken refractive corrective surgery and whose pre-surgery correction was greater than ±6 diopters, or following surgery unaided visual acuity (i.e. uncorrected by spectacles or contact lenses) is worse than 6/12 in each eye are not fit to box. Radial keratotomy (RK) and astigmatic keratotomy (AK) are unacceptable whatever the pre- or post-surgical refractive defect.

(2) Keratoconus whether treated successfully, remains a bar.

(3) Monocular vision is a bar.

(4) Amblyopia of a binocular nature is a bar even if meeting the above eye standards.

(5) All retinal injury or disease (i.e. lattice retinal degeneration).

(6) Family history of retinal disease needs an ophthalmic opinion regarding suitability for boxing.

(7) Corneal dystrophy is a bar.

(8) Non-insulin dependent forms of diabetes until ophthalmic opinion regarding suitability for boxing.

(9) Optic neuritis is a bar.

(10) Coagulation defects including the use of anticoagulants.

Cautionary Note: Increased risk following hyphaema and/ or retrobulbar haemorrhage.

1103. Pre-Bout Inspection

Each boxer is to be inspected by the Tournament Medical Officer on each day of a contest in conjunction with the weigh-in, unless otherwise arranged. The boxer must strip off to underpants (females to keep bras on). The examination is designed to exclude active infection, unhealed injury or other condition that can be transmitted or made worse if the individual is allowed to box. Hair must not extend below the nape of the neck or below the level of eyebrows. Females may tie their hair up. Mouth guards are to be checked and fitted correctly. Beards are forbidden, and dentures, spectacles and contact lenses are not allowed in the ring. The Medical Officer must date and annotate 'Fit to box' on the next available line in the F Boxing 162 or on the right side of the ME3 card after the last entry. All entries must be signed.

1104. Tournament Medical Officer

1. A Medical Officer is to be appointed to every boxing contest. He/ she is to carry out the pre-bout inspection of all boxers and to ensure that each boxer's certificate of fitness to participate in boxing is valid in their F Boxing 162 or ME3. He/ she is also to note any medical remarks concerning a previous bout.

2. He/ she is to be available at the ringside throughout the tournament except when attending to an injured boxer, and is not to leave until the last bout has ended and, if necessary, he/ she has seen the contestants. No boxing can take place without the Medical Officer being physically present ringside to supervise.

3. He/ she is required to enter details of any injury and subsequent recommendations in the F Boxing 162 or ME3 and Tournament Record Sheet. The following events must be recorded:

a. Concussion.

b. Cut eyes and all injuries to the head and face.

c. Fractures and suspected fractures.

d. Bouts stopped in favour of an opponent, with reason for the stoppage.

e. Referee Stopped Contest (Head) (RSC(H)) due to "sufficient" blows to head.

f. Knock-outs KO(H) classified as:

(1) **Class 1** - Immediate recovery.

(2) **Class 2** - Recovery within two minutes.

(3) **Class 3** - Recovery over two minutes.

4. When appropriate, a letter, (see Annex 11B) should be completed.

1105. Procedure Following Bout

1. In the following cases, the boxer must not box for a period of 1 to 3 weeks as decided by the Tournament Medical Officer.

a. Outclassed and requiring medical attention.

b. Stopped to prevent further punishment and requiring medical attention.

c. Recommended minimum of 3 weeks no boxing/ sparring for lacerations requiring suturing.

2. If a boxer has been knocked-out and remains unconscious after the count, he/ she should be examined immediately, in the ring, by the Tournament Medical Officer. A stretcher should be used if it is necessary to remove an unconscious boxer from the ring.

3. If a boxer has been knocked-out as the result of a head blow (KO), or if the contest has been stopped by the referee because of repeated blows to the boxer's head, rendering him/ her defenceless or incapable of continuing (RSC(H)), he/ she is to be examined immediately by the Tournament Medical Officer. A head injury form (Annex 11A) is to be completed by the Medical Officer and boxer. The lower part of Annex 11A is to be given to the Medical Records Officer.

4. Where recovery from a knock-out is over 2 minutes, or where there is concussion or amnesia after head injury, the boxer is to be admitted to hospital for examination and observation. He/ she is not to box or spar for a minimum period of 3 months and then only after a further medical examination. The F Boxing 162 or ME3 is to be endorsed accordingly in RED.

5. A boxer with a less severe head injury who is allowed home after the contest is to be accompanied by a carer and the head injury form (Annex 11A), and advised to abstain from alcohol and to rest. He/ she is to report to their nearest A&E Department immediately if he/ she develops such symptoms as listed on Annex 11A.

6. Any boxer being counted out KO or RSC(H) is not to take part in competitive boxing or sparring for a period of at least 28 days. The F Boxing 162 or ME3 is to be endorsed accordingly in RED.

7. Any boxer being counted out as above twice in a period of 3 months is not to box for 84 days from the date of the second occurrence.

8. Any boxer counted out as above thrice in a period of 12 months is not to box for a period of 1 year from the date of the third occurrence.

9. After 3 defeats in succession by knock-down with unconsciousness, serious consideration is to be given to a permanent ban from boxing in consultation with the Medical Adviser to the RNBA.

10. The Tournament Medical Officer must inform the boxer's unit Medical Officer that he/ she has been injured (see Annex 11B).

11. Where any injury or illness occurs during training, the boxer is to report to their unit Medical Officer before resuming training. Where any medical condition arises, which may have some significance as regards competitive boxer, the Medical Officer should make appropriate notation in the F Boxing 162 or ME3.

1106. The Clinical Management of Boxing Head Injuries

1. **Immediate term**:

a. Symptomatic acute head injuries are best investigated using CT scan (<72 hrs post injury) or MRI scan (≥72hrs post injury).

b. Any boxer who has continuing, or resurgent symptoms or neurological signs following release from the local hospital without having undergone the above investigations should be considered for immediate referral to a neurosurgical and/ or radiology department for these investigations.

2. **Medium term**:

a. All boxers who have sustained a significant episode of head injury, from what ever cause, before they are allowed to return to boxing, must be subject to:

(1) A clinical examination by a Medical Officer, and those giving cause for concern should be referred to a neurologist for an opinion.

(2) Referral to a psychologist for psychometric testing

(3) Referral for an MRI scan

b. Following on from the above investigations the neurologist will decide whether or not the boxer is fit to resume boxing, and if so when he/ she may resume boxing.

3. **Long term**:

Any suspicion by the boxer's Medical Officer of persistent neurological symptoms or signs (i.e. the development of chronic traumatic encephalopathy) is best investigated by MRI or isotope brain scan (with functional MRI being preferable when available), together with psychometric testing. These investigations should be managed by the Medical Officer, with referral to the neurologist where appropriate.

1107. Warning

1. All Medical Officers, when undertaking annual and pre-bout boxing medical examination, will:

a. Ascertain that Service boxers are boxing on a voluntary basis.

b. Warn boxers of the potential hazards of short-term impairment of brain function.

c. Inform the boxer that he/ she can undergo psychometric testing. The psychometric tests are presently performed at G Block, Royal Hospital Haslar, GOSPORT, Hampshire.

2. MDG(N) has instructed that Royal Naval Medical Officers will use a standardised text when briefing Service boxers. The text at Annex 11C has been approved by MDG(N), Director Naval Life Management (DNLM) and Director Naval Legal Services.

3. This text is to be available to all Medical Officers when conducting annual medical examinations, and is to be read to each boxer. The text is to be on an F Med 7 and signed by the Medical Officer and boxer. It is then to be filed in the F Med 4.

4. Further reading: Medical Aspects of Amateur Boxing 4th Edition 2002.

To obtain copy at a minimum cost: 020 8778 0251.

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ANNEX A TO CHAPTER 11

THE AMATEUR BOXING ASSOCIATION OF ENGLAND LTD
MEDICAL CARE OF A BOXER AFTER A TOURNAMENT

This amateur boxer has just taken part in a boxing contest and has been *Knocked Out, or the *Referee Stopped Contest (Head), held at ………………..on…………………..

Name………………………. Date of Birth…………………Reg No……….………………….

The boxer has been seen by the Tournament Medical Officer before leaving the venue. If the boxer shows signs of suffering from any of the following complaints after the contest, the boxer is to be taken immediately to the nearest hospital with this form.

a. Headache.

b. Double or blurred vision, or any other eye problems.

c. Giddiness or unsteadiness.

d. Weakness or altered sensations in his limbs.

e. Feeling of sickness or vomiting.

f. Drowsiness or strange behaviour.

g. Any other unusual symptoms.

Boxers who have suffered a KO or RSC (Head):

1. **MUST NOT** drink alcohol for forty-eight (48) hours.

2. **MUST NOT** drive for at least forty-eight (48) hours.

3. May start light training, if fully recovered, after 1 week's rest.

4. **MUST NOT BOX OR SPAR** for twenty-eight (28) days.

✂---

Signed by the Boxer: ……………………………………………………………

(Name in Block Letters): …………………………………………………………

Date: …………………………….

Signed by a person appointed/ nominated to oversee the boxer who has suffered a KO or RSC(Head):
………………………………………………………………..

(Name in Block Letters): ………………………………………………….

When completed this lower portion of the form is to be handed to the Tournament OIC.

*Delete as applicable

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ANNEX B TO CHAPTER 11

COMBINED SERVICES BOXING ASSOCIATION
KNOCK-OUT/ HEAD INJURY FORM

To PMO/ SMO From:

Number: Rank: Name:

Boxing Permit Number:

Unit:

The above-named boxer who participated in a Service/ civilian tournament

On At

In which the boxer was **Knocked out/ Head injury**, received a Medical Suspension of ……Days.

The boxer is not to box or spar during this period of suspension.

Dr

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ANNEX C TO CHAPTER 11

APPROVED TEXT FOR BRIEFING SERVICE BOXERS

This text below is to be available to all Medical Officers when conducting annual medical examinations, and is to be read to each boxer. The text is to be on an F Med 7 and signed by the Medical Officer and boxer. It is then to be filed in the F Med 4.

This is to certify that I, Dr……
Have read the following statement to the above named Service Boxer.

Doctor's signature……..

"The Naval medical and sporting authorities have decided that all pre-bout and annual boxing medical examinations, you are to be informed that medical research on Service boxers has shown that continuing with the sport may cause minor impairment of brain function which can be revealed by special tests. While the degree of impairment will vary according to the circumstances of each individual boxer in general, the more bouts that you fight, the worse the damage is likely to be. Please confirm that you understand this, and that you wish to continue boxing of your own free will. If you want to take the tests that have been mentioned, you may wish do so by asking your own sick bay to make arrangements."

The above text has been approved by MDG(N), Director Naval Life Management (DNLM) and Director Naval Legal Services.

I, the above named Service Boxer confirm that the above statement has been read out to me by the Medical Officer above.

Date:…….. ***Signed:……***

Name:……

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CHAPTER 12

MISCELLANEOUS

CONTENTS

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CHAPTER 12

MISCELLANEOUS

1201. Fitness for Service Overseas

1. A medical examination and scrutiny of medical documents is to be carried out for all Officers and Ratings selected for loan and exchange service overseas, and for service on the island of Diego Garcia.

2. A scrutiny of medical documents is to be carried out by a Medical Officer for personnel selected for foreign service.

3. The following conditions merit particular consideration, specialist advice being obtained as necessary:

a. Past history of renal disease.

b. Skin disease liable to be aggravated by climatic conditions.

c. Hypertension or any cardiac disorder.

d. Any history of mental illness including alcoholism.

e. Chronic ear disease.

f. History of prolapsed intervertebral disc.

g. Any condition requiring special diet or regular medication.

4. **Brunei.** Loan service personnel are required to undertake regular fitness tests which approximate to the British Army's 'FE' standard. Personnel with medical conditions which preclude moderately strenuous running and swimming tests in battledress and boots should not be passed fit.

5. **British Forces Falkland Islands**. In the South Atlantic theatre, medical resources are limited. It is therefore important that efforts must be made to exclude Service personnel or their dependants 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.

6. Specifically, the following are not available in theatre:

a. Consultant physician.

b. 'Specialist' 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.

7. **Service Personnel**. All those posted to the South Atlantic must not be at a lower medical standard than medical category P2.

8. **Guidelines on Dependants**. Medical Officers 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. Further guidance can be found in JSTC Form 31 - Medical Guidance for Families Proceeding Overseas, and JSTC Form 34 - Notes for Examining Doctors. In addition, Joint Service Travel Centre (JSTC) will send a practice leaflet produced by SMO British Forces Falkland Islands (BFFI) to all joining personnel. Form 13 must be completed for each family member by their General Practitioner as medical certification of fitness. Advice may be sought through the chain of command.

9. **Pregnancy**. Normal pregnancies are managed in the Falkland Islands by midwives and General Practitioners, although emergency caesarean section could be performed by the surgeon. There is no reason to advise that a normal pregnancy will have anything other than a favourable outcome; however, medical history which could suggest a poor obstetric risk must be treated with caution, and advice given accordingly. To minimise risks, women who are carrying their first child should be advised to wait until after the child is born before proceeding to the Falkland Islands.

1202. Routine Pulmonary Screening - RN Firefighting Instructors

1. All RN Fire Schools' staff exposed to smoke in practical training conditions are to have pulmonary screening carried out at the Institute of Naval Medicine as follows:

a. On joining and leaving the Fire School if expected to be in post for more than 6 months.

b. On joining, annually, and on leaving if expected to be in post for 2 years or more.

2. Medical departments providing cover for the Fire Schools should liaise directly with the Applied Physiology Department at the Institute of Naval Medicine to make the necessary arrangements.

1203. Laser Workers - Medical Surveillance and Requirements Post Exposure

1 The medical health surveillance for Class 3B and Class 4 Lasers is defined in JSP 390 Chapter 8 Military Laser Safety (electronic version available on Defence Net). The JSP details the personnel that require ophthalmic examination and the frequency of that examination. The examination is to be carried out by an ophthalmologist familiar with laser injury.

2. The first aid measures for over exposure to laser radiation consists of symptomatic medical care and the protection of the injury site with a pad and bandage if necessary. Thereafter a unit medical officer should make a preliminary examination and arrange a specialist referral as soon as possible.

1204. Security Vetting Protocols

1. Certain medical conditions may have an impact upon security clearance. The most obvious cause for concern would be episodes of mental illness but other illnesses which may affect consciousness or physical strength may have an impact (e.g. for a courier).

2. Any queries or concerns regarding the medical aspects of security vetting protocols should be addressed by reference to JSP 440 or by contacting the offices detailed below:

Assistant Director Personnel
DNSyICP
Victory Building
HM Naval Base
PORTSMOUTH
PO1 3LS

Tel: 02392 726201
Fax: 02392 727127

Vetting Medical Adviser
Defence Vetting Agency
Building 107
Imphal Barracks
Fulford Road
YORK
YO10 4AS

Tel: 01904 662520

1205. Vaccinations

1. Vaccination and immunisation policy changes in response to new threats and treatment modalities. Specific information and advice may be found in the following publications:

a. BR 1991 – Chapter 2, Section 4.

b. SGPL 07/02 – Vaccination requirements for serving personnel in the Regular Armed Forces.

c. SGPL 08/02 – Vaccination requirements for members of the Reserve Forces.

d. JSP 311 – Joint Services Manual of Immunological Procedures, 1998.

e. FLAGO 1925 – Routine Immunisations for RN/ RM Personnel.

2. Specific advice may be sought from:

SO1 PHM
Room 139
Victory Building
HM Naval Base
PORTSMOUTH
PO1 3LS

Mil phone: 9380 23934
Civ phone: (02392) 723934
CHOtS: 2SL-MDGN-SO1PHM

1206. Questions Regarding Medical Standards

Any questions regarding the application of Medical Standards within the Royal Naval Medical Service are to be addressed to the Director of Health (Navy) (DOHN). Their contact point is detailed below:

Director of Health (Navy)
Room 135
Victory Building
HM Naval Base
PORTSMOUTH
PO1 3LS

Mil phone: 9380 24592
Civ phone: (02392) 724592
CHOtS: 2SL-MDGN-DOHN

APPENDIX I

PULHHEEMS PROFILES

OFFICERS ON ENTRY

Specialisation and/ or method of entry	Colour perception standard	P	U	L	H H	E E*	M	S
Royal Navy								
Warfare: Except Aircrew , Air Traffic Control Officer and SUY(AV)	1	2	2	2	2 2	5 6 1 2	2	2
Aircrew	1	2	2	2	1 1	3 3 1 1	2	2
Air Traffic Control Officer SUY (AV)	3	2	2	2	2 2	7 8 1 5 or 7 8 2 4 or 7 8 3 3	2	2
Engineering:	4	2	2	2	2 2	7 8 1 5 or 7 8 2 4 or 7 8 3 3	2	2
Supply and Secretariat:	4	2	2	2	2 2	7 8 1 5 or 7 8 2 4 or 7 8 3 3	2	2
Chaplain Medical/ Dental Regulating Medical Services	4	2	2	2	2 2	7 8 1 5 or 7 8 2 4 or 7 8 3 3	2	2

**See Chapter 5 for details of vision standards.*

OFFICERS ON ENTRY (Continued)

Specialization and/ or method of entry	Colour perception standard	P	U	L	H H	E E*	M	S
Royal Marines and Royal Marine Reserve								
Scholarship entry First Appointment RM Corps Commission RM	4	2	2	2	2 2	7 8 1 5 or 7 8 2 4 or 7 8 3 3	2	2
Transfer to Senior Upper Yardman (Candidates for promotion to SUY may be allowed H3 H3 after referral to Naval Consultant Otologist)	4	2	2	2	2 2	7 8 1 5 or 8 8 2 4 8 8 3 3	2	2
Queen Alexandra's Royal Naval Nursing Service								
First Appointment	4	2	2	2	2 2	7 8 1 5 or 8 8 2 4 or 8 8 3 3	2	2

**See Chapter 5 for details of vision standards.*

RATINGS AND OTHER RANKS ON ENTRY AND RE-ENGAGING

Branch		On entry							On re-engagement/ re-entry						
	CP	P	U	L	H H	EE*	M	S	P	U	L	H H	EE*	M	S
Royal Navy Warfare Branch Operator Mechanic (OM) (Above Water)	3	2	2	2	2 2	3 3 1 1	2	2	2	2	2	2 2	3 3 1 1	2	2
OM (Under Water) (Electronic) (Sensors Submarine) (Tactical Submarine) Communications Technician	3	2	2	2	1 1	5 6 1 2	2	2	2	2	2	1 1	7 8 1 2	2	2
OM 2nd Class (Mine) (Communications Submarine) (Communications)	3	2	2	2	2 2	5 6 1 2	2	2	2	2	2	2 2	7 8 1 2	2	2
OM (Weapons Submarine)	4	2	2	2	2 2	5 6 1 2	2	2	2	2	2	2 2	7 8 1 2	2	2
Seaman Diver	3	2	2	2	2 2	5 6 1 2	2	2	2	2	2	2 2	7 8 1 2	2	2
Seaman Survey Recorder/ HM	3	2	2	2	1 1	5 6 1 2	2	2	2	2	2	1 1	7 8 1 2	2	2
Naval Airman (Aircraft Handler) Naval Airman (Survival Equipment) Naval Airman (METOC)	3	2	2	2	2 2	7 8 1 5 or 7 8 2 4 or 7 8 3 3	2	2	2	2	2	2 2	7 8 1 5 or 7 8 2 4 or 7 8 3 3	2	2

**See Chapter 5 for details of vision standards.*

RATINGS AND OTHER RANKS ON ENTRY AND RE-ENGAGING (Continued)

Branch		On entry							On re-engagement/ re-entry						
	CP	P	U	L	H H	EE*	M	S	P	U	L	H H	EE*	M	S
Engineering Branch Except Air Eng Mechs, Air Engineering Artificers, Air Eng Tech	4	2	2	2	2 2	7 8 1 5 or 7 8 2 4 or 7 8 3 3	2	2	2	2	2	2 2	8 8 1 5 or 8 8 2 4 or 8 8 3 3	2	2
Air Eng Mechs, Air Engineering Artificers, Air Eng Tech	2	2	2	2	2 2	7 8 1 5 or 7 8 2 4 or 7 8 3 3	2	2	2	2	2	2 2	8 8 1 5 or 8 8 2 4 or 8 8 3 3	2	2
Chef Steward Stores Accountant Writer Medical Assistant Medical Technician Artificer Apprentice Dental Surgery Assistant Dental Hygienist	4	2	2	2	2 2	7 8 1 5 or 7 8 2 4 or 7 8 3 3	2	2	2	2	2	2 2	8 8 1 5 or 8 8 2 4 or 8 8 3 3	2	2

** See Chapter 5 for details of vision standards.*
H - On entry, the hearing standards will hold, but on re-engagement/ re-entry H3 H3 may be allowable after referral to a Naval otologist.

Note: Engineers and Supply/ Secretariat in SSBNs and SSNs to be VA2, CP1, Max correction ±3 dioptres

CAREERS SERVICE

Specialization and/ or method of entry	CP	P	U	L	H H	E E*	M	S
Royal Navy and Royal Marines First Appointment	4	2[1]	3	3	2 2	7 8 1 5 or 7 8 2 4 or 7 8 3 3	2	2

** See Chapter 5 for details of vision standards.*

1 – Special cases may be P7 with MOD approval.

ROYAL MARINES AND ROYAL MARINE RESERVES

Category	On entry								On re-mustering								On re-engagement/ re-entry							
	CP	P	U	L	HH	EE*	M	S	CP	P	U	L	HH	EE*	M	S	CP	P	U	L	HH	EE*	M	S
General Duties	4	2	2	2	2-2	7-8 1-5 or 7-8 2-4 or 7-8 3-3	2	2	-	-	-	-	-	-	-	-	4	2	2	2	2-2	7-8 1-5 or 78 2-4 or 7-8 3-3	2	2
Signallers	–	–	–	–	–	–	–	–	4	2	2	2	2-2	7-8 1-5 or 8-8 2-4 or 8-8 3-3	2	2	4	2	2	2	2-2	7-8 1-5 or 7-8 2-4 or 7-8 3-3	2	2
Aircrew	–	–	–	–	–	–	–	–	1	2	2	2	1-1	3-3 1-1	2	2	3	2	2	2	1-1	3-3 1-1	2	2
Landing Craft	–	–	–	–	–	–	–	–	2	2	2	2	1-1	3-3 1-1	2	2	2	2	2	2	2-2	3-3 1-1	2	2
Clerks	4	2	2	2	2 2	7-8 1-5 or 7-8 2-4 or 7-8 3-3	2	2	4	2	2	2	2-2	7-8 1-5 or 7-8 2-4 or 7-8 1-5	2	2	4	2	3	3	2-2	7-8 1-5 or 7-8 2-4 or 7-8 3-3	2	2
Cooks	4	2	2	2	2 2	7-8 1-5 or 7-8 2-4 or 7-8 3-3	2	2	4	2	2	2	2-2	7-8 1-5 or 7-8 2-4 or 7-8 3-3	2	2	4	2	2	3	2-2	7-8 1-5 or 7-8 2-4 or 7-8 3-3	2	2
Drivers	–	–	–	–	–	–	–	–	4	2	2	3	2-2	7-8 1-5 or 7-8 2-4 or 7-8 3-3	2	2	4	2	2	3	2-2	7-8 1-5 or 7-8 2-4 or 7-8 3-3	2	2

** See Chapter 5 for details of vision standards.*

ROYAL MARINES AND ROYAL MARINE RESERVES (Continued)

Category	On entry								On re-mustering								On re-engagement/ re-entry							
	CP	P	U	L	HH	EE*	M	S	CP	P	U	L	HH	EE*	M	S	CP	P	U	L	HH	EE*	M	S
Vehicle mechanics	-	-	-	-	-	-	-	-	4	2	2	3	2-2	7-8 1-5 or 8-8 2-4 or 8-8 3-3	2	2	4	2	2	3	2-2	7-8 1-5 or 8-8 2-4 or 8-8 3-3	2	2
Other tradesmen	-	-	-	-	-	-	-	-	4	2	2	2	2-2	7-8 1-5 or 7-8 2-4 or 7-8 3-3	2	2	4	2	2	3	2-2	7-8 1-5 or 7-8 2-4 or 7-8 3-3	2	2
Royal Marine Musician and Junior Musician	4	2	2	2	2-2	7-8 1-5 or 7-8 2-4 or 7-8 3-3	2	2	4	2	2	2	2-2	7-8 1-5 or 7-8 2-4 or 7-8 3-3	2	2	4	2	3	2	2-2	7-8 1-5 or 7-8 2-4 or 7-8 3-3	2	2

** See Chapter 5 for details of vision standards.*
H - On entry, the hearing standards will hold, but on re-engagement/ re-entry H3 H3 may be allowable after referral to a Naval otologist.

Notes:

1. *Men falling below standard for GD may be remustered as specialists of lower medical standard provided they are otherwise suitable for the branch concerned, at any time after completion of recruit training.*

2. *Ranks falling below the remustering or re-engagement standards are liable to be invalided.*

3. *The term 'unfit for commando service' will not be used. Men at the standards for all 3 columns will be available for draft to commandos irrespective of age.*

4. *In special circumstances certain GD ranks graded L3 may be employed in specialist duties on commando service after re-engagement. Duties which may be fulfilled by these ranks include MOAs, Officers' and Sergeants' mess attendants, storemen, etc.*

5. *The notation '(Mod.Cdo)' will be inserted against the PULHHEEMS assessment in the medical documents of ranks found fit only for duty in B echelon. This notation may be inserted or removed only by the Medical Officer of a commando or by the Medical Officer of CTCRM.*

QUEEN ALEXANDRA'S ROYAL NAVAL NURSING SERVICE

Branch	CP	On entry							On re-engagement/ re-entry						
		P	U	L	HH	EE*	M	S	P	U	L	HH	EE*	M	S
	4	2	2	2	2 2	7 8 1 5 or 7 8 2 4 or 7 8 3 3	2	2	2	2	3	2 2	7 8 1 5 or 7 8 2 4 or 7 8 3 3	2	2

** See Chapter 5 for details of vision standards.*
H - On entry, the hearing standards will hold, but on re-engagement/ re-entry H3 H3 may be allowable after referral to a Naval otologist.

ROYAL NAVAL RESERVE

In general, medical standards for entry to the Royal Naval Reserve will be the same for the corresponding branch in the regular Service.

Branch	CP	P	U	L	HH	EE*	M	S
Lists 1,3,4,5 *Officers:* Operations (Sea) (List 1) Operations (Sea (Other Lists)) Operations (Shore)	1	2	2	2	2 2	56 1 2	2	2
Lists 2 *Officers:* Operations (Air) List 2	1	2	2	2	2 2	3 3 1 1	2	2
Medical DIS Interrogator Public Affairs	4	2	2	2	2 2	7 8 1 5 or 7 8 2 4 or 7 8 3 3	2	2
Ratings: Operations (Sea) Operations (Shore) Communications (Sea)	3	2	2	2	2 2	5 6 1 2	2	2
Communications (Shore)	4	2	2	2	2 2	or	2	2
Writer Stores } Logistics Chef Medical	4	2	2	2	2 2	7 8 2 4 or 7 8 3 3	2	2
Royal Fleet Reserve	The same standards as RN apply							

** See Chapter 5 for details of vision standards.*
H - H3 H3 may be allowable after referral to a Naval otologist.

INTENTIONALLY BLANK

APPENDIX II

AVERAGE WEIGHT FOR ADULTS BY HEIGHT[1]

Height (metres) in bare feet	Weight (kilograms) in underclothes – **MEN**					
	Small Frame		**Medium Frame**		**Large Frame**	
	Range	Average plus 25%	Range	Average plus 25%	Range	Average plus 25%
1.55	56.0 – 58.5	71.5	57.0 – 61.5	74.5	60.5 – 66.0	79.0
1.57	56.5 – 59.5	72.5	58.0 – 62.5	75.5	61.0 – 67.0	80.0
1.60	57.5 – 60.5	73.5	59.0 – 63.5	76.5	62.0 – 68.5	81.5
1.63	58.5 – 61.0	74.5	60.0 – 65.0	78.0	63.0 – 70.5	83.5
1.65	59.5 – 62.0	76.0	61.0 – 66.0	79.5	64.0 – 72.0	85.0
1.68	60.5 – 63.5	77.5	62.0 – 67.5	81.0	65.5 – 74.0	87.0
1.70	61.0 – 65.0	79.0	63.5 – 69.0	83.0	66.5 – 76.0	89.0
1.73	62.0 – 66.0	80.0	65.0 – 70.5	84.5	68.0 – 77.5	91.0
1.75	63.0 – 67.5	81.5	66.0 – 71.5	86.0	69.5 – 79.5	93.0
1.78	64.0 – 69.0	83.0	67.5 – 72.5	87.5	71.0 – 81.0	95.0
1.80	65.5 – 70.5	85.0	69.0 – 75.0	90.0	72.0 – 83.0	97.0
1.83	66.5 – 72.0	87.0	70.5 – 76.5	92.0	74.0 – 84.5	99.0
1.85	68.0 – 74.0	89.0	72.0 – 78.5	94.0	76.0 – 86.0	101.5
1.88	69.5 – 75.5	90.5	73.5 – 80.5	96.0	77.5 – 89.5	104.5
1.91	71.0 – 77.5	93.0	75.5 – 82.5	98.5	79.0 – 91.5	106.5

Height (metres) In bare feet	Weight (kilograms) in underclothes – **WOMEN**					
	Small Frame		**Medium Frame**		**Large Frame**	
	Range	Average plus 25%	Range	Average plus 25%	Range	Average plus 25%
1.45	45.0 – 49.0	58.5	48.0 – 53.5	63.5	52.0 – 58.0	69.0
1.47	45.5 – 50.0	59.5	49.0 – 54.5	64.5	53.0 – 59.5	70.5
1.50	46.0 – 51.0	60.5	50.0 – 56.0	66.0	54.0 – 61.0	71.5
1.52	46.5 – 52.0	62.0	51.0 – 57.0	67.5	55.5 – 62.0	73.5
1.55	47.5 – 53.5	63.0	52.0 – 58.5	69.0	56.5 – 63.5	75.0
1.57	49.0 – 55.0	65.0	53.5 – 60.0	71.0	58.0 – 65.5	77.0
1.60	50.5 – 56.0	66.5	55.0 – 61.0	72.5	59.5 – 67.0	79.0
1.63	51.5 – 57.5	68.5	56.0 – 62.5	74.5	61.0 – 69.0	81.0
1.65	53.0 – 59.0	70.0	57.5 – 64.0	76.0	62.0 – 71.0	83.0
1.68	54.5 – 60.5	71.5	59.0 – 65.5	77.5	63.5 – 72.5	85.0
1.70	56.0 – 61.5	73.5	60.5 – 66.5	79.5	65.0 – 74.5	87.0
1.73	57.0 – 63.0	75.0	62.0 – 68.0	81.0	66.0 – 76.0	88.5
1.75	58.5 – 64.5	77.0	63.0 – 69.5	83.0	67.5 – 77.0	90.5
1.78	60.0 – 66.0	78.5	64.5 – 71.0	84.5	69.0 – 78.5	92.0
1.80	61.0 – 67.0	80.0	66.0 – 72.0	86.0	70.5 – 80.0	94.0

N.B. Weight tables corrected to nearest half kilogram.

[1]. Derived from the Metropolitan Insurance Company Actuarial Tables

BODY MASS INDEX

Body Mass Index (BMI) is measured as follows: weight in kilograms divided by height in metres squared.

$$BMI = \frac{Wt(kg)}{Ht^2(m^2)}$$

Body Mass Index	Implications
≤18 $kg.m^{-2}$	Underweight
19 – 25 $kg.m^{-2}$	Healthy
26 – 30 $kg.m^{-2}$	Overweight – Health could suffer
31 – 40 $kg.m^{-2}$	Obese – Health is at risk
≥41 $kg.m^{-2}$	Grossly obese – Health is seriously at risk

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APPENDIX III

MINIMUM ACCEPTABLE VALUES OF FORCED VITAL CAPACITY (FVC) FOR SUBMARINE ESCAPE TRAINING AND DIVING BY HEIGHT (Measured (cm) without footwear)

Age 16-30 (Age at last birthday)

Height	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
146	2120	2180	2230	2290	2330	2370	2410	2440	2470	2500	2520	2530	2540	2550	2550
147	2190	2250	2300	2360	2400	2440	2480	2510	2540	2570	2590	2600	2610	2620	2620
148	2260	2320	2370	2430	2470	2510	2550	2580	2610	2640	2660	2670	2680	2690	2690
149	2330	2390	2440	2500	2540	2580	2620	2650	2680	2710	2730	2740	2750	2760	2760
150	2400	2460	2510	2570	2610	2650	2690	2720	2750	2780	2800	2810	2820	2830	2830
151	2470	2530	2580	2640	2680	2720	2760	2790	2820	2850	2870	2880	2890	2900	2900
152	2540	2600	2650	2710	2750	2790	2830	2860	2890	2920	2940	2950	2960	2970	2970
153	2610	2670	2720	2780	2820	2860	2900	2930	2960	2990	3010	3020	3030	3040	3040
154	2680	2740	2790	2850	2890	2930	2970	3000	3030	3060	3080	3090	3100	3110	3110
155	2750	2810	2860	2920	2960	3000	3040	3070	3100	3130	3150	3160	3170	3180	3180
156	2820	2880	2930	2990	3030	3070	3110	3140	3170	3200	3220	3230	3240	3250	3250
157	2890	2950	3000	3060	3100	3140	3180	3210	3240	3270	3290	3300	3310	3320	3320
158	2960	3020	3070	3130	3170	3210	3250	3280	3310	3340	3360	3370	3380	3390	3390
159	3030	3090	3140	3200	3240	3280	3320	3350	3380	3410	3430	3440	3450	3460	3460
160	3100	3160	3210	3270	3310	3350	3390	3420	3450	3480	3500	3510	3520	3530	3530
161	3170	3230	3280	3340	3380	3420	3460	3490	3520	3550	3570	3580	3590	3600	3600
162	3240	3300	3350	3410	3450	3490	3530	3560	3590	3620	3640	3650	3660	3670	3670
163	3310	3370	3420	3480	3520	3560	3600	3630	3660	3690	3710	3720	3730	3740	3740
164	3380	3440	3490	3550	3590	3630	3670	3700	3730	3760	3780	3790	3800	3810	3810
165	3450	3510	3560	3620	3660	3700	3740	3770	3800	3830	3850	3860	3870	3880	3880
166	3520	3580	3630	3690	3730	3770	3810	3840	3870	3900	3920	3930	3940	3950	3950
167	3590	3650	3700	3760	3800	3840	3880	3910	3940	3970	3990	4000	4010	4020	4020
168	3660	3720	3770	3830	3870	3910	3950	3980	4010	4040	4060	4070	4080	4090	4090
169	3730	3790	3840	3900	3940	3980	4020	4050	4080	4110	4130	4140	4150	4160	4160
170	3800	3860	3910	3970	4010	4050	4090	4120	4150	4180	4200	4210	4220	4230	4230
171	3870	3930	3980	4040	4080	4120	4160	4190	4220	4250	4270	4280	4290	4300	4300
172	3940	4000	4050	4110	4150	4190	4230	4260	4290	4320	4340	4350	4360	4370	4370
173	4010	4070	4120	4180	4220	4260	4300	4330	4360	4390	4410	4420	4430	4440	4440

Age 16-30 Continued

Height	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
174	4080	4140	4190	4250	4290	4330	4370	4400	4430	4460	4480	4490	4500	4510	4510
175	4150	4210	4260	4310	4360	4400	4440	4470	4500	4530	4550	4560	4570	4580	4580
176	4220	4280	4330	4380	4430	4470	4510	4540	4570	4600	4620	4630	4640	4650	4650
177	4290	4350	4400	4450	4500	4540	4580	4610	4640	4670	4690	4700	4710	4720	4720
178	4360	4420	4470	4520	4570	4610	4650	4680	4710	4740	4760	4770	4780	4790	4790
179	4430	4490	4540	4590	4640	4680	4720	4750	4780	4810	4830	4840	4850	4860	4860
180	4500	4560	4610	4660	4710	4750	4790	4820	4850	4880	4900	4910	4920	4930	4930
181	4570	4630	4680	4730	4780	4820	4860	4890	4920	4950	4970	4980	4990	5000	5000
182	4640	4700	4750	4800	4850	4890	4930	4960	4990	5020	5040	5050	5060	5070	5070
183	4710	4770	4820	4870	4920	4960	5000	5030	5060	5090	5110	5120	5130	5140	5140
184	4780	4840	4890	4940	4990	5030	5070	5100	5130	5160	5180	5190	5200	5210	5210
185	4850	4910	4960	5010	5060	5100	5140	5170	5200	5230	5250	5260	5270	5280	5280
186	4920	4980	5030	5080	5130	5170	5210	5240	5270	5300	5320	5330	5340	5350	5350
187	4990	5050	5100	5150	5200	5240	5280	5310	5340	5370	5390	5400	5410	5420	5420
188	5060	5120	5170	5220	5270	5310	5350	5380	5410	5440	5460	5470	5480	5490	5490
189	5130	5190	5240	5290	5340	5380	5420	5450	5480	5510	5530	5540	5550	5560	5560
190	5200	5260	5310	5360	5410	5450	5490	5520	5550	5580	5600	5610	5620	5630	5630
191	5270	5330	5380	5430	5480	5520	5560	5590	5620	5650	5670	5680	5690	5700	5700
192	5340	5400	5450	5500	5550	5590	5630	5660	5690	5720	5740	5750	5760	5770	5770
193	5410	5470	5520	5570	5620	5660	5700	5730	5760	5790	5810	5820	5830	5840	5840
194	5480	5540	5590	5640	5690	5730	5770	5800	5830	5860	5880	5890	5900	5910	5910
195	5550	5610	5660	5710	5760	5800	5840	5870	5900	5930	5950	5960	5970	5980	5980
196	5620	5680	5730	5780	5830	5870	5910	5940	5970	6000	6020	6030	6040	6050	6050
197	5690	5750	5800	5850	5900	5940	5980	6010	6040	6070	6090	6100	6110	6120	6120
198	5760	5820	5870	5920	5970	6010	6050	6080	6110	6140	6160	6170	6180	6190	6190
199	5830	5890	5940	5990	6040	6080	6120	6150	6180	6210	6230	6240	6250	6260	6260
200	5900	5960	6010	6060	6110	6150	6190	6220	6250	6280	6300	6310	6320	6330	6330
201	5970	6030	6080	6130	6180	6220	6260	6290	6320	6350	6370	6380	6390	6400	6400
202	6040	6100	6150	6200	6250	6290	6330	6360	6390	6420	6440	6450	6460	6470	6470
203	6110	6170	6220	6270	6320	6360	6400	6430	6460	6490	6510	6520	6530	6540	6540
204	6180	6240	6290	6340	6390	6430	6470	6500	6530	6560	6580	6590	6600	6610	6610
205	6250	6310	6360	6410	6460	6500	6540	6570	6600	6630	6650	6660	6670	6680	6680

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MINIMUM ACCEPTABLE VALUES OF FORCED VITAL CAPACITY (FVC) FOR SUBMARINE ESCAPE TRAINING AND DIVING BY HEIGHT (Measured (cm) without footwear)

Age 31-45 (Age at last birthday)

Height	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
146	2550	2540	2530	2510	2490	2470	2440	2410	2370	2320	2280	2230	2170	2110	2040
147	2620	2610	2600	2580	2560	2540	2510	2480	2440	2390	2350	2300	2240	2180	2110
148	2690	2680	2670	2650	2630	2610	2580	2550	2510	2460	2420	2370	2310	2250	2180
149	2760	2750	2740	2720	2700	2680	2650	2620	2580	2530	2490	2440	2380	2320	2250
150	2830	2820	2810	2790	2770	2750	2720	2680	2650	2600	2560	2510	2450	2390	2320
151	2900	2890	2880	2860	2840	2820	2790	2750	2720	2670	2630	2580	2520	2460	2390
152	2970	2960	2950	2930	2910	2890	2860	2820	2790	2740	2700	2650	2590	2530	2460
153	3040	3030	3020	3000	2980	2960	2930	2890	2860	2810	2770	2720	2660	2600	2530
154	3110	3100	3090	3070	3050	3030	3000	2960	2930	2880	2840	2790	2730	2670	2600
155	3180	3170	3160	3140	3120	3100	3070	3030	3000	2950	2910	2860	2800	2740	2670
156	3250	3240	3230	3210	3190	3170	3140	3100	3070	3020	2980	2930	2870	2810	2740
157	3320	3310	3300	3280	3260	3240	3210	3170	3140	3090	3050	3000	2940	2880	2810
158	3390	3380	3370	3350	3330	3310	3280	3240	3210	3160	3120	3070	3010	2950	2880
159	3460	3450	3440	3420	3400	3380	3350	3310	3280	3230	3190	3140	3080	3020	2950
160	3530	3520	3510	3490	3470	3450	3420	3380	3350	3300	3260	3210	3150	3090	3020
161	3600	3590	3580	3560	3540	3520	3490	3450	3420	3370	3330	3280	3220	3160	3090
162	3670	3660	3650	3630	3610	3590	3560	3520	3490	3440	3400	3350	3290	3230	3160
163	3740	3730	3720	3700	3680	3660	3630	3590	3560	3510	3470	3420	3360	3300	3230
164	3810	3800	3790	3770	3750	3730	3700	3660	3630	3580	3540	3490	3430	3370	3300
165	3880	3870	3860	3840	3820	3800	3770	3730	3700	3650	3610	3560	3500	3440	3370
166	3950	3940	3930	3910	3890	3870	3840	3800	3770	3720	3680	3630	3570	3510	3440
167	4020	4010	4000	3980	3960	3940	3910	3870	3840	3790	3750	3700	3640	3580	3510
168	4090	4080	4070	4050	4030	4010	3980	3940	3910	3860	3820	3770	3710	3650	3580
169	4160	4150	4140	4120	4100	4080	4050	4010	3980	3930	3890	3840	3780	3720	3650
170	4230	4220	4210	4190	4170	4150	4120	4080	4050	4000	3960	3910	3850	3790	3720
171	4300	4290	4280	4260	4240	4220	4190	4150	4120	4070	4030	3980	3920	3860	3790
172	4370	4360	4350	4330	4310	4290	4260	4220	4190	4140	4100	4050	3990	3930	3860
173	4440	4430	4420	4400	4380	4360	4330	4290	4260	4210	4170	4120	4060	4000	3930
174	4510	4500	4490	4470	4450	4430	4400	4360	4330	4280	4240	4190	4130	4070	4000
175	4580	4570	4560	4540	4520	4500	4470	4430	4400	4350	4310	4260	4200	4140	4070

Age 31-45 (Continued)

Height	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
176	4650	4640	4630	4610	4590	4570	4540	4500	4470	4420	4380	4330	4270	4210	4140
177	4720	4710	4700	4680	4660	4640	4610	4570	4540	4490	4450	4400	4340	4280	4210
178	4790	4780	4770	4750	4730	4710	4680	4640	4610	4560	4520	4470	4410	4350	4280
179	4860	4850	4840	4820	4800	4780	4750	4710	4680	4630	4590	4540	4480	4420	4350
180	4930	4920	4910	4890	4870	4850	4820	4780	4750	4700	4660	4610	4550	4490	4420
181	5000	4990	4980	4960	4940	4920	4890	4850	4820	4770	4730	4680	4620	4560	4490
182	5070	5060	5050	5030	5010	4990	4960	4920	4890	4840	4800	4740	4690	4630	4560
183	5140	5130	5120	5100	5080	5060	5030	4990	4960	4910	4870	4810	4760	4700	4630
184	5210	5200	5190	5170	5150	5130	5100	5060	5030	4980	4940	4880	4830	4770	4700
185	5280	5270	5260	5240	5220	5200	5170	5130	5100	5050	5010	4950	4900	4840	4770
186	5350	5340	5330	5310	5290	5270	5240	5200	5170	5120	5080	5020	4970	4910	4840
187	5420	5410	5400	5380	5360	5340	5310	5270	5240	5190	5150	5090	5040	4980	4910
188	5490	5480	5470	5450	5430	5410	5380	5340	5310	5260	5220	5160	5110	5050	4980
189	5560	5550	5540	5520	5500	5480	5450	5410	5380	5330	5290	5230	5180	5120	5050
190	5630	5620	5610	5590	5570	5550	5520	5480	5450	5400	5360	5300	5250	5190	5120
191	5700	5690	5680	5660	5640	5620	5590	5550	5520	5470	5430	5370	5320	5260	5190
192	5770	5760	5750	5730	5710	5690	5660	5620	5590	5540	5500	5440	5390	5330	5260
193	5840	5830	5820	5800	5780	5760	5730	5690	5660	5610	5570	5510	5460	5400	5330
194	5910	5900	5890	5870	5850	5830	5800	5760	5730	5680	5640	5580	5530	5470	5400
195	5980	5970	5960	5940	5920	5900	5870	5830	5800	5750	5710	5650	5600	5540	5470
196	6050	6040	6030	6010	5990	5970	5940	5900	5870	5820	5780	5720	5670	5610	5540
197	6120	6110	6100	6080	6060	6040	6010	5970	5940	5890	5850	5790	5740	5680	5610
198	6190	6180	6170	6150	6130	6110	6080	6040	6010	5960	5920	5860	5810	5750	5680
199	6260	6250	6240	6220	6200	6180	6150	6110	6080	6030	5990	5930	5880	5820	5750
200	6330	6320	6310	6290	6270	6250	6220	6180	6150	6100	6060	6000	5950	5890	5820
201	6400	6390	6380	6360	6340	6320	6290	6250	6220	6170	6130	6070	6020	5960	5890
202	6470	6460	6450	6430	6410	6390	6360	6320	6290	6240	6200	6140	6090	6030	5960
203	6540	6530	6520	6500	6480	6460	6430	6390	6360	6310	6270	6210	6160	6100	6030
204	6610	6600	6590	6570	6550	6530	6500	6460	6430	6380	6340	6280	6230	6170	6100
205	6680	6670	6660	6640	6620	6600	6570	6530	6500	6450	6410	6350	6300	6240	6170

GLOSSARY

2OE(10)	Second Open Engagement (10 Years)
2OE(5)	Second Open Engagement (5 Years)
ABAE	Amateur Boxing Association of England
AC	Aircraft Controller
ACMN	Aircrewman
AE	Air Engineering
AGR	Anti-Gas Respirator *(currently S10)*
AH	Aircraft Handler
AIB	Admiralty Interview Board
AK	Astigmatic Keratotomy
AMED	HSE Approved Medical Examiner of Divers
AP	Air Publication
ATC	Air Traffic Controller
ATPS	Ambient Temperature and Pressure Saturated
AV	Aviation
AW	Above Water
AWW	Above Water Warfare
BCG	Bacillus Calmette-Guérin *(immunisation against tuberculosis)*
BFFI	British Forces Falkland Islands
BMI	Body Mass Index
BR	Book of Reference
BRNC	Britannia Royal Naval College *(Dartmouth)*
BSAC	British Sub Aqua Club
BTPS	Body Temperature and Pressure Saturated
BV	Band vagon *(small tracked vehicle used on snow and soft ground)*
CAAMB	Central Air and Admiralty Medical Board
CACDC	Consultant Adviser in Communicable Disease Control
CAGE	Cerebral Arterial Gas Embolism
CC	Corps Commission *(promotion to Officer RM before age 26)*
CFM	Captain Fleet Maintenance
CGRM	Commandant General Royal Marines
CL	Contact Lens
CP	Colour Perception
CPO	Chief Petty Officer
CSBA	Combined Services Boxing Association
CT	Computer Tomography
CTCRM	Commando Training Centre Royal Marines *(Lympstone)*
CVS	Cardiovascular System
CXR	Chest X-ray

DASA	Defence Analytical Services Agency
DDA	Defence Dental Agency
DGHR(N)	Director General Human Resources (Navy)
DMedOps	Director Medical Operations
DMSD	Defence Medical Services Directorate
DNLM	Director Naval Life Management
DNSyICP	Director Naval Security Integrated Contingency Planning
DOH(N)	Director of Health (Navy)
Dunker	Helicopter Escape Training Unit
ECG	Electro Cardiograph
EDBA	Extended Duration Breathing Apparatus
EEG	Electro Encephalograph
EMA	Employment Medical Adviser
EMAS	Employment Medical Advisory Service
ENT	Ear Nose and Throat
ESE	Equivalent Spherical Error
EVT	Extra Vocational Training
F Med	Form Medical
FAL	First Action Level
FC	Fighter Controller
FDO	Flight-deck Officer
FEMO	Final Examining Medical Officer
FEV	Forced Expiratory Volume
FEV_1	Forced Expiratory Volume at 1 second
FLAGO	Fleet Administrative and General Orders
FVC	Forced Vital Capacity
GD	General Duties
GMP	General Medical Practitioner
HRT	Hormone Replacement Therapy
HSE	Health and Safety Executive
HSRM	Head of Submarine and Radiation Medicine
INM	Institute of Naval Medicine
IRR	Ionising Radiations Regulations
IUCD	Intra-Uterine Contraceptive Device
JAR	Joint Aviation Requirements
JSP	Joint Service Publication
JSTC	Joint Service Travel Centre
KO	Knock-Out

LASEK	Laser Epithelial Keratomileusis
LASIK	Laser Insitu Keratomileusis
LCU	Landing Craft Utility
LCVP	Landing Craft Vehicle/ Personnel
MDG(N)	Medical Director General (Navy)
MEA	Marine Engineering Artificer
MedCat	Medical Category
MEM	Marine Engineering Mechanic
MOD	Ministry of Defence
MRI	Magnetic Resonance Imaging
MSFT	Multi-stage Fitness Test
NAWR	Noise at Work Regulations
NBCD	Nuclear, Biological, Chemical and Damage Control
NEMO	New Entry Medical Officer
NMOH	Naval Medical Officer of Health
NSMBOS	Naval Service Medical Board of Survey
OM	Operator Maintainer
OM(W)	Operator Maintainer (Warfare)
Ops	Operations Branch
PA	Postero-anterior
PAL	Peak Action Level
PE	PULHHEEMS Equivalent
PEF	Peak Expiratory Flow
PFT	Pulmonary Function Test
PHCIS	Primary Health Care Information System
PLAGO	Personnel Legal and General Orders
PMO	Principal Medical Officer
PNE	Post Natal Examination
PREC	Personnel Research Ethics Committee
PRK	Photo-Refractive Keratectomy
PT	Physical Training
PULHHEEMS	Physical capacity/ upper Limbs/ Lower limbs/ Hearing right/ Hearing left/ Eyesight right/ Eyesight left/ Mental capacity/ emotional Stability
PUNS	Permanently Unfit for Naval Service
QARNNS	Queen Alexandra’s Royal Naval Nursing Service
QARNNS(R)	Queen Alexandra’s Royal Naval Nursing Service (Reserves)

REG	Regulating
RFR	Royal Fleet Reserve
RK	Radial Keratotomy
RM	Royal Marines
RMR	Royal Marines Reserve
RNBA	Royal Naval Boxing Association
RNFT	Royal Naval Fitness Test
RNMEB	Royal Naval Medical Employability Board
RNR	Royal Naval Reserve
RNXS	Royal Naval Auxiliary Service
RSC(H)	Referee Stopped Contest (Head)
SAR	Search and Rescue
SCC	Senior Corps Commission *(promotion to Officer RM after age 26)*
SE	Saturated Equivalent
SETT	Submarine Escape Training Tank
SFM	Superintendent Fleet Maintenance
SGPL	Surgeon General's Policy Letter
SM	Submarine
SMO	Senior Medical Officer
SMO(DM)	Senior Medical Officer (Diving Medicine)
SMO(SM)	Senior Medical Officer (Submarine Medicine)
SS	Short Service
SSBN	Ship Submersible Ballistic Nuclear
SSN	Ship Submersible Nuclear
STANAG	Standing NATO Agreement
STASS	Short Term Air Supply System
SUY	Senior Upper Yardman *(promotion to Officer RN after age 26)*
TB	Tuberculosis
UW	Underwater Warfare
UY	Upper Yardman *(promotion to Officer RN before age 26)*
VA	Visual Acuity
VC	Vital Capacity
WEA	Weapons Engineering Artificer
WHA	Warwickshire Health Authority
WSM	Warfare Submarine