
Approved Doctor's Manual

Seafarer Medical Examinations

July 2020

This manual is intended to be read in
conjunction with *MSN 1886 (M+F)*
Medical Fitness Standards



Maritime &
Coastguard
Agency

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Foreword

This manual details the procedures to be followed to ensure that medical assessments for seafarers serving on UK ships are carried out to the standards required by the Maritime and Coastguard Agency in terms of compliance with statutory requirements, good medical practice and accountability.

The manual includes detailed guidance on individual medical conditions for MCA Approved Doctors (ADs). **These are linked to the medical fitness standards in Merchant Shipping Notice 1886 which must always be used as your first reference point.** This guidance also includes a series of frameworks for structured decision-taking to aid consistency in fitness certification. A standard format has been used and guidance has been prepared for seventeen conditions that are common and which have previously led to questions about the correct issue of fitness certificates.

We have replaced MSN 1839(M), which currently includes both the medical fitness standards and guidance on the medical examination procedure, with:

- [MSN 1886\(M+F\)](#) which contains the medical standards applicable to both seafarers and fishermen; it also contains the statutory information Approved Doctors need to be aware of.
- [MSN 1887 \(M\)](#) which contains information for shipping companies etc, and seafarers on the statutory processes and guidance around seafarer medical examinations;
- [MSN 1883 \(F\)](#) which contains information for fishing vessel owners, managers etc and fishermen on the statutory processes and guidance around medical examinations for fishermen.

This manual is produced to assist Approved Doctors with examination procedures, the issue of medical fitness certificates and record keeping. It is therefore written using terms that will be understood by health professionals. Although it may also be a useful source of information for seafarers and others in the maritime sector, this is not its primary purpose.

Instructions for use

The manual can be navigated through interactive links which are highlighted in the contents page and text and through the clearly marked navigational buttons. The interactive decision trees in Chapter 4 are designed to aid decision making by clearly showing each logical step in the process of making diagnoses. If you wish to search for topics in particular the search button at the top of the text pages will open a new window. This window can be enlarged by dragging the right hand side of the box, which will then show more information and help to decide the context of the results returned.

If you have any difficulty using the manual or have any comments to make please contact the Medical Administration Team at seafarer.s&h@mcga.gov.uk

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Chapter 1

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1.1 Introduction

- 1.1.1 It is universally accepted that seafaring is a potentially hazardous occupation which calls for a high standard of health and fitness for all those working in the industry. Regulations place a duty on seafarers on board UK ships to take care of their health and safety and to co-operate with their employers.
- 1.1.2 Ships require a range of expertise at all crew levels and the use of new technology to maximise efficiency is becoming more commonplace. However, despite the development of modern technology it will never replace the most valuable resource on a ship: the crew. The requirement that seafarers must be fully fit to carry out the full range of their duties remains as important today as it did when scurvy took its toll on the first oceanic voyages.
- 1.1.3 The assessment of medical aspects of fitness is only one part of the arrangements for seafarers' health. Living and working conditions need to be safe and free of health risk, care is needed for injury and illness at sea, and access to onshore health care facilities is required.

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1.2 Legal requirements for medical examination

Medical examination

- 1.2.1 The Merchant Shipping (Medical Certification) Regulations (referred to in this manual as ‘the Regulations’) in force from 6 April 2010, make it a legal requirement for any seafarer (defined as any person, including the master, who is employed or engaged or works in any capacity aboard a ship and whose normal place of work is on a ship) to hold a valid medical certificate attesting to their medical fitness to perform their duties.
- 1.2.2 [MSN 1886 \(M+F\)](#) which describes the Seafarer Medical Examination System and Medical and Eyesight Standards, contains the detailed mandatory requirements specified by the Secretary of State under the Regulations, and gives guidance on the application and provisions of the regulations. **It is essential that these standards are followed in all cases.**
- 1.2.3 Although some seafarers have relatively long periods at home between periods of sea service, others will need to arrange a medical examination during a short port call, and Approved Doctors (ADs) should, where possible, be reasonably flexible to accommodate such requirements.
- 1.2.4 When a ship is in a foreign port, Port State Control inspections may be carried out, and the medical fitness certification of the crew is one area that may be checked. It is therefore important that certificates are correctly issued.

Other relevant requirements

- 1.2.5 All officers and ratings serving on UK flagged merchant vessels must hold relevant Certificates of Competency and the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers 1978, as amended, (STCW 78) and its associated Code (STCW Code) sets the standards which govern the awards of these certificates and controls watchkeeping arrangements. In the United Kingdom, the Merchant Shipping (Training and Certification) Regulations 1997 implement some of the requirements of STCW 78.
- 1.2.6 STCW 78 prescribes the mandatory requirements for certification of deck and engineer officers and watch ratings including requirements relating to age, medical fitness, seagoing service and standards of competence. To satisfy these, candidates for UK Certificates of Competency have to meet certain medical standards (including eyesight); satisfactorily complete a minimum period of seagoing service; reach the required vocational and academic standard; undertake ancillary technical training, and in the case of officer candidates, on completion of programmes of education and training approved by the Maritime and Coastguard Agency (MCA), pass an oral examination conducted by an MCA examiner.
- 1.2.7 There are equivalent national provisions, including medical fitness requirements, for those taking charge of vessels falling outside the scope of the STCW Convention.

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1.3 Purpose of the seafarer medical assessment

1.3.1 The fundamental purpose of the seafarer medical assessment is to ensure that the individual seafarer is fit for the work for which he or she is to be employed, taking into account the particular risks associated with working at sea. The seafarer medical examination is a key element in this process. As a general principle the AD should be satisfied in each case that no disease or defect is present which could either be aggravated by working at sea, or which represents an unacceptable health risk to the individual seafarer, other crew members or the safety of the ship.

The purpose of the examination should be explained at the outset, and further explanation may be necessary during the physical examination particularly when your actions may be misconstrued, for example when examining for herniae.

1.3.2 Fitness to undertake the full range of tasks on board ship and to cope with living conditions at sea has long been a requirement. More recently the focus of medical assessment has been on:

- (a) fitness to navigate a ship safely
- (b) fitness in both physical and psychological terms to deal with emergencies at sea

- (c) freedom from foreseeable risk of disease while at sea, especially where this might either spread to others on board, require emergency treatment or lead to evacuation or diversion
- (d) recognition that seafaring careers can be terminated prematurely by conditions which can be prevented, such as ischaemic vascular disease and lung cancer
- (e) absence of discrimination based on disability or medical condition, except where this can be justified by requirements (a) to (c)

1.4 Maritime working conditions

1.4.1 The occupational circumstances which apply at sea should be fully considered when a decision on a seafarer's medical fitness is taken. Particular factors to take into account are:

- the potentially hazardous nature of seafaring, which calls for a high standard of health and continuing fitness;
- the restricted medical facilities likely to be available on board ship (few ships carry doctors and first aid training for crews is limited);
- the likelihood of limited medical supplies and delay before full medical treatment is available;
- the possible difficulty of providing/replacing required medication; as a general rule a seafarer should not be

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accepted if the loss of a necessary medicine e.g. treatments for high blood pressure, hay fever or asthma, could precipitate the rapid deterioration of a medical condition;

- the limited crew complements which mean that illness of one crew member may place a burden on others or compromise the safe and efficient working of the ship;
- the potential need for crew members to play a role in an emergency or emergency drill, which may involve strenuous physical activity in adverse conditions;
- the confined nature of life on board ship and the need to be able to live and work in a closed community;
- the likelihood that a seafarer will need to join and leave ships by air, which means that they should be free from any condition which precludes air travel or could be seriously affected by it;
- the especially high levels of physical fitness required for work on some vessels, such as standby vessels in the oil industry;
- the area of operation of the vessel. This and the effects of climate will affect the risk of diseases and the pattern of work and rest.

1.4.2 Shipping operations and shipboard duties vary considerably. The seafarer's intended position on board ship and, as far as practicable, the physical and psychological requirements of this work should be established. The AD should have knowledge of the living and working conditions on board

ships and an understanding of the demands of the different types of work involved.

1.4.3 In many circumstances, the AD and/or the seafarer will not know the particular area of operation, and an unrestricted medical certificate will enable the seafarer to work anywhere in the world. The following sections give an overview of the range of vessels and types of work for which a seafarer may be employed.

1.4.4 Vessel types

The shipping industry is a world wide activity which uses a whole variety of vessels of which the following are the most common types:

Tankers

Used to transport crude oil, petroleum products, and chemicals.

Container ships

Carry a whole variety of manufactured goods.

Dry bulk carriers

Used for the transportation of raw materials such as iron ore, coal and grain.

Cruise ships

Floating hotels with large crews up to 2000 or more on the very large ships. The crew will include many support staff and include hairdressers/entertainers/gaming staff.

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Passenger ferries

The size of the vessel and crew numbers vary considerably. On some of the larger long distance ferries the support staff may include entertainers.

Domestic passenger ships

Passenger ships operating pleasure trips around the UK coast. These are often seasonal, and may operate in a variety of roles – e.g. daytime tourist trips, evening charters.

Specialist ships

Examples include tugs, heavy lift vessels and support vessels to the oil industry, including standby vessels.

Yachts

May be motor or sail, for commercial or pleasure use. Medical standards only apply to commercial yachts and any paid crew of pleasure yachts.

1.4.5 Seafarers' functions and levels of responsibility

Merchant Ships

On all merchant vessels there are two distinct areas of ship operation known as the deck department and engineering department. Provided they meet the training and medical requirements, and have suitable seetime experience, all officers may be issued with Certificates of Competency by the MCA, in order to carry out the functions and serve in the following capacities.

Main functions of the **deck** department:

- Navigation
- Cargo handling and stowage
- Control and operation of the ship and care for persons on board
- Radio communications

Main functions of the **engineering** department:

- Marine engineering
- Electrical, electronic and control engineering
- Maintenance and repair
- Radio communications

Certificates of Competency for both **deck** and **engineering** departments are issued for the following levels of responsibility:

- Management Level
- Operational Level
- Support Level

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Deck department – Officers may serve in the following merchant navy capacities:

Master

Better known as the Captain, he or she has overall command of the ship with responsibility for its safe navigation, and is ultimately responsible for the safety of all on board. The Captain does not keep regular watches but is available 24 hours a day especially when it is necessary to oversee the navigation of the ship. In bad weather, the Captain is usually on duty ensuring the safety of all those on board and the safe carriage of cargo. The welfare and morale of the crew is part of the Captain's management responsibility.

The Master holds the most senior *management* post on board ship.

Chief Mate

The Mate is responsible for the day to day operations of the deck crew and may be responsible for medical matters on board ship. They will organise the crew over the stowage, loading, carriage and discharge of cargo. This is very important as attention needs to be paid to the ship's stability for which he or she is responsible.

They tend to keep the morning and evening bridge watches. The morning watch is between 4am and 8am and evening watch is between 4pm and 8pm. This is also a post at *management* level.

Senior Officer of the Watch (navigation)

Usually the ship's navigator with responsibility for the upkeep of charts and passage planning; usually keeps the 12 noon-4pm and 12 midnight-4am watches at sea and may be responsible for health and safety matters on board. When in port he or she will share cargo watches.

This is an *operational* level post.

Junior Officer of the Watch (navigation)

The Junior Officer of the Watch assists the senior officer with their duties and will share the cargo watch; usually keeps the 8am – 12 noon and 8pm – 12 midnight watches.

This is an *operational* level post.

Non-Officers

Deck Rating

This post carries out a wide range of duties related to general maintenance by using practical skills. Whilst at sea they can be helmsmen and lookouts. This is a post which requires practical skills which vary from ship to ship.

May be looked upon as a *support* level post.

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Engineering department – Engineering department – Officers may work the same watch system as the deck department, or otherwise work between 9am and 5pm but remain on call between 5pm and 9am and serve in the following merchant navy capacities:

Chief Engineering Officer

In effect the Chief Engineer is at the same level as the master and is the manager responsible for all technical matters on board ship and the upkeep of all machinery, engineering systems and the general fabric of the ship.

This is a *management* level post.

Second Engineering Officer

The Second Engineer has responsibility for the management of all the engineering personnel. They are also responsible for the engines and stores.

This is a *management* level post.

Officer of the Watch (engineering)

The Officer of the Watch role can be quite varied according to the type of ship and size of crew. He or she will work very closely with the Second Engineer and can have the responsibility for the ship's electrical plant. They also assist with the general upkeep of the main engine.

This is an *operational* level post.

Electrical/Electro Technical Officer

Not all ships carry electrical/electro-technical officers. His or her role is primarily the upkeep of all electrical equipment fitted on board ship. The electro technical officer can be called upon to keep 4 hour watches in the engine room during periods of adverse weather or when under pilotage. However, they tend to work a day time routine.

This is an *operational* level post.

Non-Officers

Engine Room Rating

This post provides general practical assistance to the engineers maintaining and cleaning machinery.

May be looked upon as a *support* level post.

Other categories

Catering Officer, Purser, Chief Steward

These posts maintain direct control over the performance of all functions within the designated area of responsibility. The levels of responsibility will vary considerably according to the type and size of vessel.

May be looked upon as *operational* level posts.

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Cooks and Stewards

These provide the catering services on board ship. The role will vary considerably between ships.

May be looked upon as *support* level posts.

Cadet

Cadets are trainees who become involved in a wide range of duties as part of their training to gain practical experience. As their training covers such a wide range of duties they must hold a valid medical fitness certificate, irrespective of the size of the ship on which they are working or on which they intend to work.

May be looked upon as an *operational* post.

Miscellaneous

On board certain categories of vessels i.e. cruise ships and large ferries, there will be many ancillary staff such as entertainers, franchise operators, hairdressers, dancers, casino staff, doctors and medical staff etc, who will require medical certification unless their normal place of work is ashore, and they are serving on a temporary or short-term basis for a voyage.

Passenger ships have, for many years, employed ship's security officers to ensure good order and to check some aspects of safety aboard. [In addition, STCW requires ships to have a Ship Security Officer with responsibility for implementing the International Ship and Port Security Code.] Both of the above groups are seafarers and may have other shipboard duties.

With the increase in piracy and hostage taking there is now a demand for Privately Contracted Armed Security Personnel (PCASPs – sometimes called “**security guards**”) to help safeguard the ship, its crew and its cargo when passing through a High Risk Area for piracy. Most are engaged by specialist contractors and have a military, often Royal Marines, background. These are more akin to the specialised police detachments deployed on board nuclear carriers, and do not have navigational duties.

Other vessels

- 1.4.6 There tend not to be separate deck and engine departments on most yachts or on small domestic passenger ships (such as trip boats and some ferries). The master (or skipper) of a sail or motor yacht or other small commercial vessel under 24m in length and carrying no more than 12 passengers will hold a relevant RYA or similar certificate with commercial endorsement. On such vessels the skipper may be the only competent person with responsibility for the vessel and the passengers. On a small passenger ship operating no more than 3 miles from shore, the master will hold a Boatmaster's Licence.

1.4.7 Areas of operation

- Worldwide
- UK Near coastal waters
- Local operations

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1.4.8 Safe manning

The Merchant Shipping (Safe Manning, Hours of Work and Watchkeeping Regulations) 1997 place clear responsibilities on companies owning or operating UK registered seagoing ships, and other ships whilst in United Kingdom waters, to ensure that their ships are manned with personnel of appropriate grades who have been properly trained and certificated. The number of crew must be sufficient to ensure safe and efficient operation of the ship at all times.

The owner or operator of a UK registered ship is required to make an assessment of the numbers and grades of personnel necessary for safe operation. The purpose of this assessment is to ensure that:

- the required watchkeeping standard can be maintained and that personnel are able to obtain sufficient rest;
- personnel are not required to work more hours than is safe in relation to the safety of the ship;
- the master and seamen are not required to work such hours or under such conditions which may be injurious to their health and safety.

1.4.9 Hours of work/fatigue

Life on board most merchant ships is a 24 hour, 7 day a week operation. Work is divided into shifts called watches which

are typically 4 hours On Watch followed by 8 hours Off Watch. However, this can vary according to the demands of the ship. A schedule of hours of work for all those employed on board has to be agreed, and must provide for each individual to have at least 77 hours of rest per week.

The Merchant Shipping (Hours of Work) Regulations 2002, as amended in 2014, oblige every operator of a ship and employer to ensure that the master, officers and seamen do not work more hours than is safe in relation to the performance of their duties and the safety of the vessel. The same responsibility is placed upon the master in relation to the seamen. Manning levels should be such as to prevent any member of the crew having to work excessive hours as to affect health and safety. It is essential for there to be a place available to allow for taking rest periods and achieving good quality rest.

The regulations recognise that situations may arise in which a master or seaman may be required to exceed the schedule's duty periods. These include emergencies which threaten the safety of the ship or the environment or put life at risk. Where a master or other seaman exceeds the scheduled hours of work in this manner, and has worked during their rest period, the regulations stipulate the excess must be recorded.

[MSN 1842 \(M\)](#) gives guidance on the regulations and describes all requirements for safe manning, hours of work and watchkeeping.

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1.5 Treatment and welfare on board ship

- 1.5.1 Under the Merchant Shipping (Ship's Doctors) Regulations 1995, the requirement to carry a qualified doctor only applies to a UK ship carrying 100 or more persons on an international voyage of 72 hours duration or longer. On most ships, treatment facilities and welfare provision on board are necessarily limited, but there is nevertheless a minimum level of treatment, which should be available, and all ships must carry basic medical stores.
- 1.5.2 For ships which do not carry a doctor, the master is responsible for ensuring that any necessary medical attention is given either by themselves or under their supervision by a person appointed by them for the purpose. The master is also responsible for the management of the medical supplies and ensuring that they are maintained in good condition.

1.6 Medical stores and the Doctor's Bag

- 1.6.1 The required drugs and medical equipment for ships are intended to provide emergency treatment following an accident and to stabilise a seafarer who is ill. The type of medical stores ships have to carry depends on the distance from shore that the ship operates; details are set out in a Merchant Shipping Notice ([currently MSN 1768 \(M\)](#)). This Notice also includes guidance on the use of medicines, specifications for disinfectants and insecticides, precautions against malaria and the legal liabilities of the owner, master

and or the employer in relation to the requisition and safeguarding of dangerous drugs. Ships are also required to carry a medical guide – in the case of UK merchant ships, the Ship Captain's Medical Guide.

- 1.6.2 There is an additional requirement for seagoing ships which carry more than 12 passengers but do not have a ship's doctor to have a 'Doctor's Bag'. This is intended for use in an emergency by a doctor, registered general nurse or paramedic who happens to be on board as a passenger to treat passengers or crew.

1.7 Training of seafarers in first aid and medical matters

- 1.7.1 Under international Convention requirements, and mirrored in national legislation for non-Convention vessels, there are three levels of first aid training for seafarers. Before starting work at sea, **all** seafarers are required to undertake **elementary first aid training**, which is a short course designed to provide a basic knowledge of what to do when faced with an accident or medical emergency. Ships' officers are required to complete **proficiency in medical first aid training**, covering the provision of immediate first aid in the event of an accident or illness on board. The ship's master and anyone who is designated to be responsible for the medical stores on board is required to complete **proficiency in medical care training**, covering provision of medical care to the sick

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and injured while they remain on board. Each of the courses covers the use of the medical stores which are required to be carried on board. Organisations providing the training have to be approved by the MCA and details of approved training providers can be obtained from the Seafarer Training and Certification Branch of the MCA (Tel: 02380 329231). Syllabuses can be obtained from the Merchant Navy Training Board. [see Chapter 3.3 ►](#)

1.8 Radio medical advice

1.8.1 To support the first aid training of the ship's crew, professional medical advice is also available through the radio medical advice service. Under international conventions, countries are required to provide radio medical advice to ships at sea and for the UK this requirement is met by the designation of Queen Alexandra Hospital, Portsmouth and Aberdeen Royal Infirmary. To be connected to a doctor at either of these centres, ships first call HM Coastguard. The Coastguard will also advise on the availability, and arrange provision, of any additional assistance required including, for ships within helicopter range, medical evacuation by air if required.

1.9 Occupational health and safety for seafarers

1.9.1 Through Merchant Shipping legislation, the requirements for occupational health and safety apply to workers at sea on

broadly the same basis as to workers on land. As with land-based employers, each employer of seafarers must have a written health and safety policy covering the organisation and arrangements for carrying out the policy. Employers are required to conduct risk assessments, on the basis of which steps have to be taken to deal with identified hazards. Workers have to be informed of any significant findings of the assessment and of any measures for their protection. The regulations also provide for the appointment of ships' safety officers, a safety committee and elected safety representatives. A safety officer has to carry out health and safety inspections of the ship at least once every three months.

1.9.2 Employers are also responsible for providing workers with appropriate health surveillance, reflecting any particular risks to health and safety, which are identified by the risk assessment process. The Code of Safe Working Practices for Merchant Seamen produced by the MCA (available to view on the MCA website under Working at Sea/Health and Safety/Seafarer Health and Safety publications or to purchase from The Stationery Office) summarises the framework for improving health and safety on board ships. Chapter 2 of the Code describes the purpose of health surveillance and the duty placed upon employers. In addition, The International Safety Management (ISM) Code for the Safe Operation of Ships and for Pollution Prevention provides an international standard for the safe management and operation of ships.

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1.10 Special hospital care in the UK

- 1.10.1 The Dreadnought Medical Service is a facility offering priority medical treatment to eligible seafarers through the medical services of the Guy's and St Thomas' NHS Hospital Trust in London. While there is no longer a separate Dreadnought Unit within the hospital, services are available to offer treatment for a full range of medical conditions. The service aims to provide treatment in a shorter time scale than may normally be offered in a seafarer's local NHS hospital, although this cannot be guaranteed. The purpose is to enable serving seafarers to return to work at sea as soon as possible.
- 1.10.2 Active seafarers who are resident in the UK, including fishing vessel personnel, pilots, cadets, those in the towage industry and shipping company shore staff essential to the function of the fleet are all eligible to be considered for elective priority treatment through the Dreadnought Service. Seafarers' dependents may also be eligible where the illness of a seafarer's spouse or child is such as to cause the seafarer grave concern. Retired seafarers will be considered but will not normally be entitled to receive priority treatment. The service has a designated Administrator, who should be contacted for advice in the case of any query about eligibility or other information.
- 1.10.3 A wide range of medical and surgical services is available, although cardiac surgery is not generally included. In addition to medical treatments, dental treatment can also

be provided, a "one-stop" hernia service is available and in certain circumstances, female seafarers can have access to the hospital's gynaecological services. As the service operates within the National Health Service, there is no charge for UK resident seafarers.

- 1.10.4 Referral Procedure – There is a standard referral form in MGN 370 which can be completed by the seafarer's General Practitioner or Approved Doctor; a copy is available www.gov.uk/government/publications/mgn-370-the-dreadnought-medical-service-st-thomas-hospital. Completed forms should be returned to the Dreadnought Administrator, at the address given.

1.11 Expenses of medical and other treatment during a voyage on a UK registered ship

- 1.11.1 If a seafarer, while employed on a United Kingdom ship, receives outside the United Kingdom any treatment for surgical or medical treatment or dental or optical treatment which cannot be postponed without impairing efficiency, the costs are the responsibility of the company employing the seafarer (Merchant Shipping (MLC) minimum requirements for seafarers [SI 2014/1613 Part 9 Medical Care](#)).

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Grandfather Rights - ILO 188 Work in Fishing Convention

This Guidance should assist ADs in implementing Grandfather Rights for Fishermen as laid out in [MIN 575](#), ILO Work in Fishing Convention, Application to Existing Fishermen (Grandfather Rights).

[ILO 188 SI 2018/1108](#) introduces statutory medical examinations for fishermen for the first time. We have replaced MSN 1839(M), which currently includes both the medical fitness standards and guidance on the medical examination procedure, with –

- [MSN 1886 \(M+F\)](#) which contains the medical standards applicable to both seafarers and fishermen; it also contains the statutory information Approved Doctors need to be aware of.
- [MSN 1887 \(M\)](#) which contains information for shipping companies etc, and seafarers on the statutory processes and guidance around seafarer medical examinations;
- [MSN 1883 \(F\)](#) which contains information for fishing vessel owners, managers etc and fishermen on the statutory processes and guidance around medical examinations for fishermen.

Fishermen should be assessed using the statutory medical standards in MSN1886 (M+F), previously annex A to MSN 1839(M). If the standards are met, then an appropriate ENG 1 medical fitness certificate may be issued. Grandfather Rights will not then need to be applied.

The purpose of applying grandfather rights for existing fishermen is to try to ensure that, where they can do so without significant risk to their own or others' health and safety, fishermen are able to continue to carry out an occupation they have been engaged in safely prior to the introduction of the requirement for a medical fitness certificate. This recognizes that there would have to be a very good reason for someone who had been working as a fisherman over a long period to become disqualified from doing so due to a change in legislation when there has been no specific change in circumstances.

N.B Where fishing vessels are deployed in other (non-fishing) roles e.g. guardship duties, grandfather rights would not apply.

If the fisherman does not meet the medical standards e.g. would normally be either temporarily or permanently unfit for work at sea, or with the suggested restriction in [MSN 1886 \(M+F\)](#) , the fisherman cannot continue to work, then the Approved Doctor (AD) can consider whether Grandfather Rights can be applied. The AD will need to consider the safety of the fisherman, colleagues on the vessel, the safety of the vessel and the physical capability of the fisherman to undertake their role. Grandfather Rights cannot be applied if a medical condition exists that would seriously conflict with maritime or navigational safety, or if the safety of others can be reasonably foreseen to be at risk.

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Application of Grandfather Rights

Grandfather Rights may be applied by the AD without further consultation with MCA/CMA, if all the following are satisfied:

1. The fisherman entered the ENG 1 system as a result of the ILO convention coming into force.
2. They can provide evidence that they have been working as a fisherman before the date of coming into force of the Regulations, Examples of suitable evidence would be one or more of the following:
 - MCA Fishing Certificate of Competency
 - Seafish 5-day Bridge Watchkeeping Certificate
 - Basic Health and Safety OR Safety Awareness and Risk assessment
 - SEAFISH course completion card
 - Sea service Testimonials e.g. from skippers/the fishing vessel owners/managers, which demonstrate that the candidate has worked regularly as a fisherman
 - If the fisherman is the owner or Skipper of the vessel, they should have the registration document for the vessel including fishing vessel number, which will have their name on the document as the owner
3. The operator or owner of the vessel, Harbour Master, or MCA Surveyor can provide recent supporting evidence (letter or certification or training course certificates) that the fisherman is physically capable and can safely undertake their role on the vessel.

4. Any medical condition which brings their fitness into question must have been stable and/or well controlled throughout the past 5 years. For a condition to be considered stable and well controlled, insight into the condition and its treatment, with evidence of compliance with treatment as well as the absence of the need for emergency medical treatment or any fitness limiting complications will be required. The AD may need to obtain supporting evidence from the fisherman's GP and treating specialist if appropriate.

5. The risk that their medical condition could lead to sudden incapacitation at sea/on the vessel is less than 5% pa. Advice should be sought from the specialist if necessary, but a best estimate may be necessary if this information is not easily available.

ADs may make decisions for fishermen who meet the above criteria without reference to the MCA or Chief Medical Advisor (CMA), although of course advice may be sought if required. Fishermen falling outside these criteria should be considered case by case in discussion with the CMA.

Those with conditions that have arisen or deteriorated during the past 5 years should be considered on a case by case basis, with advice from the CMA.

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Eyesight

The same eyesight standards apply for fishermen as for other seafarers (although STCW is not strictly applicable to fishermen), however:

- Colour vision. Those who hold an MCA fishing CoC or Seafish 5 day watchkeeping certificate but are found on examination by an AD not to meet the colour vision standard* will be able to continue in their current role, but with a restriction to work permitted by that CoC/ watchkeeping certificate, rather than a restriction on lookout duties. They will not be able to qualify for a higher CoC unless they meet the colour vision standards. The colour vision defective box will be ticked Yes, and fit for lookout ticked “No”, on the ENG 1 certificate.
- For other existing fishermen with colour vision defects, the AD will tick a deficiency i.e. “colour vision defective” and “not fit for lookout” on the ENG 1, which should be restricted to current work, but not explicitly mention lookout duties. This may seem counterintuitive, but follows the same rationale as noted in italics under Grandfather Rights above.
- Visual acuity. All fishermen should meet the visual acuity standards in [MSN 1886\(M+F\)](#) - i.e. the same as those required for the Merchant Navy seafarers, with the exception that existing fishermen do not have to meet the unaided visual acuity standards in [MSN 1886\(M+F\)](#) (provided they meet the corrected visual acuity standards, can manage safely in an emergency should their spectacles be lost or damaged, and have a conditions letter stating that they must carry adequate spare visual aids). The box regarding visual acuity standards on the ENG 1 will then be ticked “No”.

- Monocular vision. No new entrants to the industry with monocular vision will be accepted, but existing fishermen with monocular vision, provided they have had a sufficient period of adaptation, can continue to work with the usual restriction as per [MSN 1886\(M+F\)](#).

ENG 1 Certificate

If all these conditions are met, the fisherman may be issued with a restricted ENG 1 which allows them to continue working. The AD will need to carefully craft a suitable restriction, which should, where this can be done safely, allow them to continue to work in their current role, fishing method and fishing area.

Once Grandfather Rights are in place, it will still be necessary to tick the correct boxes on the ENG 1 certificate regarding whether standards have been met or not. **If the AD has applied Grandfather Rights, GR should be written after the restriction on the ENG 1 certificate by the AD.** The fisherman should, where possible, return to the same AD for subsequent ENG 1 medical examinations. This will allow for the continuing, consistent application of grandfather rights at subsequent ENG 1 medical examinations. Those issued a certificate where Grandfather Rights have been applied should be entered on the annual return of statistics as such (details will notified separately in time for 2019 Statistical Return).

*Fishermen may have been issued with CoCs on the basis of examination using Ishihara plates by an optician. The MCA has no control over the standards applied by opticians and there is a small risk that those with colour vision deficiencies may have slipped through.

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A conditions letter should be issued to the fisherman, setting out the conditions of the issue of the ENG 1 certificate. It may be necessary to issue a “to whom it may concern” letter to the skipper or operator of the vessel. As with any ENG 1 certificate, the AD will need to discuss any risks and alert the fisherman that should their medical condition change the decision may change and they must contact the AD for advice.

An existing fisherman must apply for their first medical certificate within 5 years of the Merchant Shipping (Work in Fishing Convention) Regulations 2018 coming in to force for Grandfather Rights to be considered (i.e. 30 November 2023). Once a medical certificate has been issued under Grandfather Rights, the fitness decision and any associated restriction will be carried forward when their medical certificate is renewed, unless and until their condition worsens significantly or they seek to move to another area or obtain a new Certificate of Competency etc.

The fisherman will still have the right to seek a medical review with an MCA medical referee. It is hoped that the application of Grandfather Rights should help to mitigate the number of fishermen that need to seek a medical review.

Temporarily unfit

Under [MSN 1886\(M+F\)](#), Cat 3 (“Temporarily unfit”) is often applied to allow for investigation and stabilization of a condition. As most UK fishermen are paid on a share of the catch (no wages if they are unable to go to sea), they will be without income. There is also less scope in the fishing industry for getting a substitute crew member in, if one member of the usual crew is unavailable, and the whole crew may thus be deprived of income. Even before the Regulations requiring a fisherman to hold an ENG1 medical come into force, if a “temporarily unfit” notice is issued, this may invalidate the vessel’s insurance, etc. So, for fishermen attending their first medical because of the introduction of ILO 188, “Cat 3 Temporarily unfit” should be used sparingly, and only where returning to sea would incur an unacceptable risk.

- If the condition is of long-standing and the fisherman has been working with it without incident, the additional risk of continuing to work after the medical examination has been conducted is small;
- Many UK fishermen are day fishers or only away at sea for a few days at a time. This therefore may not interfere with their availability for a doctor’s appointment for testing/treatment etc. The fisherman’s pattern of work should be taken into account in determining whether or not to issue a Cat 3 certificate.

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Standard Restrictions for Fishermen

The following may be used where the existing [standard restrictions](#) on p.60 to 62 and p.71 to 73 of the AD Manual are not appropriate and Grandfather Rights are applied.

Fit for service in current role (must specify) fishing area (specify) and type of vessel or fish (specify)

Able to meet the requirements of the role(s) they are now working in but needs re-assessment before changing job. May also be appropriate where current employer [owner/manager] is aware of limitations to their fitness and has made reasonable adjustments to duties in line with these.

To work within current role permitted by their CoC or 5 day Watchkeeping Certificate

Fishermen holding an MCA Fishing CoC or Seafish 5 day Watchkeeping Certificate who do not meet the colour vision standard will be able to continue in their current role, but with a restriction to work permitted by that CoC/Watchkeeping Certificate. This restriction must only be used when Grandfather Rights apply.

Types of Fishing Vessels and Fishing roles

The working environment on a fishing vessel can be unforgiving and fishermen may work a long way from medical facilities which could put them at risk if they become ill while at sea. Even when working relatively close to shore, often alone, it can take more time to reach emergency medical treatment, compared to someone working ashore. For some fishermen trips can be very long and intense, particularly in winter. Fishing involves working on a moving object that rarely stays still. Fishing vessels work in rough weather and can be subject to a much greater amount of movement than experienced on other types of vessel. This can add serious stresses to the body while performing a task such as stacking pots.

Types of Fishing Vessel

Day Boats

The majority of vessels around the UK operate as day boats where the typical routine has them returning to port within 24 hours and the crew will get their sleep period ashore.

Trip Boats

Vessels that operate as trip boats will be at sea beyond 24 hours and the crew get their rest and sleep periods via a shift pattern of watches.

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Static Fishing

Static fishing is where the fishing equipment, typically lines of hooks, nets or traps are left to fish whilst the vessel is not attached or present. On this type of vessel, the tidal patterns often influence the routine onboard.

- Potting (traps) for shellfish
- Netting (nets) for fish
- Lining (hooks) for *fish*

Dynamic/Mobile Fishing

Dynamic or mobile fishing is where the vessel uses its momentum to move the fishing gear towards the intended catch.

- Trawling for prawns (langoustine) & fish
- Dredging for scallops, cockles and clams
- Seining (encircling)

Responsibilities of the different people aboard

On smaller inshore vessels, the roles may not be certificated and typically the Skipper fulfills the role of the engineer as well.

Officers

Skipper

The Skipper is equivalent to the Master on a Merchant Navy vessel in their navigational roles but is usually also responsible for the catching of the fish and the fishing operation.

Mate

The Mate is the next in command of the vessel and usually fulfils the same roles as the Skipper. They will lead the watch whilst the Skipper is off watch.

Engineer

The Engineer is responsible for the mechanical safety of the vessel and oversees the operation of the machinery onboard whilst on passage and whilst fishing. Fishing vessels have complex machinery and refrigeration systems onboard to catch and process the fish as well as the main and auxiliary power plants.

Non-Officers

Watchkeeper

Watchkeepers are assistants to the Navigational Officer or Skipper. Their role is to assist or take a navigational watch. Watchkeeping is usually an additional duty of a deckhand.

Deckhand

Deckhands work on the fishing decks and processing areas of the vessel. Their roles usually involve physical tasks and require dexterity and balance.

Chapter 2

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Governance

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[Annex A](#) Medical Administration Team (MAT) contact list

[Annex B](#) Seafarer Medical Examinations Feedback Report

2.1 Introduction

- 2.1.1 Medical practitioners are approved by the MCA, acting for the Secretary of State, to undertake the medical examination of seafarers. They are known colloquially and are referred to in this manual as Approved Doctors (ADs). This is a statutory appointment made by the MCA under Merchant Shipping legislation for a limited time period, normally one year. The AD is required to examine seafarers as directed by the MCA and its Chief Medical Adviser (CMA) as specified in this manual, and **by reference to the medical standards currently published in MSN 1886 (M+F)**, and to certify their fitness for service at sea. ADs who charge a fee per medical must charge within a specified maximum fee, which is listed in the MCA Fees Regulations. Each AD is required to make annual returns to the MCA for statistical and quality assurance purposes and to prevent fraud.

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2.2 Procedures for appointment of Approved Doctors

2.2.1 There are at present around 230 ADs, the large majority of whom are located in the UK. These are listed annually in a Merchant Shipping Notice and a 'live' list incorporating any changes as the year progresses can be found on the MCA's web page at: www.gov.uk/seafarers-medical-certification-guidance.

2.2.2 Whilst the total number of ADs is not prescribed, appointments are kept under review and are restricted to areas where a need has been demonstrated, for ease of administration and communication and also for audit and quality assurance purposes. For these reasons, the appointment of ADs abroad is strictly limited.

2.2.3 When a need has been identified, for example as a result of an existing AD retiring or moving away, or due to increased demand in an area, the normal practice is for MCA to advertise through local NHS structures. Any suitable applicant who has approached the MCA separately at any time will be kept on file, and notified when a vacancy in their area has been advertised. All applications are considered by the Chief Medical Adviser and MCA in relation to their training, competence, facilities and location (described below in paras 2.4 and 2.5) and the successful applicant is appointed, initially until the end of the current financial year (31 March).

2.2.4 **In the interests of fair and open competition, and for audit and administrative reasons, ADs are only approved to carry out medical examinations at the address to which they are appointed.** However, approval may be given to carry out medicals at a subsidiary address of the same surgery if in close proximity to the main surgery. The appointment is not transferable to any other location or practice without the approval of the MCA. The appointment is also not transferable to any other doctors in an AD's practice either on a temporary or long-term basis. **ADs are not approved to conduct medicals aboard ship.**

2.2.5 All appointments are reviewed and renewed annually, in light of the demonstration of a continued need based on the annual number of examinations carried out (normally a minimum of 50 per year) and subject to compliance with MCA standards and requirements. Medical practitioners approved by the MCA to carry out seafarer medicals must: if based in the **United Kingdom**, be fully registered with the General Medical Council of Great Britain and hold a valid Licence to Practice. If based **outside the United Kingdom**, (a) be qualified from one of the medical schools listed in the Avicenna Directory (see www.who.int/hrh/wdms/en/); (b) be entitled to practise in the country or territory in which that practitioner is based; (c) satisfy the MCA that they are subject to a programme that ensures maintenance of their medical skills; (d) have a good command of the English language (written and spoken). Also see [2.4.1](#) of this manual and [MSN 1886 \(13\)](#).

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2.2.6 An AD's appointment may be terminated if major or persistent shortcomings are identified or if in the MCA's view, its relationship with the AD has broken down irretrievably; for example if, following a complaint ([see 2.13](#)) or warnings, facilities or procedures continue not to meet the required standards after an agreed period. However, if an event or shortcoming occurs that is considered to be so serious that continued approval would be inappropriate having regard to all the circumstances, the appointment may be terminated or not renewed without any warning being given. Nevertheless prior to making any decision the MCA would in any event discuss the matter with the AD. Approval may not be renewed if less than 50 ENG 1 examinations are being conducted each year.

Overseas doctors

2.2.7 As a general rule, no new general list ADs will be appointed overseas in countries whose medical certificates are now recognised by the UK as equivalent. Those countries are published in a Merchant Shipping Notice and the list is updated monthly on the MCA's website – www.gov.uk/seafarers-medical-certification-guidance – and seafarers holding medical certificates issued by those countries may serve on UK flag ships. The cost of document distribution are borne by the AD. Existing ADs in those countries who carry out less than 50 medicals p.a. will generally not be reappointed.

2.2.8 Exceptionally, general list doctors may be considered overseas where there is a very specific, demonstrable need – e.g. where the national seafarer medical examination is not available to foreign nationals. MCA endeavours to apply the same principles of fair and open recruitment overseas as in the UK, although for practical reasons this is usually limited to doctors who have previously expressed an interest or have been nominated.

2.2.9 Doctors approved for shipping companies ([2.3.3 – 2.3.7](#)) may continue to be approved overseas in respect of the company's employees only, where the additional costs of document distribution and audit are borne by the company ([see also 2.10](#)).

2.3 Categories of Approved Doctors

2.3.1 An AD is generally approved to examine any seafarer (referred to as the "general list"). Contact details for general list doctors are published so that any seafarer can contact them to make an appointment.

2.3.2 However, in some cases doctors may be approved only to examine seafarers engaged by a single employer, such as a shipping company.

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2.3.3 Where a company or organisation who has vessels registered with the UK flag and are employing UK seafarers or UK Certificate of Competency holders has a requirement for a comprehensive medical service as well as the performance of statutory medical examinations, it may either apply to the MCA for a doctor from the General List to act also as their approved company doctor (as a dual appointee), or request approval of their own employed or contracted medical staff to carry out seafarer medical examinations for their own employees only. Where more than one AD is appointed for a company, one will be expected to act as the “Chief” for MCA purposes. It will be necessary to nominate someone based in the UK who is not a doctor to act as the administrative coordinator (liaison officer) for MCA to communicate with on day to day issues.

When a company makes a request for a Company Approved Doctor (CoAD) to be appointed, the company must first assess the suitability of the doctor to be appointed as an MCA CoAD including relevant qualifications, and should provide evidence that the company has inspected the medical facilities to be used by the CoAD to ensure that they are fit for purpose, see 2.5 Facilities. Regular performance monitoring of the CoAD is required in order to ensure that they are familiar with the statutory fitness standards, and compliant with the requirements of the AD Manual, see 2.3.7

2.3.4 The role of such nominees is to cover the following responsibilities:

- clinical supervision of company AD decisions (chief)
- liaison with MCA on appointment, checking of registration, retirement, resignation, and updating where necessary of all details relating to individual approved company doctors
- co-ordination of annual returns for all ADs in the company
- responsibility for ordering and distributing ENG 1

certificates and ensuring unused certificates (ENG 1s), annual return forms and AD’s Manuals are returned to MCA if a company AD(s) ceases to be employed by the company

- general co-ordination of all matters relating to individual company ADs
- ensuring that all information and guidance issued by MCA is disseminated to company ADs

2.3.5 When an Approved Doctor ceases to act as a company doctor, the doctor should arrange for transfer of records to any new AD. Where this is not possible, records should be securely and confidentially archived with agreed access procedures either by the doctor or by the Company.

2.3.6 Only the company name, doctor’s name and location of company appointments will be published by MCA, for the information of flag and port state control inspectors.

2.3.7 The MCA will expect the shipping company to ensure the ENG 1 work of the AD is included in the Quality Management System of the company and that the AD is subject to regular audits.

Commercial healthcare providers

2.3.8 No further commercial healthcare provider (HCP) approvals will be undertaken by the MCA.

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2.4 Training and competence

Essential

- 2.4.1 All ADs must be fully registered medical practitioners who have completed their general professional training. On application to the MCA for approval, they *are* required to provide details of their medical registration and License to Practise, in the UK or in the country in which they practise. Should registration status change, or should they be under investigation by the registration authorities, they are required to inform MCA. ADs outside the UK will be required, on request from the MCA, to demonstrate that they are compliant with national licensing and requirements for continuing professional development. [Also see 2.2.5 and MSN 1886 \(13\)](#).
- 2.4.2 Practise must be in an area of medicine where clinical competence is maintained through patient contact and where there are continuing professional development and appraisal arrangements.
- 2.4.3 Competence in maritime medical assessment must be maintained, normally by performing at least 50 medical examinations per year. There may be flexibility over numbers where the doctor is the sole AD at a remote location, or where the AD is appointed to work solely for a single shipping company.
- 2.4.4 All newly approved ADs will be sent a self-assessed CD training package to work through in their own time within a year of appointment. Module 1 describes and discusses the rationale of the medical standards and their use, with examples and exercises: Module 2 deals more specifically with the requirements of the medical examination and certification system. Exercises are completed as tuition progresses and on completion of each CD, answers may be printed out. The time needed will vary but it is expected that a new AD will take around 24 hours to complete it. On completion the AD will be awarded a certificate by the MCA which will attract 20 CPD points.
- 2.4.5 ADs must participate in any audit activities initiated by MCA to evaluate performance standards and adherence to data protection. ADs are encouraged to identify ways of improving service to seafarers.
- 2.4.6 In addition to the general training in the CDs, an annual Maritime Health Seminar is arranged usually in London in November each year at which speakers are invited to talk on subjects relevant to the work of the AD. There is an opportunity to meet and discuss areas of mutual interest with other ADs, Referees, the Chief Medical Adviser and the MCA staff. All newly appointed ADs are expected to attend one within 2 years of appointment, and all doctors must attend regularly. Once every three years or as a minimum once every five years, if travel to the seminar is challenging. Certificates of attendance and CPD points are awarded.

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Desirable

- 2.4.7 In approving doctors, MCA will give preference to those who are qualified in occupational medicine or who have a background in maritime health, for instance during service in the armed forces.
- 2.4.8 A demonstrable interest in and knowledge of maritime matters, for instance gained through working with a port authority or shipping company and/or through leisure activities, will enhance an application for approval.
- 2.4.9 Doctors competent to provide wider maritime health advice, for instance on crew risks and welfare and on emergency arrangements will be favoured, as will doctors working within an organisation which provides a comprehensive maritime health service.

Other staff

- 2.4.10 The medical assessment must always be undertaken by the AD who must personally complete and/or discuss the medical history recorded on the ENG 2 report and issue the medical certificate (ENG 1) and/or Notice of Failure/Restriction (ENG 3). However where there is a continuity of care, the doctor may delegate aspects of the procedure e.g. checking of blood pressure, urinalysis etc. to other non-medical clinical staff. It is the AD's responsibility to ensure these other staff have an understanding of the purposes of the procedures which they undertake and the competencies

needed to carry them out effectively and to identify matters to be brought to the attention of the doctor. Clinical tasks should only be undertaken by registered members of a relevant health care profession who are professionally accountable for their actions. Also see [3.8.1](#).

- 2.4.11 Clerical and administrative staff must have the required competencies and have a full understanding of the standards of ethics and confidentiality which apply to clinical information. All staff handling records need to be aware of the procedures for ensuring confidentiality.

2.5 Facilities

- 2.5.1 All ADs are required to have the facilities needed to conduct examinations effectively and with courtesy. These will normally include:
- ready accessibility by public transport
 - premises which comply with national health and safety and fire regulations (and are so certified) such that seafarers are not put at risk
 - efficient reception arrangements, even when another medical is in progress
 - chaperoning arrangements for those examined
 - a clean, warm and adequately furnished waiting area

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- a consulting room which enables confidential conversation to take place
 - hand washing facilities in the consulting room
 - arrangements for urine sampling which are discreet, clean, have hand washing and toilet facilities and which do not involve samples being carried through patient areas
 - adequate lighting, in terms of brightness and colour balance, for examination and vision testing
 - a fixed visual acuity chart (Snellen type & notation) and the correct **measured and marked** distance for vision testing (6m or 3m for half scale – see [ADG 14](#)). NB 'Keystone' and similar desk based screeners are not an acceptable alternative.
 - Ishihara colour vision test plates (24 or 38 plates)
 - Near vision test card (N notation)
 - Examination equipment including:
 - an adjustable couch with replacement covering
 - screens or curtains for privacy
 - normal clinical examination tools
 - fixed height measure
 - approved and verified Class III or Class IIII weighing scales for clinical use
 - arrangements for immunisation, audiometry and fitness testing either on site or readily accessible
 - schedules for servicing and calibration of all equipment in accordance with the manufacturers' recommendations, with records to confirm compliance
 - email and IT facilities
 - lockable facilities for confidential medical records/form storage
 - public liability insurance and appropriate professional indemnity
- 2.5.2 The application form for approval includes a facilities checklist, and applicants are required to confirm whether they meet the above criteria before appointment.
- 2.5.3 MCA will not normally accept new applications from a doctor working from a room in their home, nor from a doctor working alone in premises without reception or chaperoning staff.
- ## 2.6 Document control, records, returns and Data Protection
- ### 2.6.1 General
- ADs must ensure that they keep up to date with and make use of the documentation prescribed and supplied to them by MCA ([see section 2.17](#)). Records, forms and certificates need to be stored with adequate security in locked containers. Data must be stored, processed and destroyed securely, confidentially and appropriately as laid down in the Data Protection Act 2018, which implements the EU legislation GDPR, which ADs must comply with.

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2.6.2 Retention of records

ADs are required to retain all records relating to each medical examination (ENG 2 reports and copies of ENG 1s and/or ENG3s issued) securely and confidentially for a period of **ten years** after it has been carried out, then they must be securely destroyed. This applies even if the AD retires or resigns. Records of occupational health surveillance data, eg audiometry done for this purpose on behalf of the employer, must as usual be kept for 40 years.

AD'S must apply retention period as laid down by the MCA. In accordance with Data protection act 2018.

Data Protection

Should the AD consider that any of the personal information in their control infringes the Data Protection Legislation i.e. has been compromised, lost or stolen, they must notify the MCA immediately.

ADs must only process the information provided to them during the ENG medical examination for the purposes of assessing the individual's fitness to hold an ENG 1 certificate unless required to do so otherwise by law. If it is so required, the AD shall notify the MCA before processing the personal data unless prohibited by law.

ADs must not transfer Personal Data collected for an ENG medical examination outside of the EU unless prior written consent of the MCA has been obtained.

ADs shall notify the MCA immediately if, in connection with Personal Data processed under the appointment of an AD they:

- a) Receive a Data Access Request;
 - b) Receive a request to rectify, block or erase any Personal Data;
 - c) Receives any other request, compliant or communication relating to either party's obligations under the Data Protection Legislation;
 - d) Receives any communication from the Information Commissioner or any other regulatory authority in connection with Personal Data Processed under the appointment of AD;
 - e) Receives a request from any third party for disclosure of Personal Data where compliance with such request is required or purported to be required by law;
- or
- f) Becomes aware of a Data Loss Event.

2.6.3 Maintenance of records

ADs working part-time or sharing premises must arrange for lockable storage facilities to be available at their approved address. It is not acceptable for records to be stored at home or away from the approved address, or stored in a briefcase or unlockable box. In case of difficulty, contact MCA for advice. ADs should maintain complete and accurate records and information to demonstrate compliance with data protection legislation.

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Records should be filed or indexed in such a way which enables search by name of seafarer, serial number of ENG 1 certificate issued or date of medical.

The rationale for this is to enable quick retrieval of information to answer:

- audit queries
- inquiries by other ADs, employers, Trade Unions and insurers
- enforcement queries from Port State control inspectors, and MCA marine surveyors

2.6.4 ADs are required to make returns to MCA at the end of each year, containing summary data and results of examinations carried out as specified.

Scanned electronic records

2.6.5 With the advent of modern technology and paperless offices, there is no objection in principle to ADs maintaining their seafarer records as electronically scanned copies, provided there are acceptable safeguards and security features built into the system. In particular, if the system is maintained and updated by delegated staff, we need confirmation that you as the AD are able to use the system and access information as necessary, particularly in the case of unexpected staff absence.

2.6.6 The key criteria to be met when installing a system are as follows:

- All individual record sets should be capable of being accessed using any one of the following fields: name and initials, sex, date of birth, date of medical, and/or ENG 1 certificate number
- Ideally there could also be additional functionality so that files can be sorted by job, by age, by employer and by the nature of any health problems identified or restrictions imposed as a result. This would help in the completion of annual returns for the MCA.
- All previous ENG 1s withdrawn from seafarers should be scanned into the system before being securely destroyed

2.6.7 The green copies of ENG 1 certificates **must be retained on the pads** and held as paper documents, even if the actual ENG 1 certificates are scanned into the system.

- Confirmation will be required from a person with expertise in IT risk management, that the scanned electronic document record system, as used and backed up, provides sufficient standards of security for holding and recovering information on individuals which may be used as evidence in legal proceedings, and ensures compliance with the Data Protection legislation 2018

2.6.8 ADs intending to establish electronic systems must notify MCA and confirm that the above criteria can be met.

2.6.9 If you would like to know more about GDPR, [the Information Commissioner's Office](#) is a useful source of information on these regulations .

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2.7 Quality Assurance – general

- 2.7.1 The Maritime and Coastguard Agency (MCA) has adopted the international standard for management known as ISO 9001, primarily so that work practices within the organisation may be standardised and the highest level of customer satisfaction is achieved. The medical examination of seafarers by MCA Approved Doctors falls within the scope of the MCA's quality assurance audit programme.
- 2.7.2 The most important person in the medical examination process is the seafarer, who is entitled to receive service of the highest standard in all respects. It is essential that any inconsistency in the application of medical standards be quickly identified so that medical certificates are a valid indicator of their medical fitness.
- 2.7.3 The MCA's quality assurance audit programme provides for a structured approach to all activities affecting quality, including verification, where appropriate, that each task has been satisfactorily performed, and production of documentary evidence to demonstrate that the required standards have been achieved.
- 2.7.4 The following sections set out the principles which underlie audit arrangements for ADs.

2.8 Quality assurance and audit – practical arrangements

- 2.8.1 The aim of the audit programme is to improve the quality of service provided progressively and to ensure, through clinical audit, that consistent and valid medical decisions are taken. A key aspect of the process is to identify any aspect of the process which is unclear to the AD and provide guidance where necessary to ensure that the AD fully understands the requirements of the role. Any lessons learnt will be anonymised and disseminated so that other ADs can take them into account within their own practices. The activities of the MCA Medical Administration Team, Chief Medical Adviser and Medical Referees will be covered by similar arrangements.
- 2.8.2 **Audit objectives:**
- to monitor the validity of medical standards
 - to assess the quality and performance of ADs
 - to make use of the information gained with a view to continuous improvement
 - to monitor consistency and identify best practice
 - to seek objective evidence that the Secretary of State appoints ADs according to laid down procedures that meet the requirements of the MCA

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- to ensure that the administrative functions prescribed by the MCA are carried out according to laid down procedures in this manual

2.8.3 **The audit visit** – the following will be taken into account in planning the programme of audit visits:

- complaints or concerns about the performance of an Approved Doctor
- particular classes of AD e.g. number of medicals done, company or service approvals, geographical, type of seafarer seen
- opportunistic visits because of other commitments in the area
- random visits to determine performance of a representative sample of ADs
- period since first appointment as an AD. Where feasible a visit will be arranged within 18 months of appointment
- unusually large or small workload
- any known sensitive issues relating to local employers
- the resources available to undertake the programme

2.8.4 ADs will be notified in advance of a visit and will be expected to make themselves available where possible. At present, the Chief Medical Adviser (CMA) and/or MCA staff who are familiar with the requirements of the seafarer medical examination system will carry out the visits.

2.9 Areas subject to administrative audit

2.9.1 During a visit, certain administrative aspects will be checked as detailed below.

2.9.2 **Competence and training** – the following aspects will be checked on an ongoing basis:

- evidence that the AD practices in an area of medicine where clinical competence is being maintained through patient contact and continuing professional development and appraisal arrangements
- participation in a recognised programme of continuing professional development
- participation in regular performance appraisal procedures
- professional independence from employers especially when engaged in a corporate role
- for newly-approved ADs, evidence that they are completing or have completed the self-assessed CD learning package issued by MCA, within one year of approval
- attendance at Seminar on a regular basis for existing doctors

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Other staff

- that delegated clinical tasks are only performed by registered members of a relevant healthcare profession
- that clerical and administrative staff understand the MCA's requirements and comply with the standards of ethics and confidentiality

2.9.3 **Facilities** – the premises will be assessed for compliance with the requirements set out in [para 2.5](#) above and all ADs are asked to confirm that they comply before they are approved.

2.9.4 Procedures/record-keeping

- the correct recording of outcomes of the seafarer medical examination on the ENG 2 and ENG 3 forms issued by the MCA
- the correct issue and completion of seafarer medical certificates (ENG 1s)
- maintenance, access to and confidentiality of records
- timely and accurate completion of statistical returns to MCA
- document security
- MCA expect ADs or those handling or have access to the personal data to have undergone adequate training in the use, care, protection and handling of personal data.

2.10 Areas subject to clinical audit

2.10.1 The purpose of the clinical audit programme will be to ensure that quality of service and consistency in implementing the standards is maintained. During the visit, the AD may be asked to describe a typical medical examination and associated procedures, and various clinical procedures may be discussed with the CMA. Additional assessment, both before and during the visit may include:

- review of performance against normal patterns of certification (from AD statistical returns)
- assessment of quality of data recorded from examinations
- assessment of AD decisions in cases reviewed by Referees
- review of clinical approach to performing medical examinations on seafarers
- review of records from recent medicals, especially those where restriction or failure is specified.

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2.11 Overseas Approved Doctors

- 2.11.1 Should a visit be impracticable, in addition to paper checks, on qualifications, facilities statistical data etc, remote audits using online video calling applications such as Skype or Facetime are used. Information on participation in local clinical and administrative audit activities will be requested and reviewed.
- 2.11.2 Companies are expected to perform regular internal audits, and to bear the cost of MCA audit visits to Company ADs overseas. Agreement to this would be a condition of obtaining and retaining approval.

2.12 Outcome: results from audits

- 2.12.1 The findings will be discussed with the AD at the time of the audit and will be followed up in writing detailing any recommendations and required actions which will need to be followed up, and a time scale. Continued approval will depend on corrective action being taken as required. The audit results will be continuously reviewed by the MCA to ensure that quality standards are being met and that specific procedures and processes remain valid.
- 2.12.2 Any changes of procedure or guidance arising from a visit will be detailed in the CMA's regular Newsletters to ADs.

2.12.3 The data and results from audits will be used as follows:

- to analyse statistical returns to establish if there are any variations in the range of findings
- to ensure that newly appointed ADs meet the agreed standards
- to ensure that all ADs maintain and improve standards
- to assess any variation in standards from the norm either in the level of service provided or clinical findings
- to help prevent fraud
- to improve the medical examination system
- to identify shortcomings in the system
- to monitor individual ADs' performances

2.12.4 An AD's appointment may be terminated if major or persistent shortcomings are found, for example if, despite warnings, facilities or procedures continue not to meet the required standards after an agreed period.

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2.13 Complaints

- 2.13.1 As part of the MCA's monitoring of ADs and measurement of customer satisfaction, any complaints from seafarers / the industry/ADs will normally be investigated by the MCA. In most cases, any complaint from a seafarer is received initially by telephone, and MCA will ask them to put it in writing. They will also be asked to complete a Seafarer Medical Examinations Feedback Report (MSF 4115 / REV 1106) (sample at [Annex B](#) to this Chapter).
- 2.13.2 In most cases, any written complaint will be sent to the AD concerned who will be asked to comment and to send a copy of the ENG 2 for the relevant examination to MCA where appropriate. MCA's service standard for complaints requires us to respond to any complaint within 2 weeks, so we ask for the initial response from the AD within a week wherever possible.
- 2.13.3 MCA will pass the AD's response to the Chief Medical Adviser who may contact the AD to discuss. Any agreed actions will be confirmed in a formal letter to the AD and recorded on the AD's file, for follow-up the next time that the AD is audited.
- 2.13.4 However, there may be cases where the complaint is considered to be too serious for the process set out in paragraphs 2.13.2 and 2.13.3 to be followed. In rare cases, a seafarer will raise concerns about the conduct of an examination directly with the General Medical Council rather than drawing those concerns to the attention of the MCA.

In such a case, the AD must report the details of the case to MCA immediately on becoming aware of it, and must keep MCA informed of the progress of the GMC's inquiries.

- 2.13.5 Where MCA and the Chief Medical Adviser consider the complaint to be sufficiently serious, whether it arises from GMC involvement or otherwise, MCA will contact the AD concerned as a matter of urgency and seek a response to the issues raised. If it appears appropriate to MCA, it may be necessary to suspend [or place conditions on] the AD's appointment. Any such action is not to be regarded as prejudging the issues, but would be taken to protect the interests both of the AD and of MCA until the complaint has been dealt with.
- 2.13.6 If a serious complaint is found to be justified, MCA may terminate the AD's appointment forthwith.

2.14 Customer service

- 2.14.1 MCA expects ADs to provide a good level of customer service to seafarers. This includes providing seafarers with clear information when they initially make their appointment, efficient reception procedures, and if the AD is not available (for example because of holiday), providing contact details for other ADs within the area.

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- 2.14.2 Where possible, seafarers should be offered an appointment within one week. If AD's find that they are regularly unable to meet the demand for ENG1's within the required timescale, they should notify MCA, so that provision in the area can be reviewed.
- 2.14.3 MCA aims to update the list of ADs on our website at least monthly. It is important that ADs notify MCA's Medical Administration Team of any changes relating to their details and if for any reason they are likely to be unavailable for a period of 10 days or more.
- 2.14.4 ADs may wish to make use of the Seafarer Medical Examinations Feedback Report ([MSF 4115 / REV 1106](#)) themselves for internal customer satisfaction monitoring, by issuing it to a random sample of seafarers attending for ENG 1 examinations.
- 2.14.5 It is worth noting that a common cause of complaints is a breakdown of communication between the seafarer and the AD, e.g. that the seafarer has not understood the reason for the AD's decision. Where a restriction is placed on the certificate or the seafarer is given a Category 3 or 4 certificate, the AD should clearly record the reason for their decision on the ENG 2 form, and confirm that this has been explained to the seafarer.

2.15 Management review

- 2.15.1 The MCA will be continually looking to improve the system and will take corrective action if and when it is established that a process is hindering the effectiveness of the system. It may also be necessary to redefine the medical standards. The audit system will benefit everyone and should not become intrusive or a burden.

2.16 Relationships with MCA and Chief Medical Adviser

- 2.16.1 MCA issues Merchant Shipping notices covering the statutory requirements for seafarer health assessment based on guidance from the MCA's Chief Medical Adviser, ADs, Medical Referees and external specialists. The table of statutory fitness standards attached to [MSN 1886 \(M+F\)](#) is based on international requirements which MCA is required to follow. Under their terms of appointment, ADs are obliged to follow these requirements and are also required to follow the guidance given in this manual. However it is important that ADs bring any areas of uncertainty or deficiency to the attention of MCA for reconsideration.
- 2.16.2 MCA staff, the CMA and other advisers are available to discuss problems which arise in the course of medicals. Contact should be made via MCA's Medical Administration Team in Southampton (see [Annex A](#) to this chapter for contact names and telephone numbers). And a template to use when requesting clinical advice from the CMA.

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- 2.16.3 MCA will contact ADs normally by email to inform them of matters regarding their work as ADs. Clinical and administrative information will be provided in a regular CMA newsletter, normally issued twice a year. We do occasionally need to contact an AD urgently e.g. in the case of a complaint or possible fraud.
- 2.16.4 ADs are required to make certain returns to MCA including annual summaries, information on failures at the time of examination and the clinical records needed when seafarers appeal to a Referee (see Chapter 3).
- 2.16.5 ADs should notify MCA in writing (email or mail) of any changes to their address, phone, or email. A change of address within the same postal district is unlikely to affect an AD's approval, although a new appointment letter will be issued. However, transfer to another location does not automatically result in continuation of approval. ADs should notify MCA, three months prior to any intention to resign or retire, in order for replacement action to be considered and carried out.

2.17 Forms – re-ordering arrangements

List of MCA forms used for seafarer medical examinations

- 2.17.1 All MCA medical forms are issued with auditable reference numbers, indicating the form number and revision date. Many of these forms were previously known by an 'ENG' reference number, which has been retained on the forms and is referred to in this manual. The revision date will be indicated after the form number e.g.: MSF 4100/1006 indicating the revision date of October 2006. The relevant form numbers are as follows:

MSF No	Title Ref No	Former Ref No	Format	Used by*	Revision date
4100	Application for Vision Test	None	Single – numbered	MOs	0817
4103	Annual Return from ADs	ENG 4	Single	MAT	0116
4104	Seafarer Medical Fitness Certificate	ENG 1	Duplicated pads of 50 – numbered	ADs	0415
4105	Medical Report	ENG 2	Pads of 50	ADs	0713
4106	Notice of Failure/Restriction	ENG 3	Triplicated pads of 50	ADs	0814
4108	Report on Medical Review	No Ref	Single	Refs	0213
4109	Result of Medical Review	ENG 5	Duplicated pads of 50	Refs	0605
4110	Final Notice of Failure following	ENG 7	Single	Refs	0602
4111	Review Application to be AD	ENG 6	Single	MAT	1106
4115	Feedback Report	None	Single	SFs	0218
4116	Facilities Checklist	None	Single	ADs	1106

* **MOs** – Marine Offices; **MAT** – Medical Administration Team, Seafarer Safety and Health Branch; **Refs** – Referees; **SFs** – Seafarers

ADs will be notified when forms are revised and it is obviously essential that the latest version of any form is used and any previous stocks destroyed. ADs will be required to certify that they have done so.

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Ordering arrangements

2.17.2 Requests for replacement stocks of forms should be emailed or telephoned to the MCA's Medical Administration Team (address at Annex A to this chapter). Normally, pads of 50 certificates and report forms will be issued in an amount to last 6 months, however large orders can be restricted. Certificate numbers should be recorded by the AD on receipt.

Storage

- 2.17.3 Seafarer medical certificates (ENG 1) and Notices of Failure/Restriction (ENG 3) are issued in duplicated and triplicated pads to enable the AD to retain an accurate record of issue.
- Seafarer medical certificates (ENG 1) are issued in duplicated pads to enable the AD to retain an accurate record of issue. It is essential that the green copy of the ENG 1 is left on the pad in number order, for audit purposes
 - ENG 2s should be filed in alphabetical order for retrieval
 - Notices of Failure/Restriction (ENG 3) are issued in triplicated pads to enable the AD to retain an accurate record of issue. The top copy should be given to the seafarer and **whenever a seafarer has failed the examination (temporarily or permanently unfit), the second copy should be returned to the MCA within one week of issue**, to enable a central register of failures to be established and maintained.

Security

2.17.4 It is the AD's responsibility to ensure that all MCA forms, certificates and seafarer records are maintained securely, in a locked cabinet or container. Any losses or compromises of security should be reported immediately to the MCA. ADs working part-time or sharing premises must arrange for lockable storage facilities to be available at their approved address. It is not acceptable for records to be stored at home or kept in transit in a briefcase.

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Annex A

Medical Administration Team contact details

Dr Sally Bell

Chief Medical Adviser to MCA
Contactable via the details below
Email: seafarer.s&h@mca.gov.uk
Enquiries: 0203 81 72835

Medical Administration Team

Maritime and Coastguard Agency
Bay 2/19 Spring Place
105 Commercial Road
Southampton
SO15 1EG
Email: seafarer.s&h@mca.gov.uk

Individual contacts:

Brett Oram: 0203 81 72835

Jake De Bono: 0203 81 72835

Medical Casework Administrator

- Re-order of ENG 1 and ENG 3 forms
- Liaison with ADs, including general enquiries and administration
- Coordination of Appeals for medical review
- All liaison with ADs including general enquiries and administration

David Anderson: 0203 90 85138

Deputy Manager, Medical Administration

- Coordination of casework
- ADs' annual statistical returns
- Non-routine casework queries

Alison Gillings: 0203 81 72502

Medical Administration Manager

- Management of Medical Administration Team
- Audit programme management
- Appointment of ADs

Web: www.gov.uk/seafarers-medical-certification-guidance

Requesting CMA Advice

When seeking advice with regards to a medical examination you are undertaking, we would request that you provide the information below as a minimum by emailing Seafarer S&H, omitting any identifying information in order to protect confidentiality. Do not enclose reports, but summarise the findings if necessary.

- Seafarers age, job role and main duties
- Type of vessels and areas of operation
- Is it their first ENG 1 medical examination?
- Details of the enquiry – MSN 1886 reference if possible
- Proposed decision and what action you propose to take
- A telephone number if your query is urgent

SEAFARER MEDICAL EXAMINATIONS FEEDBACK REPORT

In order to help the MCA to monitor and maintain consistency of standards of seafarer medical examinations, it would be helpful if you would complete the questions below following your seafarer medical examination. Please amplify your replies overleaf if necessary.

Name of Approved Doctor _____ Date of examination _____

Address where examination carried out _____

CONDUCT OF MEDICAL EXAMINATION	(Delete as appropriate)	Official Use
1. Were you easily able to obtain an appointment?	Yes / No	
2. Were you advised how to get there?	Yes / No	
3. Were you advised to bring: (Please tick) photo ID <input type="checkbox"/> your previous ENG1 <input type="checkbox"/> spectacles <input type="checkbox"/>		
4. Where was the examination undertaken?		
5. What was your impression of the examination room?		
6. Were you asked to produce photographic identity on arrival?	Yes / No	
7. If this was not your first seafarer medical, did the doctor ask for your previous ENG1 (to destroy)?	Yes / No	
8. Did you complete the details on the front of the medical examination report (ENG2) yourself? If so, did the doctor go through your answers with you?	Yes / No Yes / No	
9. Did the doctor have access to your previous records?	Yes / No	
10. Were you asked to undress to your underwear so that a physical examination could be undertaken?	Yes / No	
11. Which of the following tests were carried out by the doctor?	Tick as appropriate	
a) Weight		
b) Height		
c) Blood Pressure		
d) Teeth (were you asked when you last saw a dentist? Yes / No)		
e) Ears/Hearing		
f) Breathing		
g) Reflexes		
h) Abdominal Examination		
12. Did the doctor examine your eyesight? Was the distance from the chart marked clearly on the floor or wall?	Yes / No Yes / No	
13. Did you undertake a colour vision test? Were the colour plates presented in a random order? If you failed, were you advised to take a supplementary test? (lantern or other)	Yes / No Yes / No Yes / No	
14. Did the doctor ask you if you would require immunisation?	Yes / No	
15. Were you asked to provide a urine sample at the surgery?; or did you bring along a sample to the appointment?	Yes / No Yes / No	
16. Did the doctor give you any lifestyle or hygiene advice ? (if applicable)	Yes / No	
17. Were you asked to sign your ENG1 in front of the doctor?	Yes / No	
18. If you failed the examination or were issued with a restricted ENG1, were you also given an ENG3 (Notice of Failure or Restriction form) and advised how to appeal?	Yes / No	
19. How long did the examination take?		
20. How much did the examination cost?		
21. Overall, how would you rate the conduct of the examination? Poor <input type="checkbox"/> Satisfactory <input type="checkbox"/> Very Good <input type="checkbox"/>		
22. What was the result of your examination? Pass with no restrictions <input type="checkbox"/> Pass with restrictions <input type="checkbox"/> Temporarily Unfit <input type="checkbox"/> Permanently Unfit <input type="checkbox"/>		

Please complete the checklist below, as far as you were able to observe

FACILITIES

(Tick as appropriate)

Ready accessibility by public transport	
Efficient reception arrangements	
A clean, warm and adequately furnished waiting area	
An examination room where confidential conversation could take place	
Chaperoning arrangements (where required)	
Arrangements for urine sampling which were discreet, clean, had hand washing facilities and which did not involve samples being carried through patient areas	
Adequate lighting, in terms of brightness and colour balance, for examination and vision testing	
Professional examination equipment, including an adjustable couch with replaceable covering	
Hand washing facilities in the consulting room	

Further details from questions overleaf, and any other comments/observations e.g. Doctor's manner, professionalism, courtesy, cleanliness

All information provided on this form will be treated in strict confidence. However, in order that we can follow up and report back to you on any points you have raised, it would be helpful to have your name and address below, but this is not compulsory. The doctor will be asked to comment on the points raised. Are you willing for the doctor to be told your name? Yes / No

GDPR - Privacy Notice

If this form is being used to notify MCA of a complaint against an MCA Approved Doctor then a compliant file will be raised by the Medical Administration Team at the MCA. Personal Information provided on this form will only be shared with the Approved Doctor, if you have given consent for us to do so. The Maritime and Coastguard Agency (MCA) will only use your personal information for the purpose of feedback you have provided. For further information on how the MCA handle your personal information please see our full privacy statement at www.gov.uk/mca

Signature _____ Date _____

Name (Print) Surname _____ Forename(s) _____

Address _____

_____ Postcode _____

Tel. No _____

Please return this form to:

Medical Administration Section, Maritime and Coastguard Agency,
 Bay 2/19, Spring Place, 105 Commercial Road, Southampton. SO15 1EG
 Tel: 020381 72835

Chapter 3

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The medical examination

- 3.1 Introduction
- 3.2 Relationship with the seafarer
- 3.3 Relationship with employers
- 3.4 Relationship with professional colleagues
- 3.5 Ethics and confidentiality
- 3.6 Appointment
- 3.7 Registration – ENG 2 completion
- 3.8 Conducting the examination
- 3.9 Additional requirements
- 3.10 Advice on immunisation and prophylaxis
- 3.11 Health and vocational advice
- 3.12 Issue of ENG 1 certificate
- 3.13 Payment of fees
- 3.14 Lost or stolen certificates
- 3.15 Return to work medicals

3.16 Medical reviews ('Appeals') role of the Medical Referees

3.17 Guidance on fitness pending the results of investigation or treatment

3.1 Introduction

3.1.1 The primary aims of the medical examination are:

- to determine whether the seafarer meets the statutory medical standards and is fit for the work for which they are to be employed at sea
- to identify any other medical conditions which may cause a risk to the seafarer, others on board or to the safety of the vessel, and to make a judgement informed by the rationale underlying the statutory standards, as to whether this condition affects the seafarer's fitness for work at sea. Particular attention should be given to conditions which may worsen or recur during periods of work away from medical care
- to issue an appropriate certificate of fitness

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3.1.2 Secondary aims include:

- referral of anyone in whom a health problem is found to their GP for investigation and treatment
- the assessment of risk factors which may increase liability to disease in future, in order to advise on ways in which these risks may be reduced
- advice on hygiene – especially for food handlers
- early detection of any work-related ill-health so that remedial action can be taken to protect both the seafarer presenting with the condition and others working in the same conditions
- an opportunity to address any health issues – especially those relating to work at sea

3.1.3 This chapter does not seek to prescribe details of the precise method of the medical examination. ADs will have procedures which they use for clinical assessments in general and within which seafarer medicals will be accommodated. Markers of good practice are identified, within the framework created by the aims of the examination, as noted above. It is recognised that experience and the wise use of discretion within the structure of the examination is likely to be preferred both by seafarers and ADs and will enable clues about health problems to be effectively followed up. It is also an effective way of checking whether the health of a seafarer is such that

they meet the requirements of the statutory standards and are in all other respects medically fit for the work which they will be required to do at sea.

3.2 Relationship with the seafarer

3.2.1 A seafarer attending for a medical may be anxious about a condition being found which could affect job opportunities. A seafarer with a pre-existing medical condition may be looking for advice on fitness as well as for a certificate. On occasions they may also know that they have a relevant condition and be trying to avoid disclosure during questionnaire completion, history-taking or examination. The AD will need to handle the assessment in such a way that sound advice is given, and a certificate is issued which complies with both the medical standards and with the wise use of clinical discretion where there is flexibility. At the same time any suggestion of non-disclosure or equivocal statements and findings needs to be carefully probed, often by returning to a line of questioning at several different points in the consultation.

3.2.2 As an examining doctor, an AD does not have a duty for the clinical care of the seafarer, but it is essential to advise on the need to consult about any significant problems and on occasions a referral letter may be appropriate.

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- 3.2.3 The consultation provides an opportunity for advice and explanation. Risk factors, for instance for ischaemic vascular disease, should be identified and the need for remedial action discussed with the seafarer. Where there are major increases in risk, a greater frequency of recall may be justified. An opportunity for the seafarer to ask questions about health should be given. If any condition is found which either leads to restrictions or is at the borderline of acceptability the seafarer should be given a detailed explanation of the reasons. A notice of failure or restriction (ENG 3) must be given to the seafarer in all cases of failure to meet the medical standards or when a restricted certificate is issued, and their right to seek a review by a Referee should be explained.
- 3.2.4. Informed consent must be obtained before disclosing any information over and above the fitness category on the certificate to a third party, or if additional information is sought from another clinician. It may be helpful to refer to the Faculty of Occupational Medicine's guidelines on ethics in this respect. Informed consent can only be given if the information to be disclosed, the reasons for disclosure and the potential consequences of disclosure are explained. A signed form of consent is good practice.
- 3.2.5 The AD should NOT be the seafarer's usual general practitioner, unless this is unavoidable. The separation of roles needs to be understood and explained to the seafarer. It would be good practice to indicate that the seafarer may go to another AD should they so wish. There are potential problems

that can arise for example in a small island community. This has some benefits in terms of full background knowledge about medical history but does pose potential conflicts of interest and issues of consent to disclose information and confidentiality. Difficulties have arisen regarding certificate withdrawal when illness or injury has occurred between medicals and about fitness decisions taken on those with complexities in their medical history that are known to the AD.

3.3 Relationship with employers

- 3.3.1 In performing a statutory medical examination, the AD is acting as an agent of the MCA and assessing whether the published medical standards are met. In doing so, they will be following the procedures set out in this manual. The result of the consultation will be the issue of an internationally valid statutory UK certificate of medical fitness (ENG 1) and/or a notice of failure or restriction (ENG 3). The AD's relationship with the seafarer is as an examining doctor. Marine Guidance Note [MGN 219 \(M\)](#) (copy at Annex B of Chapter 6) summarises the guidelines for employers and manning agencies.
- 3.3.2 Payment of fee – Where the examination is paid for by the employer, the AD may be acting in one of two capacities: **either:**
- (a) the employer may simply be paying for certification of fitness, in which case this is the limit of the AD's

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responsibilities. This is in essence a straightforward contract to provide a statutory certificate. As with any other contract, terms and payment arrangements may need to be defined in advance, in particular the requirement to pay fees should the seafarer not be engaged. If fees are charged per medical (rather than say, at a rate per session) they must not exceed the published statutory maximum. Certain additional procedures, identified elsewhere in this manual, may attract an additional fee.

(b) the employer may engage the AD to be their corporate medical adviser (company doctor) in addition to providing statutory fitness certification. In this situation the AD needs to establish the terms for the company advisory duties and ensure that they meet professional, ethical and quality standards, particularly in relation to issues such as audiometry or drug and alcohol screening. In these circumstances, the statutory standards may be supplemented by company ones and because of this, fees are a matter for negotiation between the AD and the maritime employer. The employer may require the AD to meet their own competence and quality assurance standards. The AD acting in this way must ensure that prior to the medical examination, each seafarer is made aware that the doctor is also acting as a company doctor, that standards over and above the statutory ones may be applied for employment purposes, and that the employer will be given an assessment of the individual's fitness. In conducting the statutory medical examination, the AD should recognise the need for professional independence from the employer in exercising medical judgement in terms of the medical examination procedures.

At the end of the examination, the AD should inform the seafarer of the findings of the examination. In giving this explanation the doctor must separate statutory and company fitness requirements. If the seafarer meets the statutory standards for seafarers, a statutory certificate of fitness (ENG 1) should be issued, even if company requirements are not met.

- 3.3.3 All commercial aspects of relationships with employers are matters for the AD. MCA is not able to play a part in resolving any conflicts and it is for ADs to ensure that their terms of contract are satisfactory.
- 3.3.4 Employers may occasionally bring concerns about the availability of ADs or about their decisions to the attention of MCA. Subsequent MCA investigations will be limited to deciding suitability for remaining on the list of Approved Doctors.

3.4 Relationship with professional colleagues

- 3.4.1 Like any other medical examiner, the AD will need to obtain informed consent from the seafarer before seeking medical reports or information from other health professionals. In seeking information it is often important to spell out the rationale of fitness standards for seafaring and indicate the nature of the decision which will be made from the information requested. It is usually preferable to ask for data rather than opinion because the clinically responsible doctor will usually see their role as an advocate for their patient and this may colour any opinions given.

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- 3.4.2 The need to obtain further clinical information will be limited to a small proportion of seafarers and is not a reason for an additional fee for the assessment. Fees should not be demanded by other ADs who are providing information about past medicals to assist the AD who is currently undertaking an assessment. If a fee is demanded by another clinician then it is for the AD to consider whether to pass this either to the seafarer or their employer, but this must be agreed before any cost is incurred. MCA is only able to pay the fees for medical reports which are requested by Medical Referees handling appeal cases.
- 3.4.3 Should any abnormalities be found at the examination which may require treatment, the seafarer should be informed and advised to seek clinical advice. With the seafarer's consent and if appropriate the AD may write to their GP or other clinician noting the findings. If abnormalities result in restriction or unfitness for seafaring, the AD should consider whether to inform the seafarer's GP to help them advise the individual. If the abnormality is a remediable one where there may be delays in treatment, the AD may wish to write indicating the need for urgent treatment to enable the seafarer to return to work or may consider bringing to the GP's attention the facilities offered by the specialist Dreadnought Medical Service of Guys and St Thomas' Hospital in London. [See 1.10](#) ►
- 3.4.4 If opportunities arise to inform groups of health professionals, particularly in maritime recruiting areas, about the medical requirements for seafaring, the MCA would be willing in principle (and subject to sufficient notice and diary availability) to support ADs with presentation material or with speakers.

3.5 Ethics and confidentiality

- 3.5.1 The key feature of the ethical position of an AD is that they are acting as an examining doctor on behalf of the MCA. As such, their primary duty is to provide a fair assessment of fitness against the statutory standards. This duty may be supplemented by advice to the seafarer on maintaining their fitness and certain preventative measures.
- 3.5.2 All ADs must always follow UK GMC guidance on confidentiality and record keeping, as noted in Good Medical Practice http://www.gmc-uk.org/guidance/good_medical_practice.asp and the 2017 confidentiality guidance http://www.gmc-uk.org/guidance/ethical_guidance/confidentiality.asp Confidential information should be neither obtained from nor given to other clinicians without the seafarer's consent. Consent for the AD to obtain information from the seafarer is implied by their attendance for a medical examination.
- The ENG 1 is an open document which must not contain clinical information.
 - The ENG 2 is the report detailing the information obtained on which the assessment is based held in medical confidence, however a copy should be provided for the seafarer's personal information should they request it. If this request is made ADs should ensure that the seafarer is asking for this for their own benefit and not doing so because an employer has asked them to do so. If the latter is suspected please contact MCA with details of the employer.

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At times details of past medical examinations may be requested by other ADs or to assist with a current decision on fitness. In this case a copy of the form should be forwarded. If the request comes from another doctor, lawyer or company manager and relates to company proceedings, for instance in relation to dismissal or compensation, a written consent from the seafarer should be requested before release of information, unless this is sought under a formal court order.

The ENG 2 may be sent to the CMA via the MCA Medical Admin Team (MAT) if requested (see 3.5.4). It is not necessary to seek consent from the seafarer. Please note the subject as OFFICIAL SENSITIVE

- The ENG 3 is sent to the MCA MAT in cases of temporary or permanent unfitness, and may be requested on other occasions. Consent for transfer of information to a Medical Referee for consideration of a request for a Medical Review is given by the seafarer on the ENG 3 form if they seek a medical review (appeal).

3.5.3 Providers of medical services to seafarers may find that they are in competition with one another both as sources of medical certification and as company service providers. Most issues of this sort are matters of etiquette or good business practice and competition in terms of fees and availability is legitimate provided that the required standards are maintained. Where the provider of company services changes there may be concerns about the transfer of records as well as issues of approval for doctors. The Faculty of Occupational Medicine has produced advice on business transfers (Guidance on ethics for

occupational physicians – 6th edition May 2006) but because of the need to ensure that old statutory medical examination records can be accessed, no such transfers should take place without prior agreement from the MCA.

3.5.4 ADs carry out ENG statutory medical examinations on behalf of the Secretary of State, and thus it is expected that information should be made available to the Department/MCA (which acts in law as the Secretary of State) when required.

If confidential clinical documents need to be transmitted they should be sent securely, either password protected (sending the password in a separate email) or anonymised for transmission by regular email. The MAT can advise on alternative procedures if necessary.

Further guidance on emailing healthcare information can be found on the Professional Records Standards Body website <http://theprsb.org/publications/safe-effective-emailing>

3.5.5 If information is provided to the AD that suggests the seafarer has deliberately or inadvertently misled them, or there has been a significant change in their medical condition since the ENG 1 was issued, the doctor should consider the importance and reliability of the information then assess the evidence provided against the medical fitness standards in [MSN 1886](#), and decide what action to take under regulation 13 of SI 2010/737 (the wording of which is broadly replicated in [MSN 1886](#) paragraph 10 - please read this carefully).

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The employer should have discussed their concerns with the seafarer, prior to contacting the AD. However, the AD must not discuss the seafarer's medical details with the employer (unless they have the seafarer's consent to do so), other than informing them that the AD has reviewed the continuing validity of the certificate and there was no evidence to suspend or cancel it. If the decision is to suspend or cancel the certificate, it is reasonable to inform the employer of that fact (but without disclosing sensitive medical information).

3.6 Appointment

- 3.6.1 Whenever possible, a seafarer contacting the AD's practice should immediately (or within 24 hours if this is not possible) be offered a booked time for their examination, which should be **within one week**. Ideally, alternatives should be offered if the seafarer raises any problems in connection with the time proposed. Throughout normal working hours, telephone access for making appointments should be available. If it is not possible, for instance because of holidays, to give an appointment within a week to someone who has not been seen before and where the AD is not engaged as a company doctor, it would be good practice to suggest alternative ADs in the vicinity.
- 3.6.2 On contacting the AD to make the appointment, the seafarer should be informed of:
- the location, time and length of appointment
 - the fee charged, responsibilities for payment, including the consequences of failing to attend
 - the need to avoid exposure to loud noise for 16 hours if hearing testing is being carried out
- [see ADG 13 ▶](#)

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3.6.3 They should also be told to bring the following items to their appointment and warned that they cannot be seen unless they do:

- a discharge book, passport or other certified photographic proof of identity
- the last ENG 1 or equivalent overseas certificate (unless it is a first appointment)
- spectacles or contact lenses, if worn, plus spares
- any medications, recent letters, discharge notes etc. which relate to medical treatment since the last medical examination

3.6.4 Those who wear contact lenses should be advised not to wear them on the day of the examination, as they will need to remove them while they are tested against the unaided vision standard. [See ADG 14](#)

3.6.5 It is also a good idea to remind seafarers that a dental examination forms part of the seafarer medical, and that if they have not visited a dentist within the last year they would be well advised to do so before their seafarer medical examination.

3.6.6 No medical examination should be carried out unless oral communication is possible. Those booking appointments on behalf of non-English speaking seafarers should be informed that a medical cannot be carried out unless an interpreter also attends.

3.6.7 Seafarers requesting a medical examination should not be

refused without good reason. However, if a seafarer presents themselves for a medical in what the AD judges to be an unfit state, for instance because of alcohol use, the medical may be refused. The circumstances should be recorded, as they may form the basis of subsequent decisions on fitness. MCA should be informed and the seafarer told that this has been done.

3.6.8 Should the seafarer elect to leave before the medical is completed especially if this is because they are aware that restriction is likely, MCA must be informed and the seafarer told that this will be done. It may also be desirable for the AD to inform any other ADs in the area of their behaviour, or ask the MCA MAT to do so.

3.6.9 **Safeguarding Modesty - Chaperones**

It is essential to safeguard the modesty of all seafarers during the ENG 1 examination. Concerns have been raised, particularly by female candidates, non-traditional seafarers, and those undergoing an examination for the first time, with respect to the detail of the examination needed and the need to undress to their underwear. Seafarers should be offered the privacy of an examination room, screen or curtain when undressing, and should only be undressed for the minimum time necessary for the examination. It is quite reasonable to undress the seafarer in separate stages. You must not carry out tests which can be done fully clothed, such as vision testing, while the seafarer is undressed. To avoid any possibility of the AD's actions being misconstrued, it is advisable for ADs, especially (but not exclusively) when examining patients of the opposite sex, to offer the seafarer the opportunity of having a chaperone. [◀ previous](#) [next ▶](#)

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As an intimate examination is not required, although a trained chaperone is always preferable, a relative or friend of the seafarer may be a suitable substitute. Some useful guidance provided by the GMC can be found [here](#) and we expect this to be followed by all ADs.

3.7 Registration – Completion of ENG 2 form

3.7.1 On attending for examination, the following details of the seafarer should be recorded and/or checked against past records and entered in section 1 of the ENG 2 medical report form:

- full name, address and telephone/e-mail and contact details
- date of birth
- gender
- photo identification details – type, number
- job title, rank and department (deck, engineering, catering, other – [see options at section 1.4.5 ▶](#)); where the seafarer holds or is applying for a boatmaster’s licence or commercial endorsement for yachts or powerboats this should be noted
- present type of ship and routes [section 1.4.4 and 1.4.7](#)

usual medical practitioner or medical adviser (To be entered in section 2 of the ENG 2 medical report form even if overseas). Date of last seafarer medical examination

and name of the AD who carried it out (To be entered in section 4 of the ENG 2 medical report form).

The seafarer should present the original last ENG 1 as evidence, which should be cancelled and kept with the seafarer’s records. It should not be returned to the seafarer, even if the expiry date has not yet been reached.

Any gap between expiry date of previous certificate and the date of the current medical examination should be queried. **A written explanation from the seafarer is required if he/she is unable to produce the previous certificate.** MCA should be informed if any company/ employer refuses to provide the seafarer with the original.

- reason for medical examination – new entrant, expiry of normal certificate, expiry of short-term certificate, following change in medical condition/illness/absence from work or discharge from vessel following illness or injury (To be entered in section 4 of the ENG 2 medical report form).

Any health records for the seafarer already held by the AD should be referred to. Any letters from employers, trade unions, etc. concerning the seafarer’s fitness should be reviewed.

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3.8 Conducting the examination

Delegation

3.8.1 The AD carries responsibility for the overall examination and is required to complete and sign the certificate of fitness. However, there is freedom to delegate tasks, such as collection of personal details, clinical measurements or completion of questionnaires. Before doing so, the AD must ensure that the person to whom the task is delegated has the requisite competencies and is aware of the purpose for which the information is being collected. They should also be able to explain any points which the seafarer may raise about that part of the procedure, for example if the seafarer does not understand a question in a questionnaire. They should also be aware of the need to prevent fraud, especially concerning identity, non-disclosure of past medical conditions and while performing clinical tests such as visual acuity and colour discrimination. Appropriate training must be provided and standing orders referred to where necessary. [Also see 2.4.10 & 11.](#)

Depth of assessment

3.8.2 **Length of appointment** – although sensible discretion is required regarding the length of an examination, it is expected that a reasonable average duration should be 30-45 minutes. Where a seafarer is being seen for the **first time** and no past records are available, the AD should be

personally responsible for questioning about medical history and completing the ENG 2 medical form, either by interview or based on initial use of a screening questionnaire. This is because the majority of conditions which will affect fitness become apparent during this part of the examination. If appropriate, it may be necessary to re-ask some questions in a variety of ways to test the plausibility of answers, especially on matters such as alcohol use and abuse.

3.8.3 When your own records of **past seafarer medicals** are available, history-taking need not be as detailed apart from the interval since the last medical examination, with special attention to reasons for non-attendance at work, medical emergencies at sea and visits to doctors or hospitals during leave periods. A degree of discretion may then be exercised over the extent of the physical examination if there is no past or interval history of medical problems. It is, however, good practice to see the seafarer unclothed, at least down to underwear, and form a view on physique and mobility in all cases.

3.8.4 Where a condition is identified requiring regular reviews e.g. control of diabetes, a certificate of limited duration should be issued valid to the date of the next review. At follow-up reviews, the medical may be limited to the condition of concern and its foreseeable consequences. However, a full medical should be done at not less than the prescribed two-yearly frequency in such cases.

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History

- 3.8.5 The front page of the ENG 2 form provides a box for relevant family medical history and a simple checklist for the seafarer's own medical history. This is appropriate for use by the AD or by a suitably trained nurse. **It is not designed to be a self-completed questionnaire by the seafarer**, and if completion of this form is delegated, the AD should check the seafarer's responses to all the questions under sections [3] and [4] before the form is signed by the seafarer.
- 3.8.6 Responses to questions that do not indicate any health problem can usually be passed over rapidly, although a high index of suspicion should be maintained, particularly on responses to lifestyle matters such as smoking and alcohol and on the significance of recent illness or attendance at hospital which may be underplayed. Any responses which suggest health problems should be explored, keeping the relevance of the condition to the medical standards in mind.
- 3.8.7 On completion of history-taking, the majority of causes of unfitness will have been considered and the subsequent examination will serve mainly to clarify or confirm the relevance.

Examination

- 3.8.8 Screens to undress behind and a cover for the person when on the couch should be available. For females bra and pants should not be removed. For males underpants should not

be removed. These garments should be moved, with the person's permission, as needed to enable chest and hernial orifices to be examined. This approach is the required standard for good practice during seafarer medicals, except where there is a specific clinical indication for removing underclothes, even if these limitations do not form part of your normal practice for other groups of examinees.

It is important that those findings which could affect fitness but which may not be apparent from the history, such as skin problems, hernias and limitations on joint mobility are examined for or observed in the course of the examination. The minimum content for a seafarer not previously examined at the centre should include:

- observation of posture, movement and gait
- observation of skin, especially hands – to include scars from past surgery or injury
- clinical test of hearing, examination of external ear and drum, and mobility
- clinical test of eye movements, pupil responses and visual fields
- visual inspection of teeth, gums, mouth and tonsils; ADs may have to rely on the seafarer to confirm whether a recent dental check has been carried out but should ask for the name of the dentist, if not convinced

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- examination of lungs and heart including auscultation and pulses
- palpation of abdomen
- standing examination of hernial orifices and leg veins
- simple neurological screen – reflexes, sensory function, motor co-ordination in arms and legs
- it is good practice to see the seafarer unclothed, at least down to underwear, and form a view on physique and mobility in all cases. It is however acceptable to ask the seafarer to undress one area at a time for examination, rather than expecting all of the clothes to be removed at once.

Routine tests

3.8.9 The following should be carried out and recorded on the ENG 2 at every full examination i.e. at least 2-yearly:

- Height** no shoes – record in metres.
- Weight** wearing underclothes, no shoes; using scales which are regularly calibrated – record in kg.

- BMI** calculate body mass index from height and weight.
- Pulse rate** note any irregularities.
- Blood pressure** [see ADG 8](#)
- Urine** test with dipsticks for protein, glucose, blood. Record each result. [See ADG 12](#)
- Spirometry** or peak flow measurement if the seafarer has a respiratory problem.
- Distant vision** complete all the boxes unless the seafarer's unaided vision meets the relevant aided standard for visual acuity, in which case only the 'basic' boxes need to be completed. [See ADG 14](#)
- Near vision** test both eyes together aided or unaided using reading **test card in the N notation**. The card should either be in N notation or conversion to this notation should be available so that results can be compared with the required standard.
- Colour vision** the relevant supplementary tests box need only be completed if the candidate fails the Ishihara plate test and will usually be completed at a later date, when the candidate presents the results of the test conducted by an optometrist (engineers) or by an MCA sight test examiner (deck). [See ADG 14](#)

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3.8.10 **Breast and testicular examinations**

These are not required as part of the standard medical examination and it is recommended that they are not carried out unless a problem is raised by the seafarer or unless a full explanation is given to the seafarer of why the AD considers it necessary and their agreement is obtained. Advice on self-examination should be given.

Results of medical examination

3.8.11 **Clinical findings relevant to decision** a short note should be included if a restricted or time limited certificate has been issued or if the person has been failed stating the reasons for taking the decision. This is particularly important where more than one medical condition is present.

3.8.12 **Certificate number** the unique serial number of the ENG 1 certificate issued must be recorded here. If at a later date a duplicate certificate is issued, that should be recorded here too, with the new date of issue.

3.8.13 **Expiry date** the certificate should be issued for 2 years unless either

(a) there is a clinical reason to limit the duration of the certificate ([see Chapter 5](#) ►); or

(b) the seafarer is less than 18 years old – in which case the maximum duration is one year

Some employers require seafarers to be re-examined every year as a matter of course, but the medical certificate should still be made valid for two years, so that if the seafarer changes employer during that period they are not disadvantaged.

3.8.14 **Restriction** this should record the wording of any restriction given exactly as shown on the ENG 1. NB: A time limitation is not a restriction.

3.8.15 **Estimated period of unfitness** a period of temporary unfitness should not normally exceed 2 years. Please note that if a seafarer is made temporarily unfit for less than 3 months they cannot appeal against the decision.

3.8.16 **Reason** this should be used to record the reason(s) for any restriction, failure or time limitation, which should also be explained to the seafarer. A clear statement, which should also be explained to the seafarer, can be particularly important in the event of a complaint.

3.9 Additional requirements

3.9.1 In some circumstances, additional procedures e.g. screening for TB, will be required as part of the statutory examination. These are described in [ADG 1](#) ►.

3.9.2 Maritime employers or their insurers may also specify additional procedures which they require to be carried out e.g. drug testing. The general principles to be applied, if

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such requests are made, are given in the section on drug and alcohol screening below (see [Chapter 5](#) ►). In summary, the AD must make sure that there is informed consent from the seafarer for any non-statutory procedures, that the seafarer is informed of the results and that the statutory certificate is based on compliance with the medical standards.

- 3.9.3 Statutory medical standards for seafarers restrict those with established drug and alcohol problems but do not require screening tests to be used. As part of their approach to risk management, a number of maritime employers do require such tests for new recruits periodically, at random or after an incident.
- 3.9.4 Good practice for drug and alcohol abuse policies is well established. Guidelines for the UK shipping industry have been prepared by a joint committee of shipping employers and maritime trade unions. Screening should only be introduced as part of such a policy. Valid methods should be used, fraud and careless sample handling should be safeguarded against and expertise should be available to interpret equivocal findings. Details of the policy should be available to employees and this should include information on the action taken in the event of a positive test result.
- 3.9.5 Testing is normally best done at random, on suspicion or after an incident rather than as part of a routine and predictable event such as a medical examination. The exception to this is the use of screening as part of the recruitment process.

- 3.9.6 Employers who take action against someone who tests positive may have their actions challenged at an industrial tribunal and the scrutiny will include both the person's contract of employment and the detailed procedures followed by the person taking the sample.
- 3.9.7 Drug and alcohol screening do not form a part of the international medical standards recommended for seafarers. It would be difficult to justify their use and very difficult to handle any appeals against fitness within the statutory appeal mechanisms.

Screening at the time of statutory medical examinations

- 3.9.8 The key to good practice and ethical behaviour in this area lies in the concept of informed consent. ADs who are also company advisers should become familiar with the company policies on drugs and alcohol and satisfy themselves that these are equitable and ethically sound. They should never undertake screening without understanding such policies and accepting their role in them. They should not undertake screening if there is not a written company policy or if the company is unwilling to disclose it to those who may be tested.
- 3.9.9 Other ADs should satisfy themselves that any screening they undertake forms part of a defined policy on abuse. It is recommended that they only assist with screening if this is the

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case. The practice of some manning agencies appears to be to reject anyone who tests positive without further assessment. ADs are advised not to collaborate with such testing.

3.9.10 ADs will be aware that drug and alcohol testing is not part of the routine statutory medical requirements, although if there are clinical indications of a drug or alcohol problem it could be legitimately used to clarify the situation.

3.9.11 When carrying out a statutory medical and also doing simultaneous drug or alcohol screening on any seafarer, the AD must explain that they are performing the examinations for two distinct reasons:

- to see if the seafarer meets the statutory medical standards
- to enable them to provide either the results of a screening sample or wider advice on fitness to the employer

The seafarer should give consent to both purposes before a sample for screening is taken. The AD must ensure that the seafarer is familiar with the requirements of any company drug and alcohol policy and may reasonably refuse to carry out the company parts of the examination if the seafarer has not been informed of the policy.

3.9.12 Procedures for sampling, labelling and dispatch of samples will need to conform to 'chain of custody' requirements as specified by the relevant company policy. Certification of fitness when screening is also undertaken.

3.9.13 At the end of the examination, the AD should inform the seafarer of the findings and whether any additional information, for instance from laboratory tests, will have to be available before a decision on fitness can be reached. In giving this explanation the doctor must separate statutory and company fitness requirements. If the seafarer meets the statutory standards for seafarers, a statutory certificate of fitness (**ENG 1 ►**) should be issued, even if company requirements are not met or if further information is awaited. Should a positive drug or alcohol screening result be found, the AD should act in accordance with the company policy. However, in the absence of any indications of drug or alcohol problems from the seafarer's medical history, from examination or from information transmitted to the AD by the company, a statutory certificate of fitness should not be withheld even if a positive test result is obtained.

3.9.14 Additional investigations may be done as part of the statutory medical and be taken into account in making a decision on fitness where there are individual clinical indications for them. However, it sometimes happens that an additional investigation specified by the employer, such as an ECG, which does not form part of the statutory medical examination, detects a condition that would not have been evident through the statutory examination, but which may cast doubt on the seafarer's fitness under the statutory standards. If this happens, the seafarer should normally be issued with an ENG 1 certificate as if this condition had not been identified. The AD, in their separate role as a medical

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adviser to the company, may however have a responsibility to advise the employer that they do not meet any company standards that have been set. In exceptional cases where the condition detected would place the safety of the vessel or of other people at risk the MCA should be contacted to review whether a restricted certificate, or no certificate, should be issued based on information obtained from an investigation specified by the employer.

Standards specific to food handlers

3.9.15 Several medical conditions need to be specifically sought during the medical examination as they have implications for food handling:

Gastro intestinal infection	(Item 1.1 in the Medical Standards table)
Throat infections	(Item 8.2 in the Medical Standards table)
Skin infections	(Item 12.1 in the Medical Standards table)
Otitis – media and externa	(Item 14.2 in the Medical Standards table)

3.10 Advice on immunisation and prophylaxis

Background

- 3.10.1 The requirements for immunisation and prophylaxis will depend on the duties undertaken by the seafarer and on the ports visited. For those serving in UK, European and North Atlantic waters only, a history of normal childhood and subsequent immunisations should be sought and top-up doses for tetanus and polio protection may be recommended. Hepatitis A may be indicated for those regularly working on ships' sewage systems.
- 3.10.2 For worldwide operations, well-organised shipping employers will have immunisation and malaria prophylaxis policies. Details, including the allocation of responsibilities for providing immunisation and prophylaxis, should be checked with the seafarer or their employer. In other circumstances, the following guidelines should form the basis for advice. These differ to an extent from those provided for the generality of travellers because it is assumed that seafarers will not travel far from port areas and waterways leading to them. If business or leisure travel beyond them is anticipated, guidelines for other travellers should be followed, where they make more specific recommendations.

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Procedures

- 3.10.3 If you are acting as medical adviser to a maritime employer you should advise them on an appropriate immunisation and malaria prophylaxis policy. Requirements will be determined by the areas of operation of the company and the degree of flexibility they require in terms of crewing and routes. Further information can be found in MGN 399, available on the MCA website). You may register with www.masta.org to receive a more comprehensive advisory service than that available on the other websites listed. If you are advising a seafarer, you will need to know where they will be sailing and base your advice on this. It may be necessary to advise them that until they know where they will be sailing, it is not possible to specify their immunisation and malaria prophylaxis requirements.
- 3.10.4 The locations on which advice on immunisation has been given should be recorded in the notes retained on the medical examination (ENG 2) and a certificate of any immunisations given should be provided to the seafarer.
- 3.10.5 [Marine Guidance Note 399 \(M\)](#) gives advice on immunisations and malaria prophylaxis.
- 3.10.6 It is recommended that a record of immunisations given is maintained on a record card such as the one issued by the WHO. Contact the WHO or MCA for further details.

Fees for immunisations

- 3.10.7 Advice on immunisation requirements is an essential part of the medical examination and **does not attract an additional fee.** Provision of required immunisations or prescription of any malaria prophylaxis which is required for the locations to be visited and which is not available as an 'over the counter' medication or which is not provided by the employer, may be charged for. As these requirements relate to risks associated with the area of service rather than fitness to serve per se, costs are chargeable to the employer and not to the individual seafarer. Where the cost of examination is met by the seafarer and they are not able to recover it from an employer, or where the locations to be visited are not yet known, the AD should issue a certificate of fitness without giving immunisations or prophylaxis. The seafarer should be given a letter to give to their employer advising on the need to consider the requirements for immunisation and malaria prophylaxis and to provide this.

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3.11 Health and vocational advice

3.11.1 While the prime function of the examination is to determine current fitness it also provides an opportunity to advise on risks which may impair health in future and thus prematurely terminate a seafarer's career at sea. For some specialist groups, such as food handlers, advice on hygiene may usefully be given (see 3.9.15 ►). Examples of other areas on which advice may be given are as follows:

Heart disease prevention

3.11.2 The commonest reason both for deaths at sea and for permanent unfitness is ischaemic vascular disease and the focus of advice should be directed at heart disease risk factors. The information available from the history and clinical examination will form the basis for this. Additional tests, for instance of blood lipids are not normally required. The following risk factors should be addressed:

- in all seafarers – diet, exercise
- selectively – smoking
- weight
- raised blood pressure
- diabetes
- importance of action if adverse family history

3.11.3 The importance of reducing personal risks, especially those relating to lifestyle should be emphasised. Appropriate leaflets may be issued (e.g. 'Positive Health at Sea' by Andrew Neighbour published jointly by the Marine Society and the Seamen's Hospital Society.) It may be desirable to give the individual some written recommendations. Where there are high levels of risk factor, a restricted certificate requiring more frequent attendance for medical checks on progress may reasonably be issued.

Blood-borne infections

3.11.4 If a seafarer reports a blood-borne infection such as hepatitis B or C or HIV, it is not normally a reason for restricting their service, although the implications of any treatment must be considered. See ADG 2 ►. In such circumstances disclosure to the employer is not usually required, although the seafarer should be advised to do so if they require clinical care involving invasive procedures. The National Maritime Occupational Health and Safety Committee (a joint committee of the Chamber of Shipping and maritime trade unions) has issued guidance on procedures for those infected with HIV. Significant side effects may arise from some of the therapies used and these can lead to limitations to fitness. Any disclosure in these circumstances has to be carefully handled, in collaboration with the clinician, the seafarer and, where there is one, the medical adviser to the maritime employer.

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Occupational health risks

3.11.5 In the course of the examination the AD may gain information about particular working conditions which pose a risk to health. These can include physical and chemical agents on board, such as noise, corrosive chemicals; allergens; exposure to intense sunlight; demands of manual handling tasks; hours of work and fatigue. If the AD is the company doctor and/or the occupational health adviser to the maritime employer, they will be able to investigate and advise on remedial action. In other circumstances the AD should discuss the situation with the seafarer. It may then be appropriate to take one of the following lines of action:

- advise the seafarer on the precautions to be taken
- recommend that the seafarer approaches their employer to discuss, possibly offering telephone contact or a report from the AD
- contact the employer on behalf of the seafarer
- contact the MCA

In deciding what action to take, the risk of jeopardising the seafarer's future employment must be considered. Suspicions of occupational health risk should not be ignored and MCA staff may be able to take forward investigations without disclosing the source of information.

Vocational guidance

3.11.6 In some circumstances, especially at a new entrant medical examination, a condition may be found, such as type 1 diabetes, and colour vision defects which preclude or severely restrict a seagoing career. Presentation with such a condition in the middle of the recruitment process may be a severe blow to the seafarer. It also reflects, in many cases, a lack of effective guidance at an earlier stage either from clinicians or career advisers. There is some evidence that cases of this sort are becoming more common now that there is greater emphasis on access to education and career opportunities for people with disabilities onshore. It is good practice to discuss the situation in some detail, try to help the person reconcile themselves to the loss of a career opportunity and recommend further sources of advice.

3.11.7 At times a person entering a seafaring career will be found to have a condition, such as borderline visual acuity or very early muscular dystrophy, which does not currently exclude them but which is likely to progress and so shorten their career at sea. Here a certificate of fitness cannot be validly refused but the person should be clearly advised of the risk and this action recorded. Where the AD is not contracted to provide occupational health advice to the employer, they are not under an obligation to pass on this information about future risk but they should strongly advise the recruit, especially if they are entering on a cadetship, of their own responsibility to do so.

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3.12 Issue of certificate – ENG 1

Unrestricted (Fitness Category 1)

- 3.12.1 The issue of an unrestricted certificate (ENG 1) is straightforward. Care is needed to ensure that an indelible black ink is used, that all relevant fields are completed or crossed through, that gaps are not left which can be used to alter the dates and that the contact details for the AD are clearly stamped on the certificate. In order for inspectors, employers and auditors to be able to check and validate the issue of a certificate, it is vital that the AD's official stamp should include their name, address and **telephone/fax number**.
- 3.12.2 To prevent fraud, **alterations should not be made on an ENG 1 form**. Corrections made on a certificate may appear to a Port State Control Inspector to indicate that the certificate has been tampered with. If an error is made in completing the certificate proforma, the certificate should be cancelled and retained on the pad, and a new one issued. Under no circumstances should ENG 1 proformas ever be presigned or prestamped with the AD's name.
- 3.12.3 As a check against fraud, MCA retains records of the serial numbers and dates of pads of certificates issued to ADs. ENG 1 certificates are issued in duplicated pads and **ADs should retain the green pad copies on the pad in numerical order, for audit purposes for 10 years**. If copies are needed for a seafarer's file, a photocopy may be made, but the green copy must always stay on the pad. This will be checked on audit visits by the CMA/MCA.
- 3.12.4 The ENG 1 form remains the property of the seafarer but may be withdrawn by the AD if appropriate e.g. if they become aware of a health issue (see MSN 1886 (M+F) para 10.1-10.2). It is issued for the seafarer's use and the employer must not withhold it from the seafarer, for instance on change of job or at the end of a contract, even when it has been paid for by them. It is advisable for the AD to witness the seafarer's signature on the certificate, to avoid fraud. In all cases, **before the ENG 1** is signed, ADs should ensure that the seafarer **reads and understands** the notes on the back of the medical certificate requiring them to notify the AD if their medical condition changes. When it is necessary to post a certificate to a seafarer, they must be advised to read the back of the form, sign the front, and then send a copy to the AD to file with the record.
- 3.12.5 An unrestricted certificate should never be issued to a seafarer simply because they are fit for their current duties, which are inherently limited. Even if they are fit for their present work, an unrestricted certificate gives them freedom to change to any other seafaring job (within the declared occupational category) within its validity period. Any necessary limitation should therefore always be noted as a restriction. This is particularly important when issuing ENG 1s to seagoing Boatmasters as their Licence only allows them to serve up to 3 miles from shore.

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- 3.12.6 **Time limitation** – a seafarer who has a medical condition which requires regular checks, such as hypertension, obesity etc, but who is otherwise fit, may be issued with an unrestricted ENG 1 valid until the next check is required, up to a maximum of 2 years. A new ENG 1 should be issued following the check, although a full examination is not strictly required until 2 years have elapsed since the original examination. Unless the ENG 1 is also restricted for additional reasons, an ENG 3 should not be issued in these circumstances and it does not count as a ‘restriction’ for recording purposes. However, the ENG 2 should record the reasons for issuing a time limited certificate for recording in the Annual Return required by MCA.
- 3.12.7 **Conditions** – The revised regulations also provide for the Approved Doctor to set conditions for the issue of a medical fitness certificate. A condition is a formal notification from the Approved Doctor to the seafarer of measures that **must** be taken in order for the seafarer’s medical fitness to be maintained. **This should be recorded on the ENG 2 form and where appropriate put in writing**, but should not be written on the ENG 1 certificate since it should be confidential between the doctor and the seafarer.

It will however, on occasions, be necessary for the seafarer to make their employer or master aware of the condition agreed, for example where the seafarer is required to take

regular medication which must be carried on board, carry a spare pair of glasses, hearing aid and batteries or require regular treatment and/or surveillance in certain circumstances.

Conditions set by the Approved Doctor are agreed with the seafarer during the medical examination. The alternative to agreeing to a condition will be a restricted ENG 1 or a failure, against which the seafarer has the right of appeal. There may be occasions which require employer cooperation e.g. time-limited certificates, but if this is the case the consent of the seafarer must be obtained before making contact with the employer. Conditions and time limitations may also be applied to restricted certificates.

Restricted (Fitness Category 2) – Issue of ENG 3 form

- 3.12.8 Where a restricted ENG 1 certificate is issued, **it should always be accompanied by an ENG 3 form (Notice of Failure or Restriction) which entitles the seafarer to apply for a review.** (It may occasionally be acceptable to make an exception to this procedure where a serving seafarer has a restriction on their previous certificate which does not prevent them continuing in their present role, and which they accept, and which it is appropriate to carry forward. In these circumstances, with the seafarer’s agreement, an ENG 3 need not be issued.)

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3.12.9 The ENG 3 form is issued to the seafarer in medical confidence and cannot be released by the AD to any other person without the seafarer's written consent. The reasons for restriction must be explained to the seafarer and any steps which they can take to secure a return to an unrestricted certificate discussed. **The wording in the ENG 3 reason box should reflect the exact wording on the ENG 1 certificate.**

3.12.10 Restrictions on certificates are a constant source of difficulty for maritime employers and must be clear and legible and should relate only to **duties and operational area, the one exception being "Next medical to be performed with clinical information from previous examination if possible"**. Medical conditions should **never** be referred to as a restriction on the ENG 1. While an individual certificate may need to include very specific restrictions, in most cases certain generic categories can be used. These may restrict:

- **duties** e.g. suitability for lookout or food handling;
- **location** e.g. "UK near-coastal waters only" or "non tropical waters only";
- **type of vessel** e.g. "Fit for service only on vessels with a ship's doctor" the restriction may specify **special needs** e.g. diet or cabin privacy

Note: The period of validity e.g. if a review is required before the normal two year period expires, is not in itself a restriction, if the seafarer is fully fit to serve for the period of the certificate.

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Standard restrictions

3.12.11 Where possible, **standard wording (in bold)** should be used for restrictions which ADs can select from the following list, whenever they fit the situation (words not in bold are for the AD's guidance not for the certificate). Wording can be adapted to suit specific duties if safety is not compromised. Medical conditions, medication and general advice e.g. "must lose weight" must be avoided and must never be mentioned on the ENG 1 certificate itself. If in any doubt please contact the CMA to discuss the wording of a non-standard restriction.

Please note that the term "**watchkeeping**" is a nautical term for shift working and is carried out by all crew members. It does not mean "**look out**" which is carried out by deck personnel and involves **actually looking out to sea**.

Colour vision

Seafarers who do not meet the standards in [MSN 1886](#)

Not fit for lookout duties at night. Not eligible for MCA Deck COC or Rating certification.

This should be written as a restriction on ENG 1s for all deck applicants with defective colour vision, apart from new entrant deck cadets who should be made unfit. This is in addition to ticking the "not fit for lookout duties" box on the ENG 1 and Yes in the "Colour Vision: Defective" box.

Not fit for work with colour coded cables etc

For use in colour vision defective engine department applicants unable to pass City University or Farnsworth D15 test. This is in addition to ticking the "not fit for lookout duties" box on the form

No navigational lookout duties

This should be written as a restriction on ENG 1s for **security officers only** with defective colour vision. This is in addition to ticking the "not fit for lookout duties" box on the form.

For those in departments other than Deck or Engine, the relevant boxes should be ticked on the ENG 1, but no restriction is required.

Visual Acuity

Seafarers who do not meet the standards in [MSN 1886](#)

No lookout duties

This restriction is no longer to be used for colour vision, and should not be used for deck candidates who do not meet the Visual Acuity standard, as those who fail either basic or higher VA should fail as per STCW.

It may only be used in exceptional circumstances, as follows:

- Deck candidates with recent laser surgery who meet the VA standard but may have fluctuating visual acuity for up to six months.
- Those classified as Deck Department but who have no lookout responsibility such as some deck hands on car ferries. This decision would need to be taken in consultation with the company, as they would not be eligible to hold a Watch Rating Certificate with this restriction.

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Location/vessel

UK Near Coastal waters only

Please note that this restriction has a legal definition for the UK and means within 150 miles from a safe haven in the UK and 30 miles from a safe haven in Eire. Health problem which may recur but no immediate risk

UK Coastal waters only, up to....[specify] miles from shore
When restriction needs to be stricter than “ UK near-coastal”

Coastal waters only, within helicopter range of definitive medical facilities in (specify geographical area) waters Or, when restriction needs to be stricter: **Coastal waters only, within ... [specify] miles of definitive medical facilities in (specify geographical area) waters** These restrictions should be used for seafarers working outside UK coastal waters; points to consider are whether the seafarer will be within helicopter range, whether there would be a helicopter available and that any subsequent healthcare provided ashore would be of an appropriate standard.

Risk assessment around these factors will be the responsibility of the company/employer, as neither AD nor MCA will be in possession of this information, so in areas where any doubt exists the additional restriction “Company to do risk assessment” should be added.

The specific coastal area must be specified. If the seafarer has no specific job it may not be possible to tailor a suitable restriction. You may need to obtain advice from the CMA before using this restriction.

Not fit for service on stand-by vessels

Limited physical capability for emergency rescue duties

Fit for service only on vessels with ship’s doctor

Condition amenable to treatment by ship’s doctor or requiring medical surveillance

Fit for service in current post with present employer [specify]

Able to meet the requirements of the post they are now working in but needs re-assessment before changing job. May also be appropriate where current employer is aware of limitations to their fitness and has made appropriate adjustments to duties in line with these

Not to be away from (home) port overnight

Health problem which may recur but no immediate risk

Not to be away from (home) port for periods over [24 hours/7days]

Health problem which may recur but no immediate risk

Non-tropical waters only

Excess risk from heat, e.g. kidney or skin problem, or risk from tropical disease e.g. splenectomy

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Duties

No solo watchkeeping

Navigation of vessel for Deck Officers or in charge of the engine room for Engineers. Risk of sudden collapse/incapacity

No watchkeeping

Not fit for emergency duties

Physical/mental limitations, usually only suitable for entertainers, customer service staff without STCW emergency duties

Not to lift items weighing over 5/10/20/40Kg

Back or other musculoskeletal problem

Protective gloves to be worn for work with...[specify]

Skin problem with known cause

Eye protection to be worn for all work

Limited vision in one eye

Not to work with.....[specify]

Allergy or sensitivity e.g. grain dust

Not fit for food handling

Infection risk e.g. from skin or ear disease

Other

Subject to compliance with medical surveillance/treatment

Where fitness could be jeopardised by failure to comply

Toilet/washing facilities in private cabin required

Intimate personal care needed e.g. stoma

Special needs ... in emergencies [specify]

Limitation e.g. associated with hearing or mobility limits

Next medical to be performed with clinical information from previous examination if possible

Where continuity is desirable

Temporarily unfit (Fitness Category 3) – Issue of ENG 3 form only

3.12.12 This category applies when an AD considers that a seafarer has a condition from which he/she has a reasonable chance of recovery, and therefore is likely to be able to obtain medical certification in the future e.g. an injury, operation or requirement for recuperation following illness. In such a case, the AD should complete an ENG 3 form giving an estimate of the expected period of unfitness. If this period is for more than three months, the seafarer has a right of appeal. A period should always be specified in order for the AD to review progress and further extend if necessary.

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Specific advice on fitness pending results of further investigations is given at section 3.17. When the seafarer is fit to return to sea, they should be advised to return to the same AD who issued the ENG 3 to continue with the process.

3.12.13 Where an Approved Doctor becomes aware (e.g. is notified by the employer or by the seafarer themselves) that a seafarer has developed a medical condition during the validity of their certificate, but has not re-examined that seafarer, the ENG 1 should be withdrawn and an ENG 3 should generally be issued for a period of less than 3 months, to allow time for investigation. The seafarer should only be issued with an ENG 3 for more than 3 months when they have been examined and an ENG 2 has been completed. This is because the seafarer has a right of appeal if they are made temporarily unfit for more than 3 months, and the Referee cannot review the case without an ENG 2.

Permanently unfit (Fitness Category 4) – Issue of ENG 3 form only

3.12.14 Where, following examination, it is clear to the AD that a seafarer is suffering from a condition which does not enable them to meet the required medical and eyesight standards, and from which there is no reasonable chance of recovery, an ENG 3 form should be issued declaring the seafarer permanently unfit. This decision may only be overturned at

a later date by the submission from the seafarer of medical evidence of the reversal of the condition. This is obviously a rare but not impossible scenario, and in such cases, the AD may need to seek advice from the Chief Medical Adviser via the MCA's Medical Administration Team.

3.12.15 Where a seafarer is found permanently unfit following review by a Medical Referee, they will not normally be considered for a further appeal for at least **five years** from the date of their last seafarer medical examination.

Additional action if restricted or unfit – issue of Notice of Failure or Restriction

3.12.16 In all cases of permanent or temporary (for more than three months) unfitness or restriction, where an ENG 3 is issued, there is a right of appeal to a Medical Referee for the case to be reviewed. **This now also applies to new entrants** and the seafarer must be informed of this right.

3.12.17 Whenever an ENG 3 is issued, the AD should ensure that a full medical examination has been completed in order for the Referee to be able to consider **any** aspect of unfitness.

3.12.18 ENG 3 forms are produced in triplicated pads. The top copy should be given to the seafarer, and the second (yellow) copy **of every ENG 3 issued** in respect of Category 3 & 4 (temporary and permanent unfitness) **should be scanned or sent to the MCA's Seafarer Health and Safety Branch for**

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recording within a week of issue, as the details are recorded on the MCA's central database. The pad copy should be retained with the ADs' records for audit purposes.

3.12.19 In order to try and prevent a seafarer obtaining a certificate fraudulently, either by not declaring a medical condition or by not declaring that he/she has been found unfit by another AD, a central database of all seafarers issued with an ENG 3 Category 3 & 4 will be maintained by the MCA. It is intended that this will involve electronic retrieval from the ADs in due course, but in the meantime, the information will need to be recorded manually by the MCA. Consequently, until otherwise notified, whenever an ENG 3 form is issued in respect of Category 4 (permanent unfitness), a copy must be sent to the MCA.

3.13 Payment of fees

3.13.1 The maximum fee for the ENG 1 medical examination is laid down in statute, and the current fee is published on the MCA website, under Working at Sea/Medical Certification and Advice/Information for Seafarers. This is only binding on ADs within the UK, as an appropriate fee overseas will be affected by local market conditions for medical services. However, the statutory fee should be considered as a benchmark and used as a guide.

3.13.2 UK regulations require that the person who employs or who has offered employment to the seafarer when they apply for their medical examination must meet the cost of that examination. An unemployed applicant is not strictly a seafarer and will generally pay for their own examination.

3.13.3 Where additional tests are required (e.g. physical fitness testing) additional fees may be charged, but these fees should be agreed with whoever is meeting the costs before the procedures are carried out. When asking a GP for further information it should always be made clear that should they feel that they need to charge a fee, this will be at the seafarer's expense, and should be agreed in advance. An alternative would be for the seafarer to ask for the information direct.

3.13.4 Where a seafarer returns for regular review so that the medical is limited in depth or focused on a specific condition, the fee charged should reflect this.

3.13.5 If the seafarer breaks a definite appointment without giving reasonable notice and without a good reason, such as unforeseeable transport disruption, they or the organisation paying for the medical may be charged. Similarly if a seafarer presents themselves for a medical in what the AD judges to be an unfit state, such that the medical may be refused, or if the seafarer elects to leave before the medical is completed, especially if this is because they are aware that a restriction is likely, the fee may still be levied.

3.13.6 An administrative fee (determined by the AD) may be charged for the issue of a duplicate certificate in the case of loss or damage to an ENG 1 certificate.

3.13.7 The collection of fees is a matter for agreement between the Approved Doctor and the employer or seafarer concerned. MCA cannot assist with the recovery of unpaid fees.

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3.14 Lost or stolen ENG 1 certificates

- 3.14.1 If a seafarer, previously examined by an AD, reports the loss, theft or destruction of a current certificate, he/she should be asked to explain the circumstances in writing. It is then for the issuing AD to use his/her judgement in deciding whether to:
- re-examine the seafarer and issue a new certificate valid from the date of examination;
 - or
 - issue a new certificate bearing the exact details of the missing certificate (based on the ENG 2 report form or duplicate pad copy of the ENG 1), and clearly marked 'duplicate'.
- 3.14.2 ADs may charge an administrative fee for re-issue of a duplicate certificate, without examination.
- 3.14.3 The written report from the seafarer should be kept with the duplicate pad copy of the new certificate.
- 3.14.4 When a duplicate certificate is issued, the MCA should be notified of the name and date of birth of the seafarer and the numbers of the lost and replacement certificates.

3.15 Return to work medicals

- 3.15.1 When a seafarer holding a valid ENG 1 certificate is off sick for 30 days or more, or there is a significant change in their medical condition, he/she may not return to work until they have been declared fit by an AD (preferably the one who issued the ENG 1) (para 9.1 of [MSN 1886 \(M+F\)](#) and the notes on the reverse of the ENG 1 refer). In practice, this means that the employer will normally arrange for a 'return to work' medical examination.
- 3.15.2 Depending on the nature and length of the incapacity, and how long the certificate has left to run, an Approved Doctor may simply withdraw the certificate during the illness and reissue the (same) certificate once he/she is satisfied that the seafarer has fully recovered e.g. a broken limb or bout of chicken pox. They will then not need to re-examine the seafarer fully. In such cases, the AD may issue a note to the seafarer's employer and/or restamp the certificate to confirm that the seafarer has been re-assessed as fit.

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3.15.3 However where there is a potential deterioration or subsequent change in the seafarer's fitness on return to work, or the original certificate does not have long to run, a full examination should always be conducted and a new certificate issued, valid for up to 2 years from the date of examination. The previous certificate should always be withdrawn and filed by an AD before conducting any medical examination; this applies whether or not the certificate would have expired during the period of sickness.

3.16 Medical reviews ('Appeals') – role of the Medical Referees

3.16.1 Any seafarer (including new entrants) found permanently unfit, or fit only for restricted service, or whose certificate is cancelled or suspended for more than three months by an AD, is issued with a Notice of Failure/Restriction form (ENG 3) which also explains their right of review (appeal) by an independent Medical Referee appointed by the Secretary of State for the DfT. We have appointed referees around the UK, all of whom are senior occupational health specialists in their own field.

3.16.2 Before exercising the right of appeal, the seafarer may wish to seek independent medical advice from their GP or perhaps from their trade union or employer. A seafarer who wishes to appeal should complete the application form on the reverse of the ENG 3, and forward it to the MCA's Medical Administration Team. The application must be made within **one month** of the date on which the seafarer is given notice by the AD of refusal, restriction or suspension of a certificate. The MCA will then arrange for the appeal to be considered by a Medical Referee and will notify the AD concerned.

3.16.3 The ENG 3 includes an authority to the AD to release his/her ENG 2 report to the Medical Referee. If the applicant wishes to submit additional medical evidence in support of their application, they should arrange for this to be sent to the Medical Referee before the appointment date.

3.16.4 Medical Referees are empowered while working to the same medical and eyesight standards:

to ensure that the diagnosis has been established beyond reasonable doubt, in accordance with the medical evidence on which the AD reached their decision and normally, with the assistance of a report from a Consultant in the appropriate speciality; to determine whether the medical and eyesight standards, especially those with a discretionary element, have been properly interpreted, and whether appropriate restrictions have been given to consider the possibility of a seafarer, previously declared permanently unfit, returning to sea, possibly with restrictions.

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- 3.16.5 In cases where the Referee decides to issue a new ENG 1 certificate, the date of the certificate should relate to the date of the last full medical examination carried out by the AD.
- 3.16.6 In cases not covered by the medical and eyesight standards or in 'permanently unfit' cases where exceptional medical considerations apply, the Medical Referee will decide an appropriate category of fitness after consultation with the AD involved and consideration of all the evidence presented to him/her.
- 3.16.7 The Medical Referee must reach a decision within two months of the date on which the appeal and all relevant information was lodged with the MCA.
- 3.16.8 If Referees exercise discretion in relation to stable medical conditions, they should normally issue the seafarer with a letter to this effect, which can be produced at future medicals to inform the AD.
- 3.16.9 The referee will only review the specific aspects of the ENG examination that have led to the failure or restriction that is being contested by the seafarer (which should be clearly noted in Box 7, Results of Medical Examination of the ENG 2, and expanded on in the AD's contemporaneous medical record of the examination). For this reason, an ENG 3 should never be issued for more than three months unless a full examination has been conducted even if the outcome appears obvious.

- 3.16.10 The AD should advise the seafarer of their right to appeal, but they should not recommend an appeal. The role of the referee is not to give a second opinion to the AD, to take over a difficult case, nor to explain the standards to the seafarer, which remains the ADs responsibility. If the AD is uncomfortable with applying the standards, or is having difficulty in reaching a decision, then CMA advice should be sought as per Annex A to Chapter 2.

3.17 Guidance on fitness pending the results of investigation or treatment

- 3.17.1 ADs frequently seek advice on how to categorise the fitness of a seafarer when the need for further investigation or treatments has been identified at the examination or when the person is awaiting this at the time of the medical.
- 3.17.2 The medical standards indicate that temporary unfitness (Cat 3) is appropriate for certain conditions, where there is either current incapacity or where the risk of a recurrence or exacerbation with serious consequences for the individual or for vessel safety is likely.
- 3.17.3 There are, however, a wide range of circumstances where discretion can be applied to enable the seafarer to continue working, while ensuring that investigation and treatment recommendations are complied with. The commonest example is probably referral for investigation and treatment of moderately raised blood pressure. Recently the investigation of low level haematuria or proteinuria has been considered in the same way.

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3.17.4 The key to sensible decision taking is a, usually informal, assessment of the risks:

- a) Is it likely that the condition as now present, or any reasonably probable complication, recurrence or exacerbation, will cause life-threatening disease at sea or lead to a risk to the vessel or to other people on board? (the answer will depend on the seafarer's duties and on the nature of the known or suspected condition)
- b) Is the likely timescale of any complication or exacerbation such that the person could not be safely brought to shore in the event of it developing at sea? (this will depend on the routes taken by the vessel and on the rate at which the condition is known to lead to serious consequences)
- c) Are there likely to be any complications which the medical first aid skills and facilities on board cannot be expected to manage until help can be obtained? (this will be governed by who and what is available on the vessel)
- d) Does the seafarer have sufficient insight or motivation to ensure that they obtain the recommended investigations or treatment without coercion? (based on the nature of the dialogue during the medical and on any other evidence about compliance in the past)

3.17.5 If the answer to any of these questions is a firm yes, or if it is equivocal in some cases, a period of temporary unfitness, usually for less than 3 months, until investigation and treatment are complete is justified. Examples would include suspected ischaemic heart disease, investigation of unexplained loss of consciousness, and unfitness relating to obesity or smoking.

3.17.6 In general, the conditions where a return to duties pending investigation or treatment will be appropriate, are those where the risk of impairment or incapacity is slow to develop and does not require specific intervention should it arise. Examples would be, as noted, moderately raised blood pressure, minor degrees of haematuria or proteinuria, non-acute dental problems, and gastrointestinal symptoms, provided they are not indicative of ulceration or obstruction.

3.17.7 If the risks are deemed to be small then a range of approaches are possible:

- a) Issue of a short term ENG 1 certificate with a separate requirement that the results of investigation are made available or treatment is completed before it can be reissued. The seafarer will need to be made aware of the need to return to the original AD.
- b) Separately, or in combination with a): issue of an ENG 1 certificate restricting duties such that certain safety critical tasks are avoided e.g. no lone watchkeeping.

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- c) Separately, or in combination with a) or b): issue of a restricted ENG 1 certificate eg to coastal waters or to avoid hot climate risks, to ensure that the person is within helicopter range or a few hours sailing of a port with medical facilities. This is so that relatively rare complications can be treated before they become serious.
 - d) Issue of a normal unrestricted 2 year certificate, with agreement from the seafarer that they will obtain the required investigation or treatment before the next routine medical.
- 3.17.8 In all these cases, it is essential that the requirements for re-certification are clearly spelled out and that there is full communication with the seafarer's general practitioner or specialist to indicate the relevance of their condition to continued work at sea and hence the importance of early investigation or treatment.
- 3.17.9 Pressure from the seafarer or their employer for a return to sea should not influence the AD's decision but it does provide opportunities to seek their assistance in obtaining rapid access to treatment, for instance by the employer funding the use of private facilities or by motivating the seafarer to book an appointment timed to fit with their next leave as a condition of issuing a temporary certificate.

Chapter 4

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Medical standards and AD guidance

Merchant Shipping Notice ([MSN 1886](#) ►) for current medical standards inc. fitness table

Standard restrictions

- ADG 1** Pulmonary Tuberculosis
- ADG 2** Infections transmitted in body fluids
- ADG 3** Cancer
- ADG 4** Diabetes
- ADG 5** Obesity
- ADG 6** Mental disorders
- ADG 7** Loss of consciousness, altered awareness, epilepsy and sleep disorders
- ADG 8** Blood pressure and its measurement
- ADG 9** Cardiac events

- ADG 10** Asthma
- ADG 11** Dental inspection
- ADG 12** Urine testing
- ADG 13** Hearing, ear disease, disorders of speech and communication
- ADG 14** Vision, eye diseases
- Annex A** **Colour** vision testing – possible outcomes
- Annex B** **Visual** acuity testing – possible outcomes
- Annex C** Colour Assessment and Diagnosis (CAD) Test
- ADG 15** Medication
- ADG 16** Allergies
- ADG 17** Assessment of physical capabilities

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Standard restrictions

3.12.11 Where possible, **standard wording (in bold)** should be used for restrictions which ADs can select from the following list, whenever they fit the situation (words not in bold are for the AD's guidance not for the certificate). Wording can be adapted to suit specific duties if safety is not compromised. Medical conditions, medication and general advice e.g. "must lose weight" must be avoided and must never be mentioned on the ENG 1 certificate itself. If in any doubt please contact the CMA to discuss the wording of a non-standard restriction.

Please note that the term "**watchkeeping**" is a nautical term for shift working and is carried out by all crew members. It does not mean "**look out**" which is carried out by deck personnel and involves **actually looking out to sea**.

Colour vision

Seafarers who do not meet the standards in [MSN 1886](#)

Not fit for lookout duties at night. Not eligible for MCA Deck COC or Rating certification.

This should be written as a restriction on ENG 1s for all deck applicants with defective colour vision, apart from new entrant deck cadets who should be made unfit. This is in addition to ticking the "not fit for lookout duties" box on the ENG 1 and Yes in the "Colour Vision: Defective" box.

Not fit for work with colour coded cables etc

For use in colour vision defective engine department applicants unable to pass City University or Farnsworth D15 test. This is in addition to ticking the "not fit for lookout duties" box on the form.

No navigational lookout duties

This should be written as a restriction on ENG 1s for **security officers only** with defective colour vision. This is in addition to ticking the "not fit for lookout duties" box on the form.

For those in departments other than Deck or Engine, the relevant boxes should be ticked on the ENG 1, but no restriction is required.

Visual Acuity

Seafarers who do not meet the standards in [MSN 1886](#)

No lookout duties

This restriction is no longer to be used for colour vision, and should not be used for deck candidates who do not meet the Visual Acuity standard, as those who fail either basic or higher VA should fail as per STCW.

It may only be used in exceptional circumstances, as follows:

- Deck candidates with recent laser surgery who meet the VA standard but may have fluctuating visual acuity for up to six months.
- Those classified as Deck Department but who have no lookout responsibility such as some deck hands on car ferries. This decision would need to be taken in consultation with the company, as they would not be eligible to hold a Watch Rating Certificate with this restriction.

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Location/vessel

UK Near Coastal waters only

Please note that this restriction has a legal definition for the UK and means within 150 miles from a safe haven in the UK and 30 miles from a safe haven in Eire. Health problem which may recur but no immediate risk

UK Coastal waters only, up to...[specify] miles from shore
When restriction needs to be stricter than “ UK near-coastal”

Coastal waters only, within helicopter range of definitive medical facilities in (specify geographical area) waters Or, when restriction needs to be stricter: **Coastal waters only, within ... [specify] miles of definitive medical facilities in (specify geographical area) waters** These restrictions should be used for seafarers working outside UK coastal waters; points to consider are whether the seafarer will be within helicopter range, whether there would be a helicopter available and that any subsequent healthcare provided ashore would be of an appropriate standard.

Risk assessment around these factors will be the responsibility of the company/employer, as neither AD nor MCA will be in possession of this information, so in areas where any doubt exists the additional restriction “Company to do risk assessment” should be added

The specific coastal area must be specified. If the seafarer has no specific job it may not be possible to tailor a suitable restriction. You may need to obtain advice from the CMA before using this restriction.

Not fit for service on stand-by vessels

Limited physical capability for emergency rescue duties

Fit for service only on vessels with ship’s doctor

Condition amenable to treatment by ship’s doctor or requiring medical surveillance.

Fit for service in current post with present employer [specify]

Able to meet the requirements of the post they are now working in but needs re-assessment before changing job. May also be appropriate where current employer is aware of limitations to their fitness and has made appropriate adjustments to duties in line with these

Not to be away from (home) port overnight

Health problem which may recur but no immediate risk

Not to be away from (home) port for periods over [24 hours/7days]

Health problem which may recur but no immediate risk

Non-tropical waters only

Excess risk from heat, e.g. kidney or skin problem, or risk from tropical disease e.g. splenectomy

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Duties

No solo watchkeeping

Navigation of vessel for Deck Officers or in charge of the engine room for Engineers. Risk of sudden collapse/incapacity

No watchkeeping

Not fit for emergency duties

Physical/mental limitations, usually only suitable for entertainers, customer service staff without STCW emergency duties

Not to lift items weighing over 5/10/20/40Kg

Back or other musculoskeletal problem

Protective gloves to be worn for work with...[specify] Skin problem with known cause

Eye protection to be worn for all work

Limited vision in one eye

Not to work with.....[specify]

Allergy or sensitivity e.g. grain dust

Not fit for food handling

Infection risk e.g. from skin or ear disease

Fishing Restrictions

[Annex A to Chapter 1 Grandfather Rights](#)

Other

Subject to compliance with medical surveillance/treatment

Where fitness could be jeopardised by failure to comply

Toilet/washing facilities in private cabin required

Intimate personal care needed e.g. stoma

Special needs ... in emergencies [specify]

Limitation e.g. associated with hearing or mobility limits

Next medical to be performed with clinical information from previous examination if possible

Where continuity is desirable

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ADG 1

Pulmonary Tuberculosis

Impairment and risks

- Reduced performance – debilitation and respiratory symptoms
- Complications – secondary infection, haemoptysis, infection in other parts of body
- Transmission to others on board

Rationale and justification

- Historically TB has been a major problem from transmission of infection among ships' crews. More recently, due to better accommodation standards, a low proportion of seafarer cases have arisen from strains present in other shipmates. Most infection is contracted ashore
- There is a risk of transmission, mainly by droplet spread from coughing, in those with 'open TB' – where bacteria are present in sputum
- Incidence varies widely, with generally low levels in high income countries with good nutrition and well developed health services but higher levels elsewhere. There are annually updated maps showing incidence produced by WHO (see <http://www.who.int/tb/country/data/profiles/en/>)

- Detectable using chest X-ray for established disease, skin (Mantoux) testing and by more recent immunological assay methods using blood. Current UK guidance is to screen with CXR and if this shows any abnormality, or symptoms are suggestive of TB, sputum culture as well.
- Progression if untreated leads to loss of functioning lung tissue, with associated poor health from presence of chronic infection
- Treatment is a prolonged course (several months to a year) of combined antibacterial therapy. Combinations used will depend on the resistance of the organism. Some medications have side effects that need supervision and compliance with the long courses that are essential to cure the disease and to avoid resistance developing is a challenge for the individual that may mean strict supervision is required
- Resistance is becoming more widespread
- Can develop as a secondary infection when immunity is compromised e.g. by HIV infection or by immuno-suppressive therapies

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Clinical assessment and decision taking

Prior to assessment obtain background information on:

- a) national policies on case identification, contact tracing and treatment protocols
- b) international incidence data if someone from another country is to be seen (eg a seafarer in transit or temporarily in a country other than their usual country of residence)

1. Does the seafarer come from or has recently spent over 6 months in a country with an incidence of pulmonary tuberculosis >40/100,000 pa OR have recent regular contact at home or at work with an infectious case of TB OR a medical history of TB in the past OR suspicious symptoms (persistent cough with or without sputum or blood, continuing weight loss, continuing fever)?

No

Fit category 1

Yes

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2. Arrange for screening with advice if necessary from local microbiology services. Also see Public Health England guidance on TB screening at www.gov.uk/tuberculosis-screening

Do they have any positive screening tests: normally chest x-ray, but if locally recommended other tests, eg Mantoux skin test, immunological tests for TB infection?
(tests should be quality assured and chest x-ray should be read by a radiologist)

No

Fit category 1, unless contact with infectious case in last three months then Fit category 1 time limited to three months with repeat of screening at this time

Yes

Temporarily unfit category 3
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3. Do they have pulmonary TB based on full clinical assessment (normally by specialist in chest diseases)?

No

Temporarily unfit category 3 investigate any alternative diagnosis and base fitness decision on findings

Yes

Temporarily unfit category 3 for initiation of appropriate treatment

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If treatment completed

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4. Has the treatment been stabilised and is the person non-infectious, compliant with medication use and free from side effects?

No

Temporarily unfit category 3

Yes

Restricted time limited category 2 UK near coastal only and time limited until next clinical appointment at which progress will be assessed

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5. Treatment completed (including from disease in distant past), non-infectious, no continuing disability?

No

Permanently unfit category 4 if continuing impairment or incomplete cure

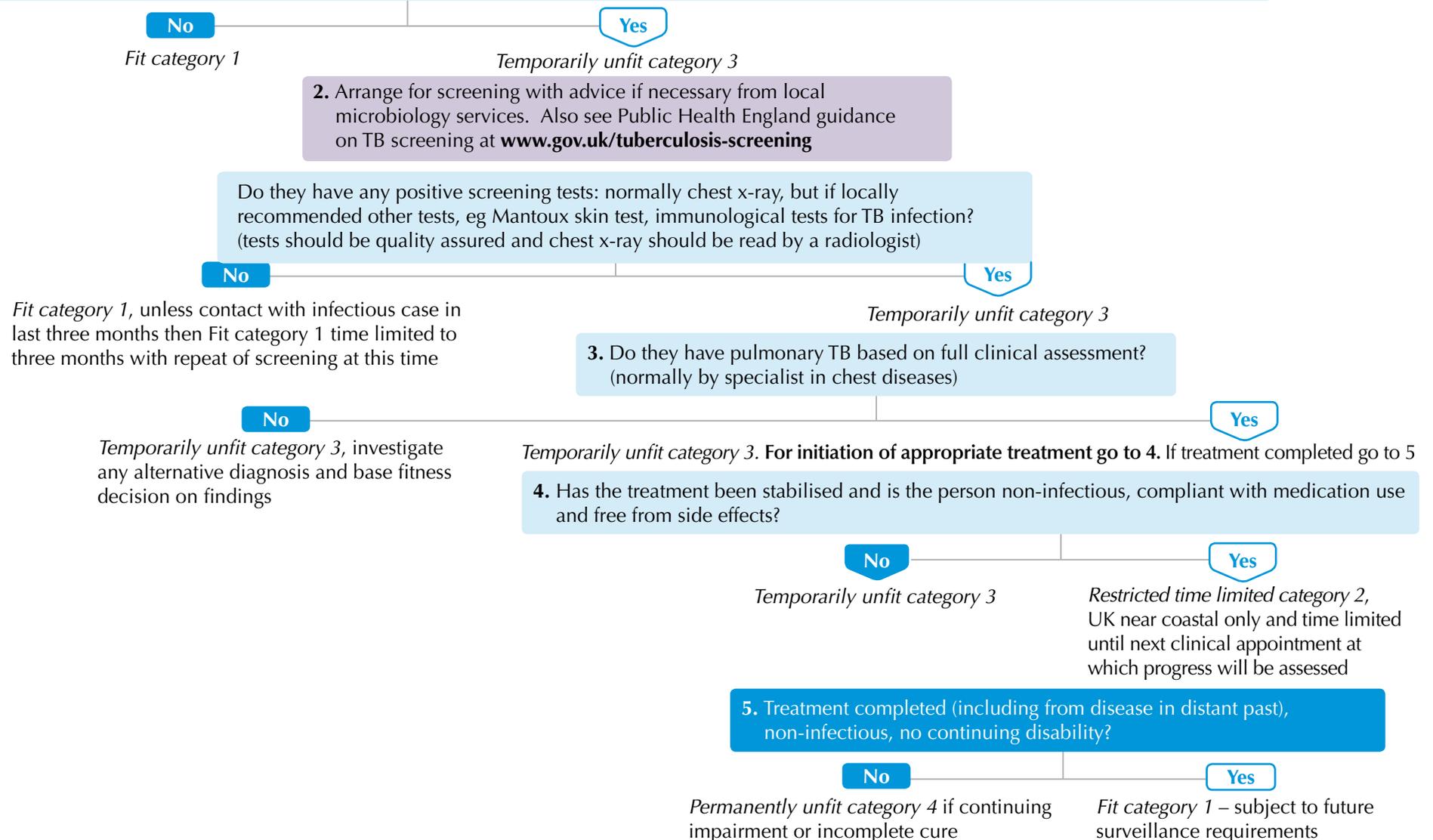
Yes

Fit category 1 – subject to future surveillance requirements

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Pulmonary Tuberculosis

1. Does the seafarer come from or has recently spent over 6 months in a country with an incidence of pulmonary tuberculosis >40/100,000 pa OR have recent regular contact at home or at work with an infectious case of TB OR a medical history of TB in the past OR suspicious symptoms (persistent cough with or without sputum or blood, continuing weight loss, continuing fever)



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ADG 2

Infections transmitted in body fluids: HIV, hepatitis (non A)

Impairment and risks

The risks of transmission of infection through body fluids while at sea with respect to normal living and working conditions are remote. Aspects of lifestyle: sexual relations and practices, the use of injected illicit drugs and the adequacy of infection control practices in clinical care determine transmission risks. Because of the form of transmission and consequent stigmatisation of those with such conditions the process of assessment and decision taking on fitness has to take account of legal and ethical factors as well as scientific information.

The scope for exposure while undertaking normal maritime duties is limited to the treatment of accidents where blood has been spilt. Normal precautions designed to prevent wound infection also ensure that those providing emergency treatment are at very low risk of becoming infected, should the casualty have an infection that is transmissible in body fluids.

Risks of sudden incapacitation and of acute illness while at sea are very low in the early stages of HIV infection. However some of the treatments used may cause problems in some individuals that reduce performance, while all treatments require regular monitoring to

check that the infection remains under control and is not becoming resistant to the medications used. Provided that the progress of the infection is being monitored this will provide an indication of the need to restrict employment.

In a proportion of those infected with non-A hepatitis there will be a period when liver damage is manifest as jaundice and this is often when the condition is first detected. In most cases following recovery there is no subsequent impairment but sometimes chronic liver disease occurs. The level of continuing infectivity varies. There is also a late risk of the development of cirrhosis and liver cancer. The commonest form, hepatitis B, is readily prevented by immunisation.

HIV and AIDS – [See MSN 1886 Standard 1.5](#)

Rationale and justification

- HIV is transmitted in blood and body fluids and so infection arises from sexual contact, needle sharing in drug misusers and from contamination during medical procedures. It is also transmitted vertically from mother to baby. HIV is less infective by these routes than hepatitis B
- The infection, apart sometimes for mild symptoms soon after the initial infection, remains latent for a long period. Progress from initial infection to disease that is relevant to work at sea is usually over many years and may be virtually halted by effective treatment. During this time the virus can be detected in the blood as can its effects in terms of damage to C4 lymphocytes. The infected person can transmit infection to others if there is contact with their blood or other body fluids

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- Untreated infection slowly progresses until the body's immune mechanisms are damaged enough to allow serious or fatal infection by other micro organisms or the development of certain malignancies
- A wide range of complications are associated with the later stages of HIV infection including:
 - Severe weight loss >10% of weight
 - Unexplained chronic diarrhoea for >1 month
 - Unexplained or persistent fever for >1month. This may be either intermittent or continuous
 - Infections: oral candidiasis, oral hairy leucoplakia, pulmonary tuberculosis, severe bacterial infections, acute necrotising ulcerative stomatitis or gingivitis, cytomegalovirus
 - Malignancies: non-Hodgkins lymphoma, cervical cancer, Kaposi sarcoma
- Treatment will greatly delay damage to the immune system and thus prevent secondary infection and AIDS related malignancies. The effectiveness of treatment regimes is increasing, but HIV can develop resistance to anti viral agents and for this reason combination therapy (HAART – highly active antiretroviral therapy) is often used. This can increase the likelihood of side effects and careful long term monitoring is essential

- Dementia occurs in some of those with prolonged HIV infections. It does not appear to be related to secondary infection. Its presence can be identified using psychometric tests
- The incidence of HIV+ status varies markedly between countries and between groups of people depending on their exposure to the risks of sexual, blood borne or mother to child infection
- The progression from asymptomatic infection to AIDS, where serious complications arise, is relatively slow and is unlikely to occur between one medical assessment and the next
- CD 4 lymphocyte counts are important predictors of risk:

CD 4 cells/mm ³	AIDS risk events per 100 person years	Non-AIDS risk (e.g. Heart, liver, kidney disease) per 100 person years
< 200	13.8	2.1
200-350	2.0	1.7
> 350	0.7	0.7

A recent CD4 count above 350 cells/mm³ indicates a low risk of complications

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Assessment and decision taking

Background

Unless the diagnosis is disclosed to the examiner, it is usually impossible to detect a HIV positive asymptomatic seafarer. Seroconversion may be associated with a brief influenza-like illness. The presence of generalised lymphadenopathy or oral hairy leukoplakia may also be indications of HIV infection.

Signs and symptoms of advanced HIV disease such as persistent infections or significant weight loss will normally mean that the seafarer's immune system is weakened and they will need frequent and close specialist supervision. If HIV status has not been recognised early this may be the presenting stage of the disease. Fitness for work at this stage will depend on the scope for treatment of the HIV infection and any complications of it.

HIV positive seafarers, who are aware of their status and have declared it need to be given a fair examination based on rational and fair criteria to determine whether a seafarer is Fit, Unfit or Temporarily Unfit (and the appropriate time to be allowed for rehabilitation).

Specialist advice is needed to assist in the determination of the possible consequences of the disease and its treatment for the time period prior to their next reassessment.

Much work has been done on the employment of people who are HIV+ but none specific to the Maritime industry. These criteria are based on the available studies.

There is extensive guidance on post-exposure prophylaxis available in the health care sector.

Clinical assessment and proposed criteria

In all cases of confirmed HIV positive status the assessment and decision taking process should be informed by advice from the clinician responsible for the care of the individual. It is the clinician and not the Approved Doctor who is responsible for determining the frequency of surveillance needed to guide clinical care, where it needs to take place and for provision of medications needed while the seafarer is at sea. However it is for the Approved Doctor to take the final decision and issue a fitness certificate in line with the guidance below. Wherever possible there should be continuing close liaison between the treating doctor and a single Approved Doctor who determines fitness to work at sea. Specialist advice is required for those working on board as medical staff since although Healthcare Workers are no longer banned from performing exposure prone procedures (see Public Health England advice from Jan 2014) there are specific parameters which must be met in these cases, including regular monitoring.

a) Undeclared HIV status

Pre-employment HIV testing is not recommended. It is illegal in many jurisdictions. It can only be justified if it can be shown to predict likely risks while working at sea prior to the next medical assessment. However if physical signs that raise suspicions of HIV disease are found during a pre-employment examination the

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clinician to whom the seafarer is referred for investigation would be expected to have performed tests for HIV and advised the seafarer of the results.

HIV testing should be a matter for the individual and their clinical advisers and not a condition for obtaining employment. The finding of HIV+ status has major implications for an individual. Detection and rejection for employment together are likely to have a very severe effect. Those who carry out HIV testing need to recognise their obligation to counsel the person tested and arrange referral, investigation and treatment if a positive result is found.

It may be appropriate, depending on incidence of HIV and individual risk factors, to advise seafarers of the benefits of voluntary testing so that any required treatment can be initiated early and they can take informed decisions about their career and lifestyle.

b) Declared HIV+ status, asymptomatic

An individual who is HIV positive, but without other signs or symptoms, can be so either because they are at an early stage of the infection and their immune system is still functioning well or because they are on antiretroviral therapy and have a well restored immune system.

A seafarer who is receiving medication for HIV is obligated to give details to the assessor so that any side effects can be considered. Further details of the complex drug interactions that may arise can be found on <http://hiv-druginteractions.org>

For those who have declared that they are HIV positive the widely used WHO staging categories provide a valid basis for fitness determination.

Clinical Stage 1

- Acute retroviral infection
- Asymptomatic
- Persistent generalised lymphadenopathy

Performance scale 1: asymptomatic, normal activity

c) HIV+ status, symptomatic

Clinical Stage 2

- Weight loss, < 10% of body mass
- Minor mucocutaneous manifestations
- Herpes Zoster in the last 5 years
- Recurrent upper respiratory tract infection

Performance scale 2: symptomatic, normal activity

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Clinical Stage 3

- Weight loss, >10% of body mass
- Unexplained chronic diarrhoea >1 month
- Unexplained prolonged fever > 1 month
- Oral candidiasis
- Oral hairy leukoplakia
- Pulmonary tuberculosis
- Severe Bacterial infections

Performance scale 3: bed ridden < 50% of the day during the last month.

d) AIDS complex**Clinical Stage 4**

- HIV wasting syndrome: weight loss >10% body mass, plus unexplained chronic diarrhoea (>1 month) or chronic weakness and unexplained fever (>1 month)
- Pneumocystis carinii pneumonia
- Toxoplasmosis of the brain
- Cryptosporidiosis with diarrhea greater than a month.
- Cytomegalovirus
- Cryptococcus (extrapulmonary)
- HSV infection

- Progressive multifocal leuko-encephalopathy
- Any disseminated mycosis
- Candidiasis of the mouth, trachea, oesophagus, bronchi or lungs
- Atypical mycosis
- Non-typhoid salmonella septicaemia
- Extrapulmonary tuberculosis
- Lymphoma
- Kaposi sarcoma
- HIV encephalopathy

Performance scale 4: bedridden for >50% day during the last month.

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Determine staging and any complicating factors

- Are there detectable signs of HIV dementia? (Presence indicates high probability of progressive cognitive impairment)
- Is the CD4 lymphocyte count above 350 (Below 350 there is a well established excess risk of infection)? This justifies a period of temporary unfitness until treatment has been given, the count has risen and the absence of secondary infection is confirmed
- Are there any side effects from treatment or drug interactions that can be disabling in the short term or lead to longer term damage? (The effects of medication use on fitness are complex. Compliance with therapy slows progression.) Side effects are commonest in the first few weeks after a change of medication. Common side effects include nausea, diarrhoea, headaches and blood abnormalities
- Is there good liaison between the treating doctor and the Approved Doctor? If not is the individual's compliance with medication or with regular clinical surveillance to identify complications from the infection or from medication in doubt? If there is doubt on the part of the Approved Doctor then the duration of any certification will need to be very limited, and the Approved Doctor should aim to ensure that the seafarer will comply with recommendations on treatment, surveillance and side effect reporting and that information on their status is regularly provided by the doctor with clinical responsibility for treatment

Stage 1 AND no complications AND CD4 count above 350 AND never been on treatment OR has been on stable treatment free from side effects AND requiring surveillance less than every six months.

Fit Category 1.

Limit duration to time of next specialist appointment if surveillance leading to change in treatment is anticipated. CD4 counts are normally checked at least once every six months.

Stage 2 with no impairing complications AND CD4 count more than 350 AND/OR on antiretroviral medication requiring surveillance more than every six months.

Restricted, UK near coastal Category 2

Stage 2 with impairing complications OR Stage 3 or 4, AND treatment being changed or adjusted with scope for cure of HIV associated conditions and improvement in symptoms AND rise in CD4 count to level above 350 OR reduction in side effects from medication.

Temporarily unfit Category 3

Stage 3 or 4 without scope for improvement.

Permanently unfit Category 4

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Investigation and treatment in a seafarer who is classified as temporarily unfit will be a matter for a clinician with relevant skills. An effective dialogue is needed to ensure that a realistic assessment of current clinical state and the risks of progression are known. The seafarer should always see the same Approved Doctor (AD) who should be in contact with the specialist responsible for surveillance and treatment. They need up to date information on CD4 counts, medication changes, complications and the time until the next specialist appointment to decide on fitness.

Advice to seafarers

The likelihood of eventual unfitness needs to be considered within a clinical setting so that advice can be given on when a career at sea may need to be abandoned and an onshore alternative sought.

Seafarers who have not had an HIV test should be advised, when appropriate, on the advantages and consequences of voluntary confidential testing and where this can be obtained.

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Hepatitis B (and other forms of hepatitis, excluding hepatitis A) – MSN 1886 Standard 1.7

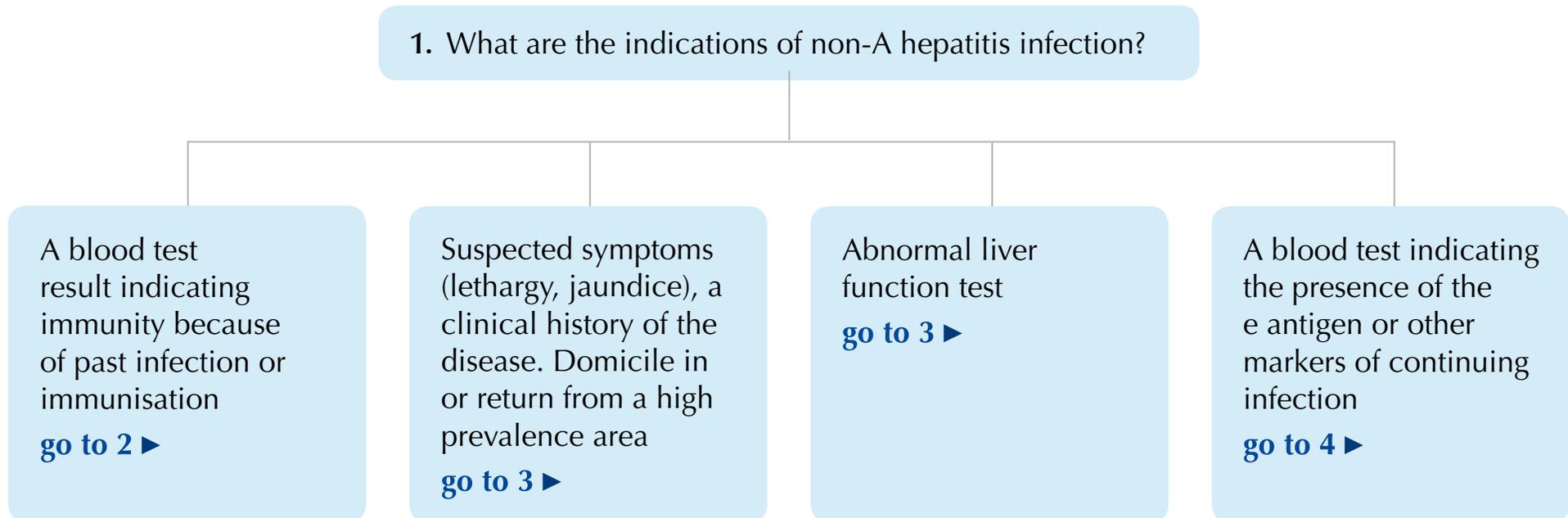
Rationale and justification

- Hepatitis B is a viral infection that is transmitted in body fluids (blood, semen, vaginal secretions etc). It can be transmitted horizontally by sexual activity and by blood, both during injected drug misuse and from needlestick injuries in healthcare. Vertical transmission from mother to baby occurs. It is considerably more infectious than HIV
- Infection is often sub-clinical but can present with lassitude and jaundice 1-6 months after infection. Rarely there may be acute liver failure
- In 95% of cases the infection resolves within six months with no subsequent risk of infection but with continuing serological evidence of exposure to the virus. This leads to lifelong immunity
- In 5% of cases the immune system cannot clear the infection and the person becomes a chronic carrier. The infectivity is higher in those who are e antigen positive. Carrier status is more common when infection is in childhood
- Continuing infection may be without symptoms. It can be associated with active liver disease leading to cirrhosis and to a later risk of hepatocellular carcinoma of the liver. Regular surveillance is required if chronic hepatitis is present
- Continuing infection may be treated with alpha interferon and appropriate antiretroviral therapy
- Hepatitis B can be prevented by immunisation and this is recommended for sexual partners of those with the disease as well as for those at risk of infection from body fluids. Passive immunisation with hepatitis B immunoglobulin may be used where there are shorter term risks from mother to baby, needlestick or sexual transmission
- The incidence of hepatitis B is lowest in NW Europe, N America and Australasia. It is high in South East Asia and Africa. Higher rates are found among injecting drug users, those who received blood products prior to routine screening and those with multiple sexual partners
- There are a number of less common forms of viral hepatitis that are infectious via body fluids and have a broadly similar pattern of effects (hepatitis C, D etc.). About 50% of those infected with hepatitis C will become chronic carriers, needing follow up. Immunisation is not available. Hepatitis D is a co-infection or superinfection with hepatitis B. This only occurs in the presence of hepatitis B and so can be prevented by immunisation. It frequently leads to liver failure

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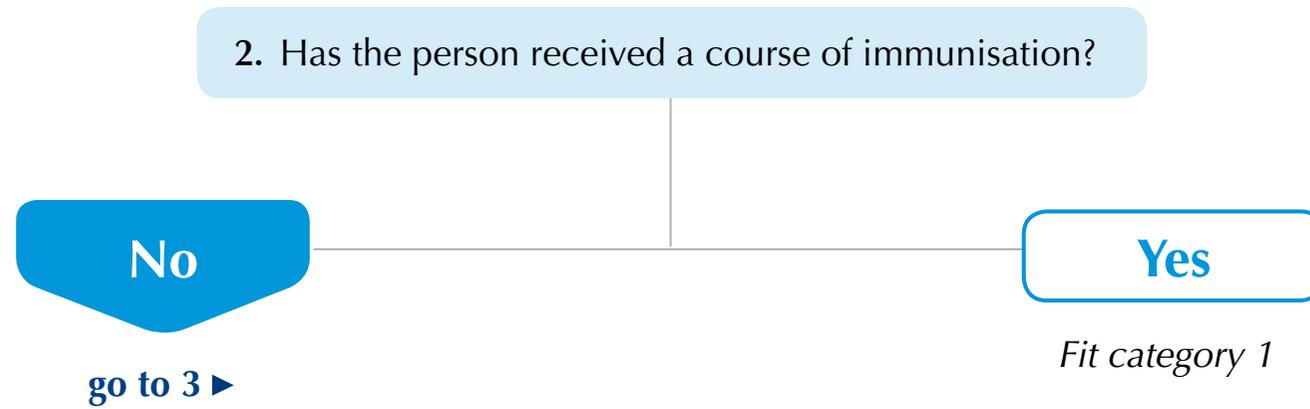
Clinical assessment and decision taking (all forms of viral hepatitis except hepatitis A)

Note: Blood tests for hepatitis antibodies or antigens and liver function tests only form part of the statutory medical examination within the UK if there are clinical indications for doing them. For seafarers resident elsewhere they may be considered if there is a high incidence of non-A hepatitis



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3. Investigate whether infection is present as a carrier state or as active liver disease by looking for the presence of e antigen and checking liver function. Is there active liver disease and a carrier state?

No

No evidence of infection – *Fit category 1*

Yes

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Yes

Current illness
OR commencing
interferon treatment.
*Temporarily
unfit category 3*
until illness or
medication side
effects resolved

Impairment of liver function with
risk of worsening but no end stage
complications AND capable of
performing limited duties. *Restricted
category 2*, usually with time
limitation. Restrictions to reflect
individual capabilities and risk of
acute complications

Severe with
impairment of
liver function or
complications
such as cirrhosis or
portal hypertension
*permanently unfit
category 4*

Minimal or no
impairment
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4. Presence of antigen indicating risk of infectivity but no symptoms or signs of active liver disease?

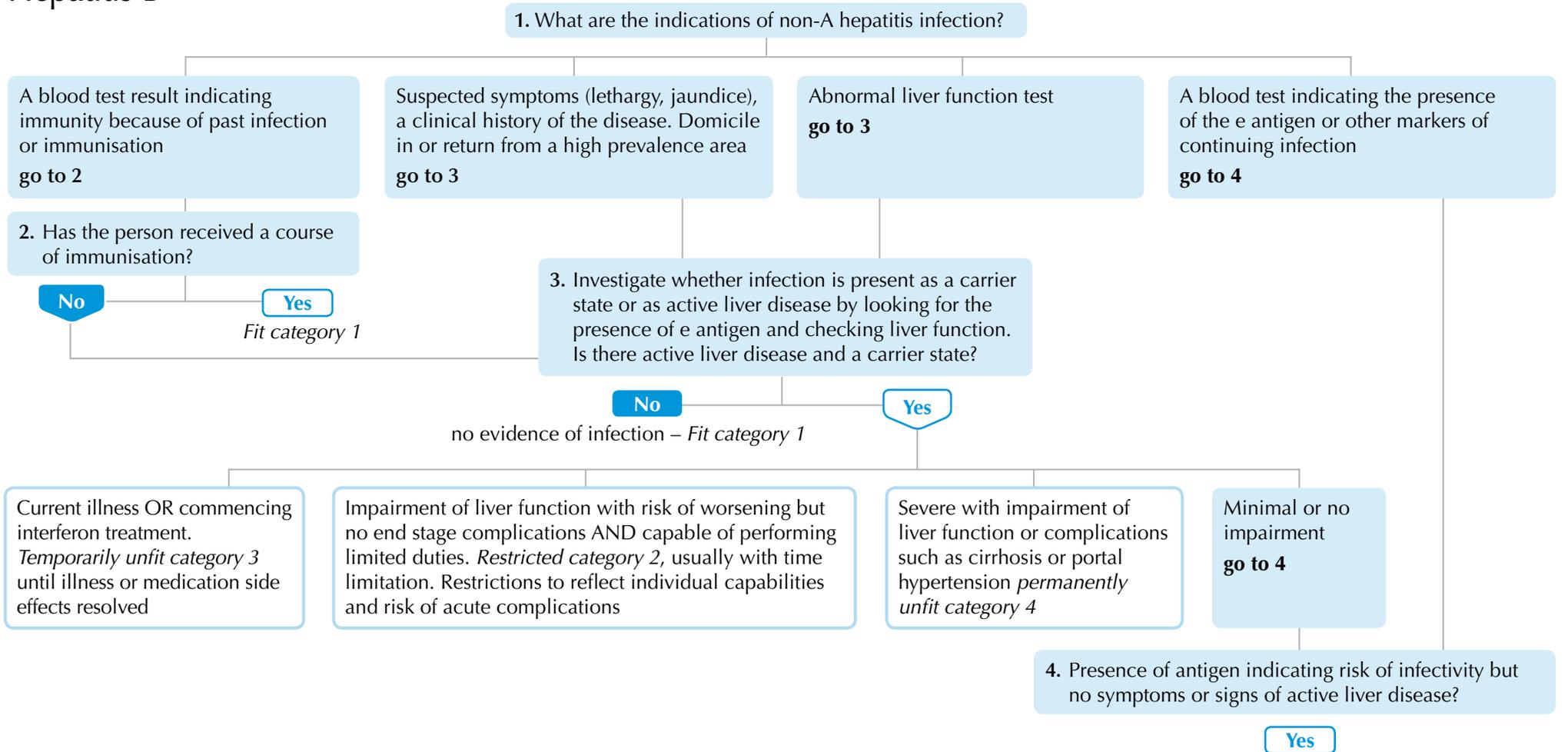
Yes

Fit category 1 time limited for regular surveillance. Should be warned of risk of infecting others via body fluids. If employed as healthcare staff on vessel likely to undertake exposure prone procedures then *permanently unfit category 4*

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Hepatitis B



Fit category 1 time limited for regular surveillance. Should be warned of risk of infecting others via body fluids. If employed as healthcare staff on vessel likely to undertake exposure prone procedures then *permanently unfit category 4*

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Advice to seafarers

There is a reliable immunisation to protect against hepatitis B. This is recommended for all seafarers working outside UK near coastal waters. [See MGN 399](#) ►

Seafarers should be made aware of the risks of infection from sexual contact, needle sharing during drug misuse, and inadequate sterilisation – including in tattooing and in sub-standard medical treatment facilities.

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ADG 3

Cancer, including sarcoma, leukaemia etc.

Impairment and risks

There is a wide range of risks depending on the location of the cancer, its pattern of growth and the treatment used. These may result in loss of current capabilities, in a few cases a risk to others when doing safety-critical tasks from seizure risks because of growths located in the brain and more commonly an increased risk to the individual from the risk of recurrence or complication that needs urgent shore-based treatment.

- a) direct effects from tumour. These depend entirely on its location but include pain, bleeding, damage to function of organ such as obstruction (intestines, lung); seizure (brain).
- b) effects from spread or recurrence. Each form of tumour has a characteristic pattern of spread. This may remain local or be to distant parts of the body especially liver, lymph nodes, bone, brain. Each of these sites can lead to their own symptoms. Spread to the brain is particularly important as the first sign of this may be a seizure (more common from lung, melanoma).
- c) side effects of treatment. Surgery and radiotherapy may reduce function because of local scarring or from damage to the function

of organs affected. Chemotherapy can reduce immune responses and increase the risk of infections.

- d) general debilitation. The disease itself if advanced and many of the treatments used can reduce performance and stamina. This may be from diagnosable and treatable effects such as anaemia or be without a detectable cause.

Rationale and justification

- There is little evidence specific to seafarers. Increases in cancer incidence found in studies generally relate to lifestyle causes but agents such as asbestos and carcinogenic chemicals have contributed in the past
- Cessation of smoking, the diet eaten and the extent of exposure to the sun can all influence the development of cancer and are amenable to control while working at sea
- There is good information on the average prognosis and the effects of treatment for most types of cancer. Often the pathological findings at initial surgery in terms of cell type and extent of local invasion are important predictors of prognosis
- There is little information on the frequency of the sorts of incapacitation that are relevant to fitness to work as a seafarer
- One area where there is useful data is on the probability of primary brain tumours or secondary growths in the brain presenting as seizure and hence likely to interfere with safety critical duties

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Clinical assessment and decision taking

The complexity of clinical care requirements and surveillance means that the Approved Doctor will often need to contact the responsible clinician to ask specific questions about the risks under the anticipated working conditions of the person while at sea to assist with decision taking on fitness. The AD may also need to discuss how the pattern of work of a seafarer can best be integrated with continuing clinical care requirements to ensure both that care is not compromised and that duties can be undertaken effectively and without risk.

- a) Strong suspicion of cancer identified at medical – Temporarily unfit
Category 3
- b) Cancer or suspected cancer being investigated and while treatment being established – Temporarily unfit Category 3
- c) Investigation complete and treatment stabilised

Obtain report from treating doctor on pathology and prognosis, especially any current or anticipated forms of impairment from the disease or its treatment and the future needs for treatment and surveillance. It will assist with the report if the doctor supplying it is made aware of the performance and reliability requirements of the seafarer's duties and asked to comment in relation to these.

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The AD will need to assess fitness using the following items of information.
Take the most restrictive classification from the answers to the questions below:

1. Is there current impairment to function from the disease or its treatment, including risks from side effects of medication that will limit the seafarer's ability to undertake their normal and emergency duties and live at sea?

No

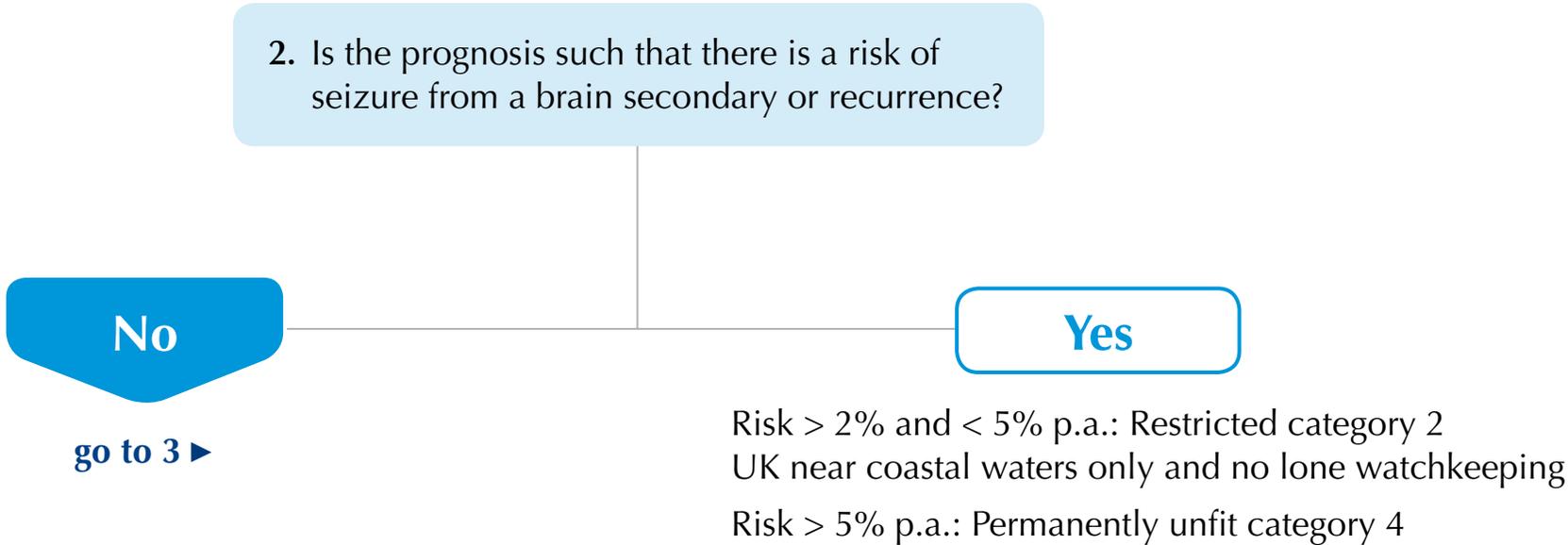
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Yes

Permanently unfit category 4 unless duties can be modified to minimise limitations

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3. Is there a risk of recurrence or complications (either from disease or its treatment) that may need urgent medical care of > 10% p.a.?

No

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Yes

Restricted category 2 UK near coastal waters only if 12 hour delay in treatment will not cause severe pain or be life-threatening. Otherwise permanently unfit category 4

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4. Is there a requirement for regular surveillance of the disease or of its treatment with a frequency greater than every two years?

No

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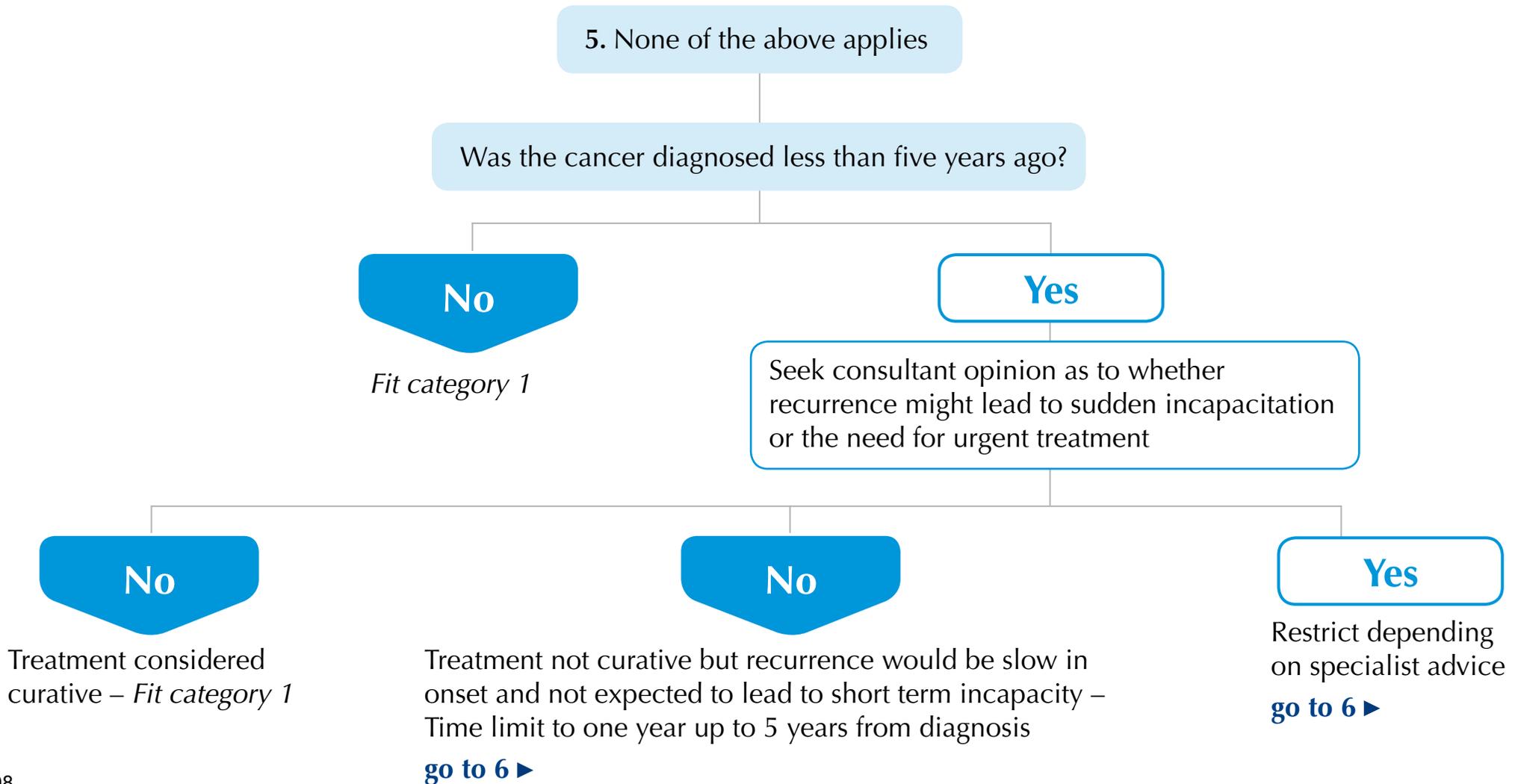
Yes

If the purpose of surveillance is to check that there is no recurrence or complications then time limit whatever certificate is issued to coincide with the next date on which the results of surveillance will become available

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6. Is there a requirement to take anti-cancer medication while at sea?

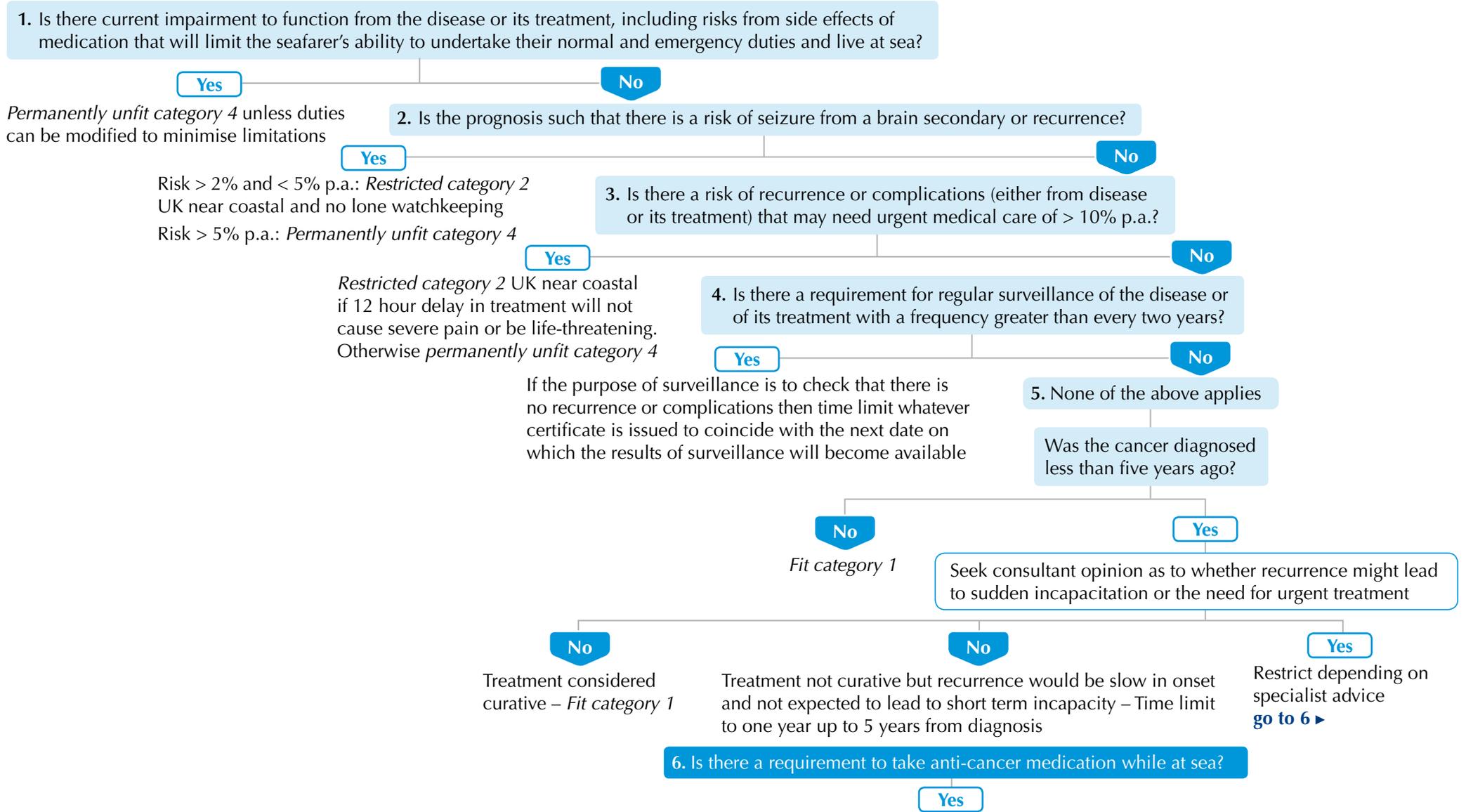
Yes

Consider need for safe storage and administration of medication as well as need for advice on use in the event of adverse effects, infection, other illness or injury. Advise seafarer and, with their agreement, the employer. [See ADG 15](#) ▶

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Cancer, including sarcoma, leukaemia etc.



Consider need for safe storage and administration of medication as well as need for advice on use in the event of adverse effects, infection, other illness or injury. Advise seafarer and, with their agreement, the employer. [See ADG 15](#)

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ADG 4

Diabetes and its treatment

Introduction

Diabetes presents in two main forms but there may be overlap between them:

Type 1. This form is associated with a lack of insulin production by the body. Untreated it progresses to death but injected insulin will enable the body to continue to handle the transport of glucose into cells.

Type 2. Associated with increasing resistance to the effects of insulin. Slower progression and this may be delayed by dietary adjustment and weight loss, by the use of oral medication or by insulin.

Both forms increase the risk of disease of blood vessels. Large vessel disease increases the risk of arterial disease including heart attacks and stroke. Small vessel disease leads to retinal disease, neuropathy and loss of sensation in the extremities, skin atrophy and kidney disease. These effects can be slowed or even prevented by active treatment.

Insulin treatment has to balance the dose used and its timing against the body's intake and use of glucose. If this is out of balance because of changes to eating habits or exercise it may lead to either low blood glucose (hypoglycaemia) causing cognitive impairment and collapse, or to high blood glucose (hyperglycaemia) with an increased long term risk of blood vessel damage. There is also a risk of diabetic

(hyperglycaemic) coma. Some oral medications (sulphonyl ureas and glinides) can also cause hypoglycaemia, although normally less severe than that caused by excess insulin.

Diabetes is commonly found because of routine urine and blood testing but it may present as increased urination and thirst, with skin infection, with tiredness and, especially in young people with type 1 diabetes, as hyperglycaemic keto-acidosis and coma.

Impairment and risks

Performance at tasks, including safety critical ones, may be reduced by impaired cognitive function from hypoglycaemia as a result of insulin use.

The development of hypoglycaemia can be unpredictable but missing a meal, exercising more than usual or taking alcohol are common causes.

Visual loss or reduced sensation from associated microvascular disease may occur, usually but not always at a late stage of diabetes.

There will be an increased risk to the individual from imbalances between the disease and the treatment given. This may be exacerbated by changes in food intake, for instance from gastro intestinal infection or sea-sickness or in response to other illnesses or injuries.

Diabetes may be associated with other endocrine diseases and is a risk factor for vascular diseases such as heart attack and stroke.

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Rationale and justification – insulin and hypoglycaemia

- Impairment from hypoglycaemia (hypo) is complex
- There is good evidence that mild hypoglycaemia (3-4 mmol/litre) induces cognitive impairment. This may cause slowing of response, poor judgement of risk or behavioural changes with increased aggression and risk taking. It can also blunt awareness of and responses to the warning signs of low blood glucose
- More severe reductions in blood glucose can lead to frank incapacity and loss of consciousness
- Perception of early symptoms of a hypo may diminish over time. Early identification of a hypo greatly reduces the risk of consequential incapacitation as oral carbohydrates can be taken to remedy the hypo. The time course from first awareness to incapacity is variable over a period of seconds or minutes
- Recovery time following a remedy is, in subjective terms, rapid but there is measurable cognitive impairment for a period of up to sixty minutes or more, suggesting that return to safety critical tasks should not be immediate.
- Among those at risk of hypoglycaemia the probability of an episode and its severity vary widely. There is currently little valid information that can be used to stratify and predict risk based on age, the duration and severity of the diabetes or the dose or regime of insulin
- Hypoglycaemia while undertaking safety critical tasks is not uncommon. As many as 32% of insulin users reported that they had experienced hypoglycaemia while driving, 13% in the last year
- Irregular working hours, for instance in maritime watchkeeping will make regulating the balance between insulin dose and food consumption difficult, hence increasing the risk of hypoglycaemia
- Situations that prevent food intake such as sea sickness and other causes of nausea and vomiting will, unless the insulin dose is carefully adjusted, increase the risk of hypoglycaemia
- Increased levels of exercise will raise the body's demand for glucose and so increase the risk of hypoglycaemia unless the insulin dose is also adjusted
- Alcohol use increases the risk of hypoglycaemia by blocking glucose released from the liver to meet demands elsewhere. This effect is most marked if alcohol is consumed on an empty stomach
- There is evidence that, at least for the first few years on insulin, those who have type 2 diabetes are at lower risk of hypo than those with type 1 diabetes
- An individual who has a pattern of repeated reductions in blood glucose found on blood glucose monitoring, but without symptoms, is more likely to have a severe hypoglycaemic episode than someone who has a stable blood glucose level
- Insulin is the major cause of hypos but oral sulphonyl urea and glinide medications can also sometimes reduce blood glucose to impairing levels. Treatment with combinations of medications, usually but not always including insulin, also increases the risks of hypoglycaemia

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- Those on insulin or other injectable medications should ensure that appropriate storage facilities for their medication are available on board, and that arrangements are made for sharps disposal
- A person with a diagnosis of diabetes has a similar excess risk of having a sudden vascular event (heart attack, stroke etc) as a person of the same age and sex who has already had one such event

Rationale and justification – other aspects

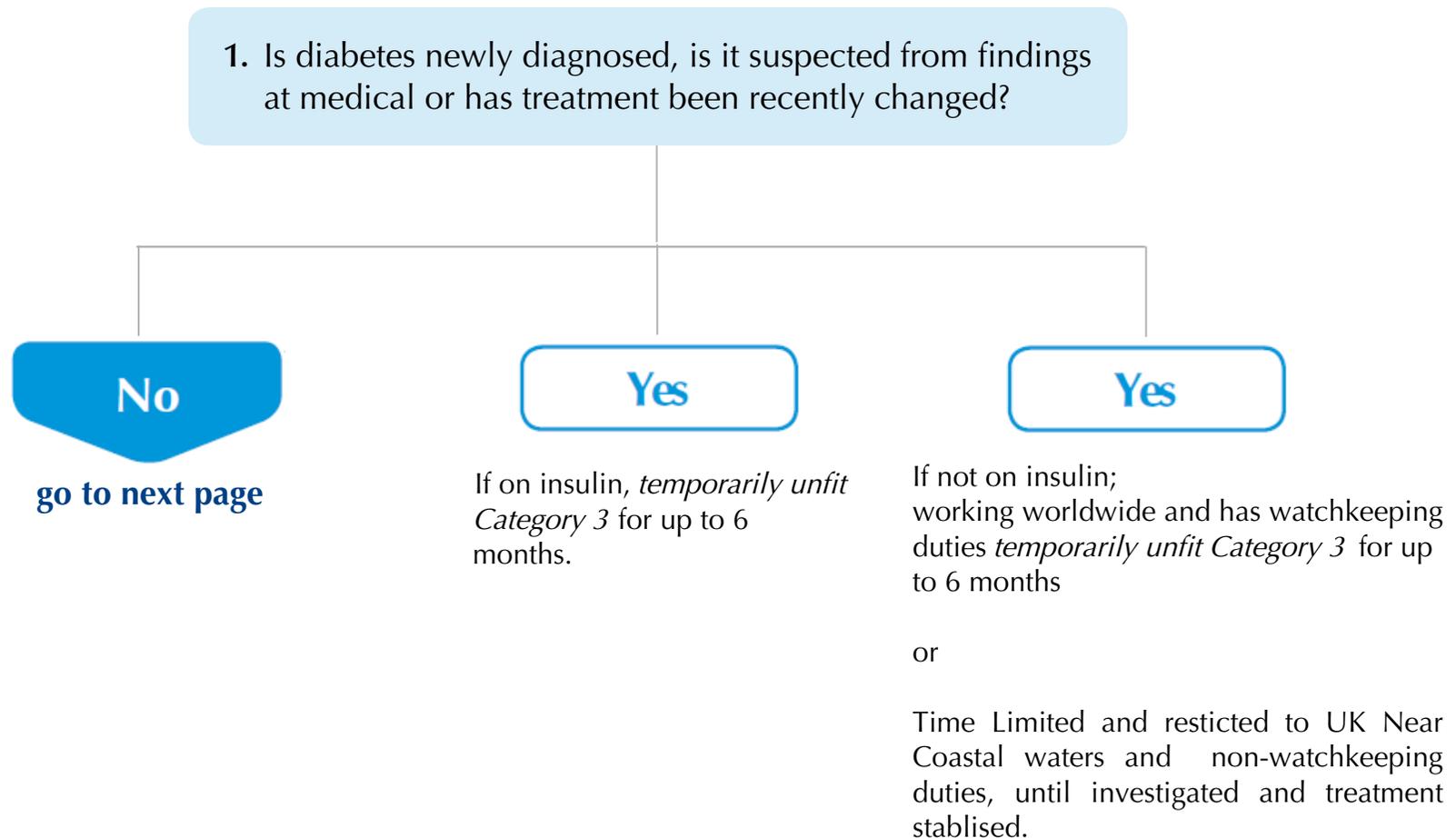
- Personal behavioural aspects pose one of the largest problems in determining individual risk. Someone who is careful about maintaining the control of their diabetes, manages it assiduously and does not let the pressures of life or work override management of diabetes is likely to be able to maintain far more predictable blood glucose control than someone with irregular eating, activity and monitoring habits
- There is case series evidence indicating that failures in the control of diabetes have led to medical emergencies at sea. Some have been fatal, while many more have needed medevac to hospital. Some have arisen from a failure to disclose or identify the condition at medical examination
- There are no reliable predictive measures to identify whether an individual is at high risk of loss of control. However a good track record of control with steady blood glucose levels can be a helpful indicator
- Self-monitoring of blood glucose levels enables someone using insulin both to reduce their risk of hypoglycaemia and to keep their blood glucose control optimum

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Clinical assessment and decision taking

Diabetes will either present as an established diagnosis or as a referral because the condition has just been diagnosed as a finding at examination, usually glycosuria, but sometimes because of suspicious symptoms such as thirst and polyuria or ketosis.

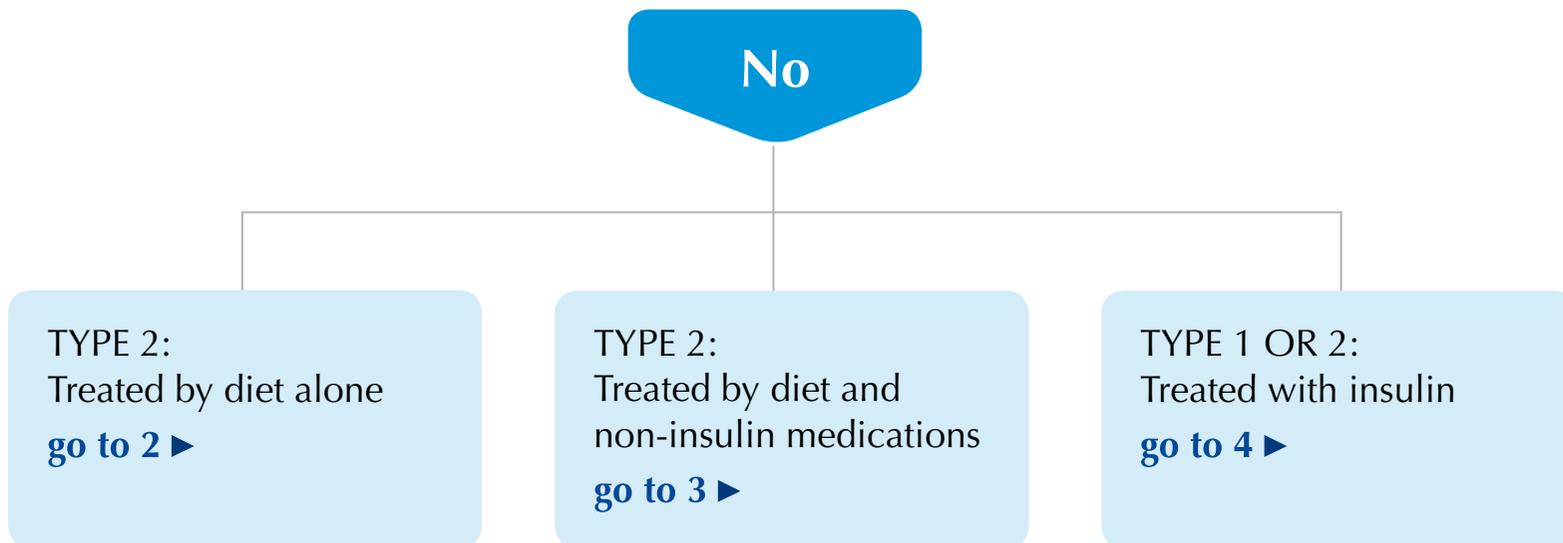
TYPE 1 AND 2



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TYPE 1 AND 2



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TYPE 2

2. Treatment by diet alone. Is there good compliance with dietary regime and no indication from treating clinician that additional treatment may be needed in the next two years?

No

Yes

Fit time limited category 1, with target weight etc. If compliance poor or timed until next appointment with treating doctor if change in treatment anticipated. Advise on vascular risk factor control

Fit category 1 and advise on vascular risk factor control

[Return to contents](#)[Return to ADG contents](#)**TYPE 2**

3. Treatment by diet and medication but not including insulin. Is there good compliance with dietary regime and medication, no side effects from medication (check specifically for hypoglycaemia from sulphonyl ureas and glinides, gastro-intestinal disturbance from metformin and fluid retention from glitazones) and no indication from treating clinician that additional treatment may be needed in the next two years? Consider need to obtain medical report on quality of control.

No

Fit time limited category 1 or Restricted and/or restricted time limited category 2, Limited duties or distance if medication side effects, with target weight etc. if compliance poor or timed until next appointment with treating doctor if change in treatment anticipated. Advise on vascular risk factor control

go to 5 ►**Yes**

Fit category 1 and advise on vascular risk factor control

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TYPE 1 AND 2

4. Treatment includes insulin. Has the insulin regime been stable with good blood glucose control as judged by blood glucose and HbA1c levels results for the last three months. Is there full awareness of impending hypos, with no reported or observed significant hypoglycaemic episodes in the last year?

No

Control and documentation imperfect but no hypos. *Restricted time limited category 2*: duration until next assessment only, may be acceptable for non watchkeeping duties without lone working or work at heights on vessels that return to port daily for off duty periods, e.g. short crossing ferries and harbour craft. Advise on vascular risk control. Otherwise *permanently unfit category 4*.

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Yes

Restricted time limited category 2, restricted to No solo watchkeeping, no lone working or work at heights. UK near-coastal waters only.

Conditional on informing master/responsible officer of insulin use and side effects, carrying a remedy, maintenance of present treatment regime, regular recording of blood glucose levels and absence of hypos. Compliant with advice on vascular risk control, annual specialist assessment. Only fit for work in worldwide waters, but without lone watchkeeping duties, if on vessel with ship's doctor. An individual risk assessment by a medical adviser familiar with the vessel and with the routine and emergency duties to be performed is recommended prior to embarkation.

Although in some circumstances insulin pumps may be acceptable on board ship, the possibility of pump failure must be borne in mind, and alternative treatment must be carried as a back up. The seafarer should be confident in its use. Case by case assessment. [go to 5](#) ►

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5. Complications such as loss of sensation (neuropathy), visual damage (retinopathy) or kidney impairment (nephropathy) should be assessed using the standards for these conditions.

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Diabetes and its treatment

TYPE 1 AND 2

1. Is diabetes newly diagnosed, is it suspected from findings at medical or has treatment been recently changed?

Yes

If on insulin; *Temporarily unfit category 3* until investigated and treatment stabilised

Yes

If not on insulin; working worldwide and has watchkeeping duties temporarily unfit Category 3 for up to 6 months OR Time Limited and restricted to UK Near Coastal waters and non-watchkeeping duties, until investigated and treatment stabilised.

No

TYPE 1 OR 2: Treated with insulin

TYPE 2:
Treated by diet alone

2. Treatment by diet alone. Is there good compliance with dietary regime and no indication from treating clinician that additional treatment may be needed in the next two years?

No

Fit time limited category 1, with target weight etc. If compliance poor or timed until next appointment with treating doctor if change in treatment anticipated. Advise on vascular risk factor control

Yes

Fit category 1 and advise on vascular risk factor control

TYPE 2:
Treated by diet and non-insulin medications

3. Treatment by diet and medication but not including insulin. Is there good compliance with dietary regime and medication, no side effects from medication (check specifically for hypoglycaemia from sulphonyl ureas and glinides, gastro-intestinal disturbance from metformin and fluid retention from glitazones) and no indication from treating clinician that additional treatment may be needed in the next two years? Consider need to obtain medical report on quality of control.

No

Fit time limited category 1 or Restricted and/or restricted time limited category 2, Limited duties or distance if medication side effects, with target weight etc. if compliance poor or timed until next appointment with treating doctor if change in treatment anticipated. Advise on vascular risk factor control

Yes

Fit category 1 and advise on vascular risk factor control

4. Treatment includes insulin. Has the insulin regime been stable with good blood glucose control as judged by blood glucose and HbA1c levels results for the last three months. Is there full awareness of impending hypos, with no reported or observed significant hypoglycaemic episodes in the last year?

No

Control and documentation imperfect but no hypos. Restricted time limited category 2: duration until next assessment only, may be acceptable for non watchkeeping duties without lone working or work at heights on vessels that return to port daily for off duty periods, e.g. short crossing ferries and harbour craft.

Advise on vascular risk control. Otherwise permanently unfit category 4

Yes

Restricted category 2 fit for UK near coastal duties with no lone watchkeeping. Conditional on informing master/responsible officer of insulin use and side effects, carrying a remedy, maintenance of present treatment regime, regular recording of blood glucose levels and absence of hypos. Compliant with advice on vascular risk control, annual specialist assessment. Only fit for work in worldwide waters, but without lone watchkeeping duties, if on vessel with ship's doctor. An individual risk assessment by a medical adviser familiar with the vessel and with the routine and emergency duties to be performed is recommended prior to embarkation. Although in some circumstances insulin pumps may be acceptable onboard ship, the possibility of pump failure must be borne in mind, and alternative treatment must be carried as a back up. The seafarer should be confident in its use. Case by case assessment. go to 5

5. Complications such as loss of sensation (neuropathy), visual damage (retinopathy) or kidney impairment (nephropathy) should be assessed using the standards for these conditions.

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ADG 5

Obesity

Impairment and risks

Obesity is a common cause of physical incapacity in serving seafarers. Other causes of physical incapacity include musculoskeletal disease and injury and limited heart and lung function. All these causes can interact as obesity raises the demands on the heart and lungs during exercise and also increases the risk of future musculoskeletal damage and heart disease.

Immediate risks from obesity include:

- Inability to undertake arduous emergency tasks such as fire-fighting, evacuation from the vessel and recovering people from the water in small vessels such as yachts
- Difficulty entering and leaving restricted spaces, during normal duties and especially if needing rescue because of collapse or injury
- Increased risk of injury from falls and of acute illness and incapacity while at sea
- Inability to fit into protective clothing and life saving equipment
- Exceeding the design standards for equipment used to work at heights and for use in life threatening situations, for instance emergency chutes and free fall lifeboats

These limitations create risk both for the seafarer themselves and for other crew members.

In the longer term obesity is a risk factor for several medical conditions that affect fitness:

- ischaemic heart and other vascular disease
- hypertension
- type 2 diabetes
- sleep apnoea
- musculoskeletal damage, especially in weight bearing parts of the body such as the hips, knees and lower back

All of these longer term risks have the potential to lead to medical emergencies at sea or early termination of work because of the development of disqualifying conditions or other failures to meet medical standards designed to protect safety and reduce the probability of illness at sea.

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Rationale and justification

There are two aspects to be considered:

1. Relationship between obesity and current capabilities. There are few studies on seafarers. Most available evidence from studies in other settings points to a progressive reduction in physical work capacity and in mobility with increases in obesity but with very large variations between individuals. There is evidence of an increased rate of industrial accidents with increasing obesity.
2. Obesity as a risk factor for other conditions. Most of the large population studies on heart disease, diabetes and overall mortality show an increased frequency of adverse outcomes with increasing weight. The probability of arthritis of the hip and knee requiring surgical treatment increases with excess weight.

There are a number of measures of obesity that are used:

- Body Mass Index (BMI) is the product of weight in kilogrammes / height in metres x height in metres. It is a simple figure to derive from data commonly collected at medical examinations but can be affected by the shape of the body frame and its muscle mass. It is not the best predictor of long-term risk from obesity associated conditions
- Central adiposity – fat in and around the abdomen is a better predictor of future risk from obesity associated conditions. It is most conveniently assessed by measurement of waist girth in a specified

way. Increased girth shows a good relationship with increased long term disease risk, irrespective of other facets of body size

- Skinfold thickness
- Total body fat by body impedance measurement

For many of the short term risks from obesity measurement of capability is required (See [ADG 17](#) ►).

Targets based on reductions in measured obesity or on improved performance at capability tests are effective motivational tools to use to secure weight reductions and fitness improvements.

Clinical assessment and decision taking

a) Assessment

Obesity is a valid reason for making a seafarer unfit or for restricting their duties if:

- it interferes with the safe performance of normal or emergency duties
- it carries a risk of incapacitation while working at sea prior to the next medical such that it is considered unacceptable in terms of the individual or the safe and efficient operation of the vessel

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In general, long term health risk management in seafarers, as in other members of the working population, is seen as largely a matter of personal commitment and choice, backed by enabling measures like smoking bans or food labelling. Even for raised blood pressure the level at which a prohibition on work at sea is set is well in excess of the level of control needed to prevent longer term vascular damage. Hence action to reduce the long term risks from obesity will largely be a matter of health promotion and education, with reminders of the risk of reduced physical ability and restriction of duties because of this.

While the assessment of risk of incapacitation from a complication of obesity is an actuarial judgement based medical evidence from similar cases the assessment in a clinical setting of current capability to perform shipboard duties is not, except in very general terms, possible.

Because weight gain is progressive and can be controlled by the individual in most cases given suitable dietary choices, an approach which aims to halt weight gain before it reaches a level where it can cause risks and which encourages weight loss is needed. This can be reinforced with the prospect of limitations to employment, if weight has reached a level where unacceptable levels of risk are imminent.

Demonstrating that the seafarer cannot meet the requirements of their job or showing them that their ability to exercise is impaired can be a far better means of persuasion than weight measurements, as they can be directly related to their ability to work at sea.

Where there is continuity of employment and of medical examination encouragement and sanctions can be incremental.

- Advice on diet and weight reduction, with realistic targets set (eg 0.5 - 1kg/ week, as per NICE guidance). This can be backed by wider screening for risk factors, especially for ischaemic vascular disease and diabetes
- Issue of short term certificate of fitness or one limited to certain waters or duties, with re-issue or removal of restrictions dependent on a realistic level of weight loss and/or improvement in physical ability
- Temporary unfitness, with re-issue dependent on a realistic level of weight loss and/or improvement in physical ability. Referral to dietician or other weight loss programme
- Permanent unfitness. This needs to be supported by confirmation that the problem is long-term and not amenable to improved control as well by evidence of the individual's inability to perform duties in a safe and efficient way
- Where compliance is achieved by this approach it will usually be at a stage when some weight loss or physical improvement has been achieved but more is required. Hence continuing surveillance by the same clinical team is needed to ensure that the seafarer and the assessors are all working towards the same targets
- The nature and quality of food available at sea is a major contributor to effective weight control and individual approaches may need to be supplemented by recommendations to shipping managers of food purchase and training for ships cooks on the preparation and serving of sustaining low calorie and low fat foods

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- In new entrants without experience of emergency duties, it is particularly important to take into account fitness for relevant safety training, and also to ensure that prompt and positive advice is given at an early stage. For this reason the standards may need to be applied more stringently than in a serving seafarer who can demonstrate competency in their duties.

Some of the larger maritime employers with employees on permanent contracts have corporate obesity programmes. These are linked to dietary provisions and exercise facilities on board their vessels. In a few cases these programmes include regular physical ability testing for all employees as a condition of continuing employment. This is aimed at the recruitment and retention of a fitness oriented workforce and this is seen as having both direct health benefits and indirect ones concerned with commitment and morale.

Under conditions of casual employment on single voyage contracts, and where a different doctor may undertake each medical, continuity is difficult. The decision taken by the examining doctor has to reflect the forms of assessment that are practicable in a clinical setting. In cases of doubt about fitness or motivation to control weight it is reasonable to issue a certificate where fitness is conditional on the employer confirming that the seafarer can meet the physical demands of their routine and emergency duties or on the provision of suitable dietary choices.

Gastric Banding

Gastric Banding carries quite a high frequency of complications but these are generally not acute or life threatening. Most relate to slippage and displacement of the band. It is not clear whether physical activity or vomiting are precursors to these complications. A seafarer should not be made fit until at least a month after the procedure to ensure that they have made any necessary adaptations. A specialist report should always be obtained. Any problems with eating the sort of food available on board should be identified. In addition their fitness may be compromised by the obesity or limitations to physical capability for which the band is being used as treatment. Provided no problems are revealed by these enquiries it should be possible to consider them fit for UK near coastal work. If they are working worldwide decisions should be on a case-by-case basis with the initial period of the certificate not being longer than six months, but shorter if indicated or to align with follow up appointments. Weight reduction targets are also likely to be needed.

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b) Decision taking

1. No subjective physical limitations to duties and to leisure activities, BMI is under 30 or is between 30-35 and attributable solely to a physique with broad shoulders and large muscle bulk such that the outlines of all main muscles are clearly defined and not obscured by subcutaneous fat.

No

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Yes

Fit Category 1

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2. Assess effects of obesity on performance. Methods used will depend on facilities available and seafarer's employment situation, but unless corroborated reports of ability can be obtained (eg an employers' report or confirmation of successful attendance at a physically demanding course) it is essential that fitness assessment is arranged. [See ADG 17](#) ►

Compare BMI and exercise test results with any previous records.
Obtain past records from last examiner if needed.

Recognise that the aim is to keep the person working, but without risk to themselves or others and that this may require strong and practical recommendations about weight and fitness. Others may need to be involved: partner, employer, ship's food service and supply chain. These recommendations may need to be backed by the threat of sanctions to be effective.

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3. Capability and exercise test performance average or better. BMI steady and between 30-35. No co-morbidity.

No

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Yes

Fit category 1. Weight control and exercise recommendations only. Indicate that limitations to fitness certification category may be indicated if weight has not been reduced or exercise test result has worsened at next 2 yearly medical. Set an achievable target for weight control (eg 0.5 - 1 kg/ week, as per NICE guidance).

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4. Capability or exercise test on borderline between average and poor

OR BMI increasing or in excess of 35 – or recommendations made at last examination could not be or were not complied with. No other co-morbidity or limitations on ability to perform normal and emergency duties.

No

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Yes

Fit time limited category 1. Set an achievable target for weight control (eg 0.5 - 1kg/ week, as per NICE guidance). Need for more frequent surveillance of weight change and encouragement to improve physical fitness in future.

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5. As in 4 above with, in addition, inability to perform certain tasks but able to meet routine and emergency capabilities for assigned safety critical duties. Or the presence of other cardiovascular, musculoskeletal or respiratory risk factors.

No

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Yes

Restricted category 2. Set an achievable target for weight control (eg 0.5 - 1kg/ week, as per NICE guidance). Certification restricted to UK near coastal waters only or to restricted duties (no lone watchkeeping, no tank entry etc)

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6. Safety critical duties (routine or emergency) cannot be performed, exercise test performance poor, other investigations are in progress or there is demonstrable failure to maintain the recommended diet at sea after a period of trial using surveillance.

No

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Yes

Temporarily unfit category 3 – Requirement for period of intensive dietary control with detailed supervision. Criteria for return to work need to be specified at the start of the period. A trend towards better weight control, rather than an ideal weight target should be the aim. Further reductions can be followed up by issue of short term certificates after return to work at sea

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7. Unable to safely perform essential duties or weight or size restrictions for emergency rescue exceeded.

OR continuing increase in weight despite following the steps as above and this is associated with a poor level of performance on exercise tolerance tests

OR serious and non-treatable cardiac, respiratory or musculoskeletal co-morbidity associated with obesity

Yes

Permanently unfit category 4

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Obesity

a) Decision taking

1. No subjective physical limitations to duties and to leisure activities, BMI is under 30 or is between 30-35 and attributable solely to a physique with broad shoulders and large muscle bulk such that the outlines of all main muscles are clearly defined and not obscured by subcutaneous fat.

Yes

Fit Category 1

No

2. Assess effects of obesity on performance. Methods used will depend on facilities available and seafarer's employment situation, but unless corroborated reports of ability can be obtained (eg an employers' report or confirmation of successful attendance at a physically demanding course) it is essential that fitness assessment is arranged. [See ADG 17](#) ►
 Compare BMI and exercise test results with any previous records. Obtain past records from last examiner if needed.
 Recognise that the aim is to keep the person working, but without risk to themselves or others and that this may require strong and practical recommendations about weight and fitness. Others may need to be involved: partner, employer, ship's food service and supply chain. These recommendations may need to be backed by the threat of sanctions to be effective.

3. Capability and exercise test performance average or better. BMI steady and between 30-35. No co-morbidity.

Yes

Fit category 1. Weight control and exercise recommendations only. Indicate that limitations to fitness certification category may be indicated if weight has not been reduced or exercise test result has worsened at next 2 yearly medical. Set an achievable target for weight control

No

4. Capability or exercise test on borderline between average and poor
 OR BMI increasing or in excess of 35
 OR recommendations made at last examination could not be or were not complied with.
 No other co-morbidity or limitations on ability to perform normal and emergency duties.

Yes

Fit time limited category 1. Need for more frequent surveillance of weight change and encouragement to improve physical fitness in future

No

5. As in 4 above with, in addition, inability to perform certain tasks but able to meet routine and emergency capabilities for assigned safety critical duties.
 OR the presence of other cardiovascular, musculoskeletal or respiratory risk factors.

Yes

Restricted category 2. Certification restricted to UK near coastal waters only or to restricted duties (no lone watchkeeping, no tank entry etc)

No

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5. As in 4 above with, in addition, inability to perform certain tasks but able to meet routine and emergency capabilities for assigned safety critical duties.
OR the presence of other cardiovascular, musculoskeletal or respiratory risk factors.

Yes

No

Restricted category 2. Certification limited to near coastal waters or to restricted duties (no lone watchkeeping, no tank entry etc)

6. Safety critical duties (routine or emergency) cannot be performed, exercise test performance poor, other investigations are in progress or there is demonstrable failure to maintain the recommended diet at sea after a period of trial using surveillance.

Yes

No

Temporarily unfit category 3 – Requirement for period of intensive dietary control with detailed supervision. Criteria for return to work need to be specified at the start of the period. A trend towards better weight control, rather than an ideal weight target should be the aim. Further reductions can be followed up by issue of short term certificates after return to work at sea

7. Unable to safely perform essential duties or weight or size restrictions for emergency rescue exceeded.
OR continuing increase in weight despite following the steps as above and this is associated with a poor level of performance on exercise tolerance tests
OR serious and non-treatable cardiac, respiratory or musculoskeletal co-morbidity associated with obesity

Yes

Permanently unfit category 4

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ADG 6

Mental disorders, including cognitive and behavioural impairment, alcohol and substance misuse

Impairment and risks

Adverse effects on personal performance through changes to perception, cognition, affect/mood, risk taking and thought processes. In some cases there is also impairment of movement and co-ordination.

These impairments sometimes have constant effects on an individual's capabilities. Where these take the form of lack of perception of limitations, suspicion, aggression or risk taking they can pose direct dangers to others and to vessel operations. More commonly they lead to erratic observation and analysis of the surroundings or to inhibition of learnt responses to external clues.

Episodic impairment of the sorts noted above that may interfere with safety-critical tasks is more common. Recurrences may be part of the natural history of the disease or either be attributed to work-related provoking factors such as overload, tiredness or a managerial climate perceived as harsh or inconsistent or to non-occupational causes such as relationship or financial problems.

The majority of relapses are not directly safety critical but lead to an ineffective or disturbed member of the crew. Violent behaviour is rare. Removal to onshore care may be needed for assessment and treatment.

Both diagnosis and the pattern of the condition in the individual are predictors of the probability and nature of future episodes. The boundary between the normal and abnormal is often a matter of perspective rather than clinical diagnosis, hence where the person has insight their self-evaluation of the condition is important, but can be difficult to elicit under the conditions of an employment related medical.

In addition to the well characterised forms of mental ill-health there are a number of people who, either because of unstable behaviour patterns or because of a repeated response to working in the constrained situation of a vessel, demonstrate traits that make them unsafe or unreliable seafarers.

Medications used to treat mental health problems frequently have side effects that can interfere with safe working. There is often a trade-off between the consequences of the condition and those of the medication used to control it.

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Rationale and justification

- The diagnosis of mental health problems differs from that for most other forms of ill-health as the identification of signs and symptoms has a large interpretative component. In many situations the boundary between the limits of normal and a definable case is indeterminate. This makes for uncertainty in quantification of relationship between conditions and risks and recurrence rates
- Psychiatric illness is associated with several specific areas of impairment that may be relevant to work at sea:
 - impaired information processing ability: attention, concentration, memory
 - reduced sustained attention, i.e. vigilance
 - impaired visual-spatial functioning with increased latency of motor responses
 - poor impulse control, including increased risk taking
 - poor judgement, including a reduced ability to predict and anticipate
 - reduced problem solving ability
 - indecisiveness
- There is evidence of unsafe behaviour associated with several conditions: dementia, the hypomanic phase of bipolar disorder, alcohol and drug misuse, personality disorders with aggressive or impulsive components. In addition the impairing effects of some medications used to treat mental health problems increase risk, and this is often exacerbated if there is alcohol or other drug misuse. Some delusions and hallucinations in psychotic illness can also alter the perception of reality in ways that creates risk
- A number of more common conditions can lead to impaired or limited performance, without any well characterised increased safety risk. They may also, because of mood changes, cause tensions within the working group. There may be a trade off between the potential adverse effects of the condition and the side effects of medications used to control it. Examples include: anxiety, depression, obsessive behaviour, periods between exacerbations in those with psychotic illnesses
- The time course and risk of recurrence varies widely. For instance anxiety or depression that is a reaction to an external event such as a death or breakdown of a relationship normally resolves, as do such symptoms related to unsatisfactory working relationships when these have been resolved. Where there is a pattern of repeated episodes or where there are no clear provoking factors impairment is likely to be longer lasting and may fluctuate over a period of months or years. Many personality disorders are relatively stable traits, but their expression can often be related to provoking events. Psychotic illness, once a pattern of recurrences is established is likely to continue with such a pattern, often with a similar mode and speed of worsening on each occasion. Bipolar disorders commonly show a pattern of periodic swings from depression to hypomania and these tend to become more severe with time

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- Medication, especially for depression and psychotic illness can reduce the probability and severity of recurrences, but sometimes at a cost of continuing side effects. Decisions to cease medication can be difficult and in addition there can be expected to be some increase in risk of recurrence on cessation. Other treatments such as psychotherapy and cognitive behavioural therapy can be effective and are also widely used. Some require continuing access to the therapist once the formal course is completed
- Proof of 'cure' is normally only by observation with lack of recurrences over a suitable period. The frequency of permanent freedom from a condition varies with diagnosis and prior duration of illness. For alcohol and drug misuse, testing for the substance or for its effects can be used to monitor abstinence but reversion to a pattern of misuse is relatively common
- The demands of work at sea, especially the effects of fatigue, poor management or perceived injustice can have an adverse effect on mood, provoke mental distress (stress) and exacerbate pre-existing conditions. The strain of emergencies at sea can also lead to similar ill-effects
- Many of the more fixed traits, such as personality disorders, dyslexia, learning difficulties and attention deficit hyperactivity disorder (ADHD) may cause problems during training and subsequently. Good vocational guidance can prevent expectations of a seafaring career being raised and then destroyed by failure during the training period
- Violent behaviour is rare, but may occur because of disinhibition, for instance in aggressive personality disorders, from alcohol or from combinations of alcohol and drugs in the presence of prior mental health problems. Misperceptions from delusions or hallucinations, including those during withdrawal from alcohol (DTs) or drugs, can also lead to violent behaviour. Personal distress, withdrawal from social contact or non-dangerous aberrant behaviour is much more common. Unless there is a clear and remediable provoking factor it will need medical assessment to clarify and manage the risk by making a diagnosis and instituting any required treatment

Alcohol-specific rationale and justification

Note: Most of the available studies on safety critical performance relate to road vehicle and industrial accidents. Many of the findings can be extrapolated to work at sea. There are numerous maritime accident investigation reports that show similar patterns of impairment in seafarers, but a lack of population data.

- Long term excessive drinking leads to deficits in cognition especially executive functions such as planning and prioritising tasks and attention, with impairment of visual-spatial judgements. Difficulty shifting and sustaining focus and inability to filter out distractions, as well as reduced self-regulation of impulsive actions are common. Peripheral neuropathies may also impair sensory input and motor actions. Other long-term life-shortening sequelae, such as cirrhosis of the liver and oesophageal varices occur

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- Elevated blood alcohol levels, even to moderate levels in volunteers, are associated with complex changes in cognitive and motor performance. These do not keep in step with each other and there is a more rapid return of motor skills than of cognitive ones as blood alcohol levels decline from their peak. It is not clear whether similar patterns occur in heavy drinkers who have developed a degree of tolerance to the effects of alcohol, at least on motor performance
- Road safety data suggests that tolerance to the effect of alcohol does not protect against accidents. The self-belief among regular drinkers that they are better adapted to drinking and driving compared with the occasional user of alcohol is not supported by any evidence
- Overall there is very good evidence that the road crash rate in problem drinkers, that is those who have a history of convictions for drink/drive offences, is elevated
- The determinants for progression from a 'problem drinker' with recurrent offences/crashes to a person who develops long-term sequelae from alcohol dependence are not clear although progression occurs in a significant proportion of convicted drink drivers
- The relationships between alcohol misuse and dependence are not clear. There is evidence of a 'hardcore' group of alcohol using repeat offenders, but they appear to represent one part of a spectrum of alcohol use, which includes a variety of traits leading to misuse and/or dependency
- In the driving population as a whole there is a well documented correlation between blood/breath alcohol levels and crash risk. There is no clear threshold below which impairment does not occur
- The impairing effects of medications with psychoactive or sedating effects and non-prescribed drugs such as cannabis and those of alcohol, interact with each other to produce more severe impairment than would be the case from either acting alone
- Both alcohol and drugs will increase the impairing effects of sleepiness in both those deprived of sleep and in those with sleep disorders

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Clinical assessment and decision taking

Cognitive, behavioural and mental health conditions, including misuse or dependency on alcohol or drugs, are among the most difficult risks to assess during a clinical consultation. An employment related medical is a setting where non-disclosure is frequent because disclosure is seen as jeopardising work prospects. If the seafarer is concerned about the result it can also be a tense interaction that may worsen anxiety or any limitations on social functioning.

Problems may become apparent from exploration of the person's past medical history. They may be suspected because of the responses to questions elicited during the assessment or concerns may have been passed to the examining doctor by others prior to the assessment. The purpose of the assessment is not to conduct a formal psychiatric diagnostic interview but to explore all the available information and the intuitive perceptions of the clinician to decide whether there is significant impairment, what its consequences are likely to be and to determine the need for a more specialised report before deciding on fitness.

Questioning about mental ill-health can be traumatic for the person being assessed and it is likely that relatively neutral questions that enable an assessment of history and affect to be made from several different perspectives will reveal most at the early stages, with more probing questioning, for instance about failed personal relationships or suicidal thoughts, left until near the end of the assessment.

There is a wide range of questionnaires available for determining current mental state and mood. None are specific enough to be used as the basis for taking decisions on fitness. In the case of alcohol misuse there are well validated questionnaires, such as the WHO 'AUDIT' instrument that can aid the detection of problems, but only if truthfully completed.

At the end of the consultation the examiner should have obtained an account of any past contact with health services because of mental or cognitive problems and have formed a view on the person's:

- Mood
- Memory
- Thought processes
- Concentration
- Agitation
- Presence of psychotic symptoms
- Behavioural disturbance
- Side effect of any medication
- Likely future changes to the present state from recurrence or exacerbation of an existing condition

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From this information and using the condition-specific guidance below and other reference sources they should either themselves form a view on:

- a) the nature and probability of any risks to others and to vessel operations
- b) risks to the individual

or establish that further details and opinions are needed from:

- c) corroborating information from the person's general practitioner
- d) specialist psychiatric or psychological assessment

Information about behaviour, diagnosis and any past patterns of mental health impairment needs to be gathered from as many sources as possible to help decision taking. Past patterns while at sea can be particularly important. Where this is obtained from employers or other seafarers, consent and confidentiality issues need to be carefully considered as do the motives of anyone who volunteers information or opinions.

While the decision aid below may assist, a large measure of personal judgement is needed in concluding the appropriate fitness category for those with mental health, behavioural, cognitive and related forms of impairment. Broadly:

- High risk of recurrence and severe impairment – unfit to work at sea. e.g. more than one episode of psychosis or bipolar disorder, severe depression, major personality disorder with impulsive or aggressive features, history of recurrent failure to cope with work at sea. Unresolved alcohol or drug misuse problem
- Medium risk of recurrence and impairment – limited fitness, restriction of duties, distance from care or with time limitation. Distant history of severe mental ill-health with no recent recurrences. Anxiety or depression that has not fully resolved. Recently resolved alcohol or drug misuse problem
- Low risk of recurrence and non-disabling impairment – fit. Reactive episode of anxiety or depression, now resolved. Minor degrees of abnormal affect or abnormal personality trait. Any mental health or substance misuse problem that has not been clinically apparent in the last five years
- Risk of recurrence is likely to be increased at the time when any medication is reduced or stopped. Ideally any changes to medication should be made at the start of a period of several weeks' leave. Where this is not possible and it comes to the attention of the Approved Doctor then some temporary restriction on duties may need to be considered

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Decision aid

1. Does the seafarer have a mental, cognitive or behavioural present state that is incompatible with the safe performance of their duties or that can be expected to interfere with the safe and effective functioning or other crew-members?

No

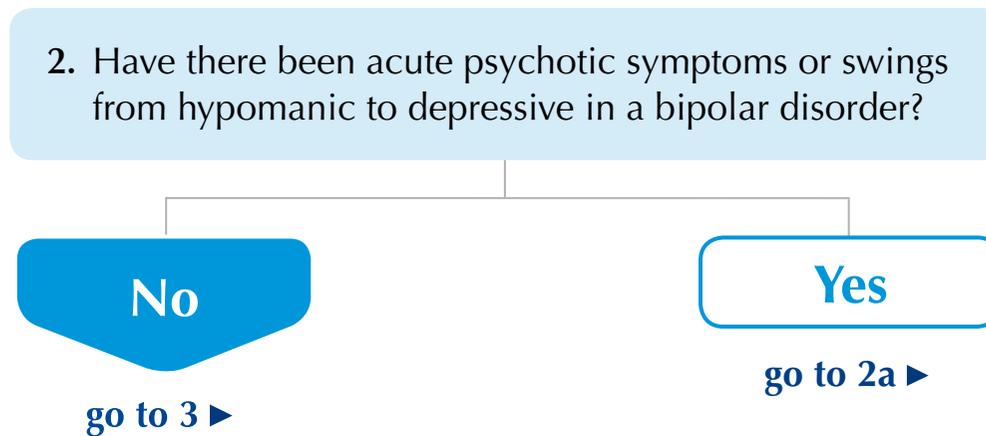
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Yes

Temporarily unfit category 3 until fully investigated, treated and resolved with an acceptably low level of recurrence

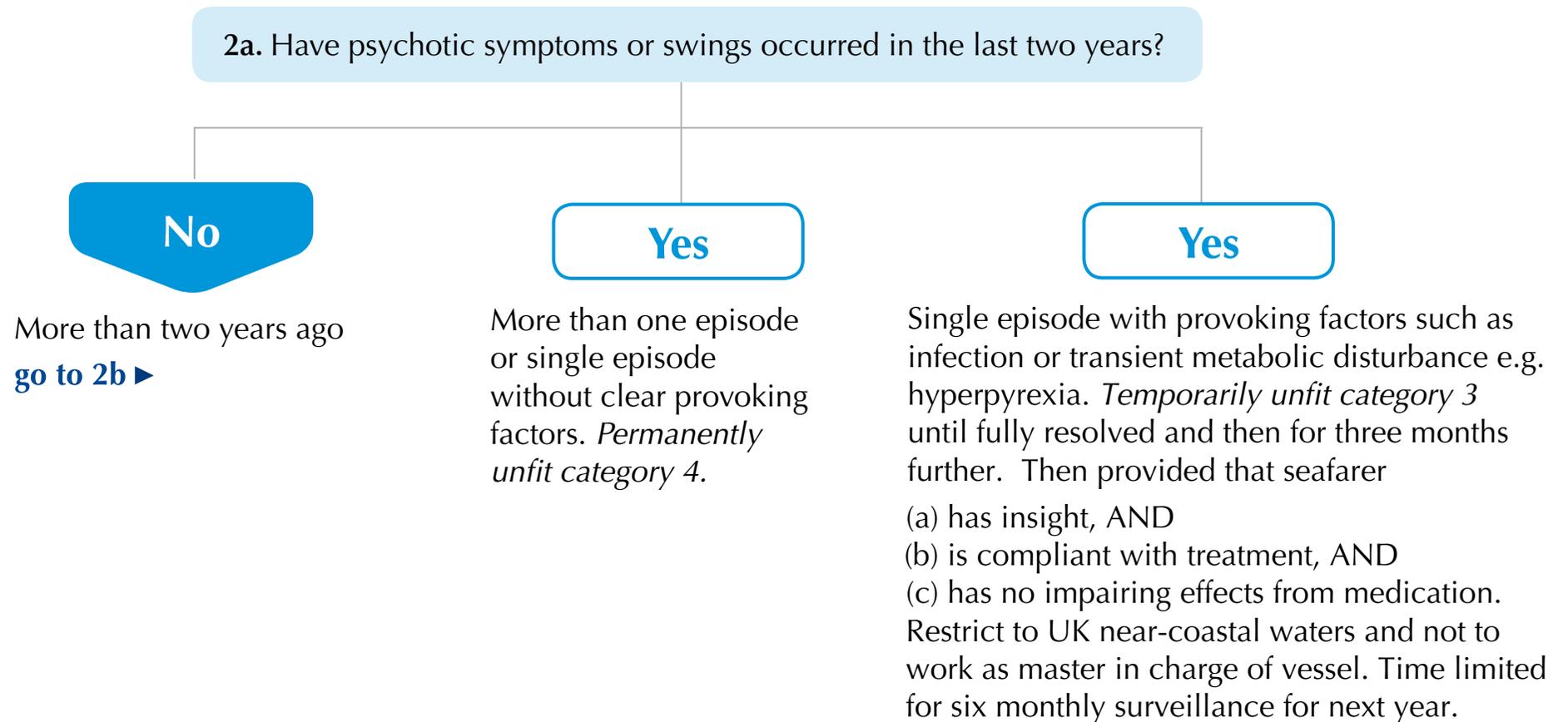
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2b. Does the seafarer have a good functional recovery, insight into problem, are they compliant with agreed treatment plan, fully engaged with medical services, free from adverse effects from medication, low risk of recurrence?

No

Permanently unfit category 4 until five years since last acute episode and five years since cessation of medication.

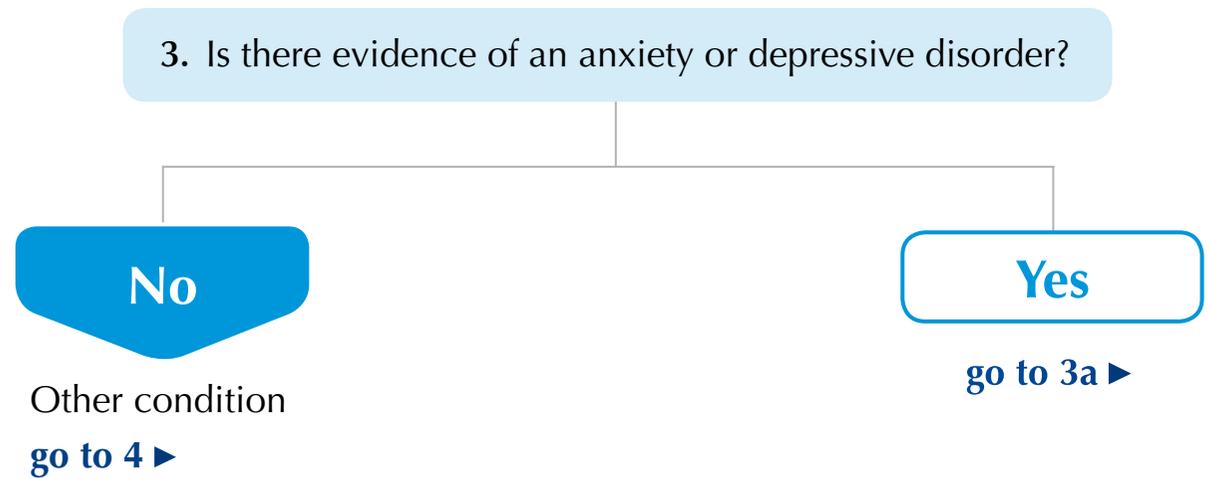
Then fit category 1 if no further episodes, no residual symptoms or medication use in last five years.

Yes

Restricted and time limited category 2. Six monthly re-assessment for next year, then annual. Restrict to UK near coastal waters (other coastal waters advice from CMA required). Not to work as master in charge of vessel for 5 years from last episode.

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3a. Have there been severe anxiety or depressive disorders with memory or concentration problems, behavioural disturbances, agitation or suicidal thoughts?

No

Only minor or reactive symptoms of anxiety or depression.

Temporarily unfit Category 3 until symptom free, then *Fit time limited category 1* when stabilised on medication and free from symptoms and impairing side effects. Consider geographical restriction. Review after one year. Then *Fit category 1* if off medication and free from symptoms

Yes

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3b. Is the seafarer symptom free and on a stable dose of medication for at least three months without impairing side effects, with good functional recovery, insight into problem, compliant with agreed treatment plan, fully engaged with medical services, free from adverse effects from medication and low risk of recurrence?

No

Unfit Category 3 while acute or under investigation. Then return to 3b.

Permanently unfit Category 4 if disabling, persistent or recurrent

Yes

Restricted time limited category 2. Six monthly re-assessment for next year, then annual. Restrict to UK near coastal waters (other coastal waters advice from CMA required). Not to work as master in charge of vessel for 2 years from last episode

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4. Is there a history or signs suggestive of alcohol or non-therapeutic drug recurrent misuse or dependence?

Note: legal aspects and company drug and alcohol policies may be relevant to case management. Routine testing for drugs and alcohol does not form part of the statutory assessment but should be done if there are clinical indications or suspicions.

No

Other mental health, behavioural or cognitive condition. Define plan for surveillance and return to work, with or without restrictions or time limitations, or for permanent unfitness using the principles in 1-4 above and the condition-specific information below

Yes

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4a. Does the seafarer meet all of the following conditions?

- a) Completion of initial treatment programme
- b) Participating in and responding to an ongoing rehabilitation programme
- c) Satisfactory report received from treating physician
- d) In the case of alcohol an improving trend in liver function tests and MCV
- e) In the case of drugs evidence of completion of unannounced/random programme of drug screening for at least three months with no positives and at least three negatives, with continuing participation and satisfactory results for the next two years
- f) A relapse free period since the last episode of at least one year?

No

Permanently unfit category 4 until criteria met.

Note: Maintenance regimes using impairing substances e.g. methadone are not acceptable

Yes

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4b. Is there any co-morbidity – mental ill-health, cognitive impairment, liver/portal vein damage?

No

Yes

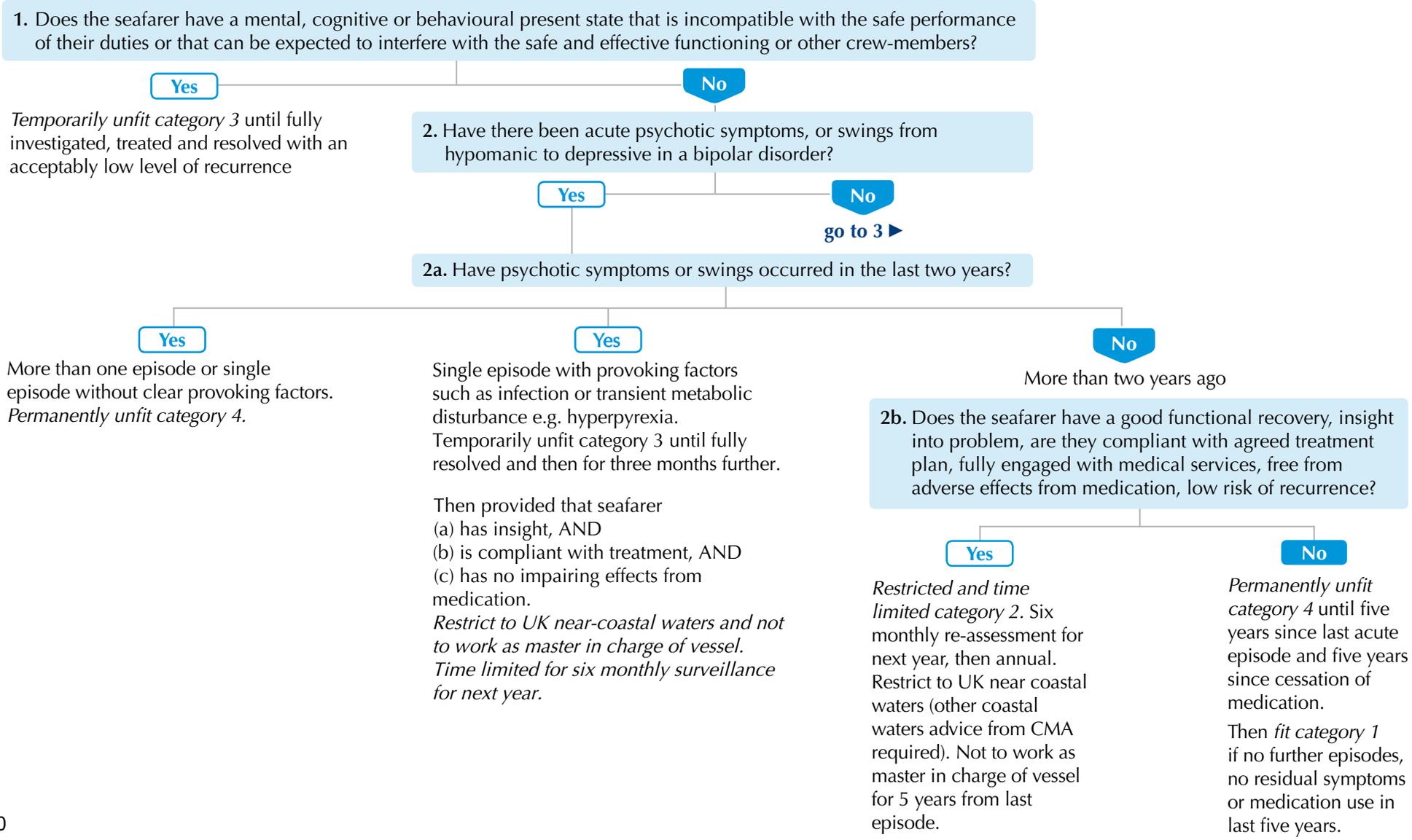
Restricted time limited category 2. Issue three month certificates for first year of return, six month certificates for next year. No work as master in charge of vessel. Then *fit category 1* if free from problems at end of the period (i.e. at least three years from last episode)

Permanently unfit category 4

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Mental disorders, including cognitive and behavioural impairment, alcohol and substance misuse



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3. Is there evidence of an anxiety or depressive disorder?

Yes

No

Other condition go to 4

3a. Have there been severe anxiety or depressive disorders with memory or concentration problems, behavioural disturbances, agitation or suicidal thoughts?

Yes

No

Only minor or reactive symptoms of anxiety or depression. *Temporarily unfit Category 3* until symptom free, then *Fit time limited category 1* when stabilised on medication and free from symptoms and impairing side effects. Consider geographical restriction. Review after one year. Then *Fit category 1* if off medication and free from symptoms

3b. Is the seafarer symptom free and on a stable dose of medication for at least three months without impairing side effects, with good functional recovery, insight into problem, compliant with agreed treatment plan, fully engaged with medical services, free from adverse effects from medication and low risk of recurrence.

Yes

No

Restricted time limited category 2. Six monthly re-assessment for next year, then annual. Restrict to UK near coastal waters (other coastal waters advice from CMA required). Not to work as master in charge of vessel for 2 years from last episode

Unfit Category 3 while acute or under investigation. Then return to 3b. *Permanently unfit Category 4* if disabling, persistent or recurrent

4. Is there a history or signs suggestive of alcohol or non-therapeutic drug recurrent misuse or dependence? Note: legal aspects and company drug and alcohol policies may be relevant to case management. Routine testing for drugs and alcohol does not form part of the statutory assessment but should be done if there are clinical indications or suspicions

Yes

No

4a. Does the seafarer meet all of the following conditions?
 a) Completion of initial treatment programme
 b) Participating in and responding to an ongoing rehabilitation programme
 c) Satisfactory report received from treating physician
 d) In the case of alcohol an improving trend in liver function tests and MCV
 e) In the case of drugs evidence of completion of unannounced/random programme of drug screening for at least three months with no positives and at least three negatives, with continuing participation and satisfactory results for the next two years
 f) A relapse free period since the last episode of at least one year?

Other mental health, behavioural or cognitive condition. Define plan for surveillance and return to work, with or without restrictions or time limitations, or for permanent unfitness using the principles in 1-4 above and the condition-specific information below

Yes

No

Permanently unfit category 4 until criteria met.
 Note: Maintenance regimes using impairing substances e.g. methadone are not acceptable

4b. Is there any co-morbidity – mental ill-health, cognitive impairment, liver/portal vein damage?

Yes

No

Permanently unfit category 4

Restricted time limited category 2. Issue three month certificates for first year of return, six month certificates for next year. No work as master in charge of vessel. Then *fit category 1* if free from problems at end of the period (i.e. at least three years from last episode)

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Condition-specific guidance

Note: psychiatric labels may be given for a variety of reasons, such as the medicalisation of failure to progress at school. Any reported diagnosis needs to be considered critically and not necessarily taken at face value.

Schizophrenic and delusional disorders

Features can include: severe disturbances to thought processes, delusions and hallucinations, continuing impairment between acute episodes, a high probability of recurrence and the frequently impairing effects of the medications. These mean that many of those with such conditions will be unfit to start or return to seafaring. Freedom from recurrence and medication for several years may permit a return (see question 2 above). Single psychotic episodes with external provocation e.g. from infection or medication have a good prognosis and, once a period of six months has elapsed to confirm that the episode was one-off normal duties can be started or resumed.

Alcohol misuse and dependency

The use of alcohol (as well as drugs for non-therapeutic purposes) is a disciplinary as well as a medical issue for seafarers. This is covered by IMO and ILO instruments as well as by national regulations. Many maritime employers have company policies on alcohol and drug use and screening. The health professional has a role to play in determining fitness for service at sea, in screening, in investigation of incidents and in the treatment and rehabilitation of seafarers who misuse or who are dependent on alcohol.

Single episodes of excessive alcohol use will not normally be relevant to fitness assessment but a repeated pattern indicates a high risk of future episodes of impairment that will be safety-critical if they occur at sea or shortly before embarkation. There is also likely to be associated behavioural change and impaired cognition from repeated misuse of dependency, as well as a risk of long term complications such as liver disease and oesophageal varices. Taking a valid history of alcohol intake and problems usually requires questions to be asked several times and in different ways to assess the consistency of reply. Intuitive assessment of affect and the truthfulness of replies is important. An intuitive view on the person's insight about their pattern of alcohol use and its effects can influence decisions on further investigation or on categorisation of fitness. Some simple question sets are available, the WHO AUDIT set being the best known internationally (Alcohol Use Disorders Identification Test (AUDIT) WHO/MSD/MSB/6a World Health Organization. Second Edition 2001).

Liver function and MCV testing is justified to help evaluate suspicions of persistent misuse and have a baseline level for the future assessments. Results can also be used to demonstrate the reality of harm to the individual.

In some cases there may not appear to be sufficient risk to justify insistence on a formal treatment programme before returning to sea but there is either a continuing high level of intake or repeated episodes of drunkenness while on leave. Here the use of time limited certificates and re-assessment at three to six monthly intervals with re-certification dependent on stated compliance and with and agreed

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pattern of alcohol use in a person with insight or with steady or improving liver function and MCV results can be appropriate.

Relapses during and after formal and informal treatment regimes are common, hence continuing surveillance is justified. The adverse effects of alcohol use for vessel safety when the master or senior officer has a problem mean that a higher standard of proof of long-term control of alcohol use can be justified. Use of alcohol and drugs or medication together can be very severely impairing and this needs to be considered when assessing fitness.

Drug misuse and dependency

The use of drugs for non-therapeutic purposes is usually illegal and is a disciplinary as well as a medical issue for seafarers. This is covered by IMO and ILO instruments as well as by national regulations. Many maritime employers have company policies on drug use and screening. The health professional has a role to play in determining fitness for service at sea, in screening, in investigation of incidents and rehabilitation of seafarers who misuse or who are dependent on drugs.

The same problems of disclosure and assessment as those for alcohol are relevant, but will be heightened by the illegality of drug use and especially of the supply of drugs for use by others. Drug screening is widely used and may be a condition of employment but is not a requirement during statutory seafarer medicals. It can, however, be justified if there is a reasonable clinical suspicion of adverse effects from drug use. If drug use is disclosed or identified then compliance with a formal treatment programme is required in most cases and certainly where highly addictive substances are used (opiates,

cocaine). The use of substances such as stimulants and cannabis during leave periods need not be a reason for unfitness, but the commonly used drug screens continue to detect cannabis for several weeks after use and this can cause practical and administrative problems if they are found. Any use while at sea indicates a marked lack of insight and a requirement for demonstrated abstinence before return to work at sea is acceptable.

Opiate addicts are frequently maintained on either more easily controlled forms of opiate such as methadone or on antagonists such as naltrexone. Methadone has directly impairing effects and this means that use while at sea is not acceptable. Antagonist use can be accepted if the other criteria for control are met.

In many addicts multiple drug use is the norm and abstinence from one substance may mean that others are substituted. Co-use of alcohol is also frequent and for substances such as cannabis this can cause far more severe impairment than either substance on its own.

Mood (affective) disorders

The most severe forms, especially bipolar disorders with a hypomanic phase when judgement and insight are lost, are a significant safety risk. The pattern of mood swings is persistent and can become ever more extreme. Once there have been three clear episodes of major mood swings a return to a stable affect is unusual (see question 2 above). A long period away from safety critical responsibilities and with speedy access to health care is needed and return to sea is only justifiable after several years free from symptoms and usually off medication.

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Severe depression with withdrawal, major sleep disturbances and suicidal ideas is frequently recurrent. Recurrences can be prompted by interpersonal difficulties. Several years' stability are needed before working at sea.

Less severe forms of anxiety/depression are compatible with continuing to work at sea, once treatment has been stabilised, shown to be effective and any medications used do not cause impairment. Where the symptoms are reactive to external events the prognosis is good once they have been resolved. However if the events relate to conflicts at work these will need to be resolved before improvement can be expected.

Phobic anxiety disorders

Here a particular stimulus excites severe and distressing arousal. Treatment can be very effective. Where the phobia is to a stimulus unlikely to be met at sea and it has been treated then fitness can be assumed. However if it relates to events that can occur on board or it is a generalised response to a wide and ill-defined set of provoking factors it is likely to be incompatible with work in responsible jobs or other than close to shore.

Obsessive compulsive disorders

The symptoms of these conditions are likely to interfere with working and living arrangements in aboard. An individual assessment of the severity and consequences of symptoms needs to be made.

Disorders of personality

Most are lifelong traits and if they involve significant aggression, impulsiveness, lack of perception of risks, lack of insight into the effects of actions on others then they are unlikely to be compatible with work at sea.

Disorders of psychological development

Autism and Asperger's syndrome impair interpersonal interactions. As these are critical to work at sea individual assessment is needed but the more severe forms of these conditions are incompatible with fitness for seafaring.

Hyperkinetic disorders

Attention Deficit Hyperactivity Disorder (ADHD) is a relatively common diagnosis in boys with educational difficulties. It is cared for within a paediatric framework and there is often a discontinuity in care in the mid-teens. Where it is severe it is unlikely to be compatible with work in any senior jobs at sea where vigilance is needed. Individual assessment is needed. As the commonly used medication (ritalin) is also used as a drug of abuse, safe custody on board may be a problem.

Brain damage and organic disease

Many causes will be excluded from seafaring because of the primary disease e.g. liver or kidney failure, epilepsy. Late effects of infection (meningitis and encephalitis) and head injury need to be considered in terms of the present state assessment of cognition and behaviour (see question 1 above) and separately in terms of seizure risk.

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Eating disorders

Eating disorders with severe loss of muscle mass or with self induced emesis are unlikely to be compatible with work at sea. Such disorders are often associated with other psychological traits which could impair performance and reliability. A specialist assessment prior to a decision on fitness should be considered where the condition has been active in the last five years.

Self harm

This is often a marker of other psychological and behavioural problems. However it may also be a cult activity. A specialist assessment prior to a decision on fitness should be considered where the condition has been active in the last five years.

Dyslexia

While not strictly a mental health problem it is listed here because of its effects on learning and communication ability. Clinical assessment is largely irrelevant as it is educational and communication ability that are impaired. Fitness certification decisions should not be based on reported dyslexia. There may be occasions when the person examined admits to the condition. They need to be advised to discuss with their employer or training institution, or if seen prior to seafaring to be advised that, while help may be available in college, they are likely to find that any inability to write or communicate effectively will make a seafaring career as an officer very limited.

Psychologically or temperamentally unsuited for work at sea This is a relatively common mental health problem presented to maritime doctors. There is often a history of episodes of inability to perform tasks that are within the capability of other crew members. This

may be associated with stress, anxiety and depressive symptoms and these will frequently be attributed to external factors such as the personalities of other crew members or to home circumstances. While on the borderline of medical and managerial responsibilities, referral for medical advice is common and this may be at the time of a statutory medical. The decision on fitness can take account of a history of inability to perform duties based on evidence of health related impairment. If this is not apparent then the decision on future employment is a managerial one, where the doctor may act as an adviser to the employer, provided that standards of ethics and confidentiality are respected and that the seafarer is referred by the employer for such an assessment because of concerns about performance, but the examining doctor should not use the medical certificate of fitness to provide an easy solution for the employer.

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ADG 7

Loss of consciousness, altered awareness, epilepsy and sleep disorders

Impairment and risk

Alterations to the state of consciousness will prevent many activities being performed. When the onset is sudden or awareness of the changed state is not present the person may put themselves, others and the vessel at risk.

In some cases loss or alteration of consciousness is recurrent. When this is the case the probability of a future event will determine the likelihood of harm.

Rationale and justification

There are many predisposing factors to alteration or loss of consciousness:

- A blow or other injury to the head
- Any circulatory condition that severely reduces blood flow and hence oxygen transport to the brain. Causes include pooling of blood in lower limbs (simple syncope), arrhythmias, narrowing of the aortic valve, heart attack, cough syncope
- Seizures, most commonly from epilepsy but also associated with alcohol and some medications, after head injury or cranial surgery or from intracranial tumours or other lesions
- Metabolic causes. The most common of these is hypoglycaemia from the use of insulin
- Extreme fatigue including that caused by sleep disorders

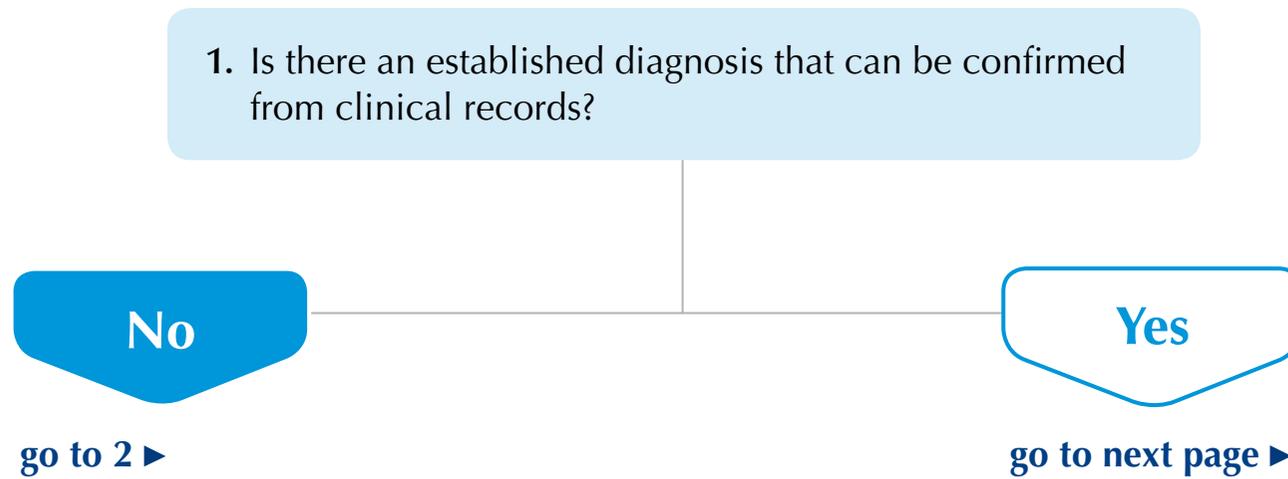
Diagnostic methods vary depending on the cause. Observation of an episode can be an important initial clue.

There is good prognostic data for recurrence rates in some conditions such as epilepsy and after a head injury.

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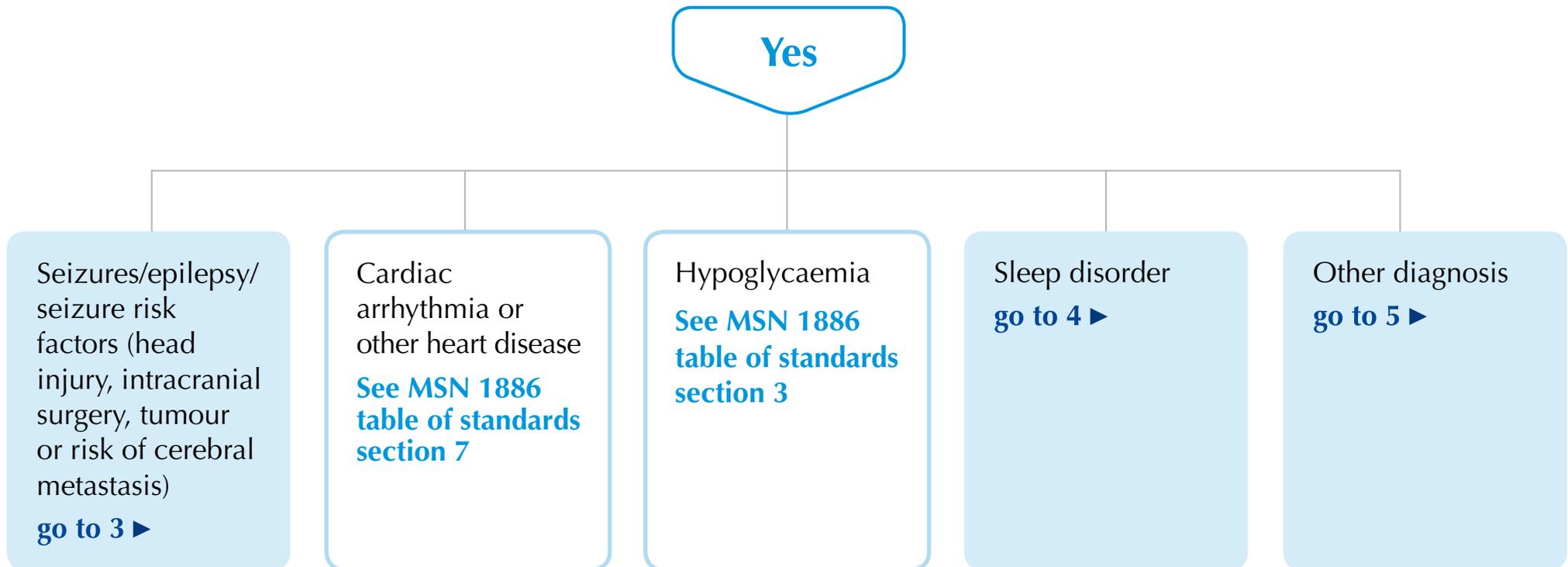
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Clinical assessment and decision taking



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2. When the cause is in doubt, decide which of the following descriptions (2a – d) fits best and follow the appropriate decision process.

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2a. Definite provocative factors such as prolonged standing or emotionally charged situation with associated prodromal symptoms of faintness, sweating, sighing etc. Did not arise while sitting or lying. If on more than one occasion the '3 Ps' (provocation, prodrome and posture) need to have been present on each occasion. Simple faint.

Yes

Fit category 1 unless frequent attacks lead to incapacity, then temporarily unfit category 3 until resolved or treated

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- 2b.** Loss of consciousness or of altered awareness with no high risk markers such as:
- abnormal ECG
 - clinical evidence of structural heart disease or relevant neurological condition
 - syncope causing injury, while on duty or while sitting or lying
 - more than one episode in previous six months
 - sudden collapse with no prodromal features followed by immediate restoration of full consciousness ('drop attack' suggesting transient severe cardiac arrhythmia)
- Unexplained syncope with low risk of recurrence

Yes

Restricted time limited category 2

For deck or engine room personnel issue a time limited certificate valid for 3 months, restricted to UK near coastal waters and no lone navigational watchkeeping in order to evaluate probability of recurrence while minimising consequential risks.

For other crew members restrict to UK near coastal waters. Review after 4 weeks.

Thereafter *fit category 1* if no recurrences during this period. If recurrences occur **go to 2c** ►

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2c. One or more high risk markers present (as listed in 2b). Specialist referral for assessment and additional tests such as ambulatory ECG, echocardiography or exercise testing. Presumed syncope with high risk of recurrence

Yes

Temporarily unfit category 3 pending investigation and any treatment

No cause found – *Temporarily unfit category 3* for six months. Then *restricted time limited category 2* UK near coastal waters and no lone navigational watchkeeping for next six months.

After one year with no recurrences *fit category 1*

Cause found and treated successfully – *Temporarily unfit category 3* for one month. Then *restricted time limited category 2* UK near coastal waters and no lone navigational watchkeeping for three months. Then *fit category 1* if no recurrences or treatment problems

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2d. Unwitnessed (presumed) loss of consciousness or altered consciousness with seizure markers (strong clinical suspicion of epilepsy).

Markers: these are indicators and not absolutes

- unconscious more than five minutes
- amnesia greater than five minutes
- injury
- tongue biting
- incontinence
- remaining conscious but with altered behaviour
- headache post attack

Yes

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Seizures/epilepsy/ seizure risk factors (head injury, intracranial surgery, tumour or risk of cerebral metastasis)

Rationale and justification – risks from seizure

Note: Most of the available evidence on the effects of seizures on safety critical tasks comes from studies on drivers.

- It is methodologically difficult to perform studies: those with poorly controlled epilepsy are normally excluded from safety critical tasks. There are big personal incentives not to declare a seizure
- A long period since the last seizure seems to be the best predictor of lack of excess risk of recurrence. A number of large population studies have been the source of estimates of future risk. While there is some evidence of reductions in recurrence rates from better therapy of epilepsy and from better treatment of head injuries and other predisposing factors there is insufficient recent data to improve the current estimates
- Cessation of anti epilepsy medication is associated with a period when there is an increase in risk
- The relative risks from different forms of seizure disorder have not been well investigated. Some persistent patterns, such as seizures showing a well established pattern of only occurring during sleep, may indicate a low level of risk while at work
- Approximately 2% of the population will have a seizure during their lifetime. There is a 30-40% likelihood of a recurrence after a first seizure. The probability is greatest soon after the initial event and then declines progressively. Hence a period of observation during the highest recurrence risk period can be justified. A formal diagnosis of epilepsy is not usually made until there have been at least two seizures. The data from large studies of people with epilepsy is good enough to make quantitative risk estimates
- One year after the last seizure, either on maintenance antiepileptic medication or untreated the risk of a seizure in the next year is c.20%. If medication is stopped the risk will increase for several months
- Ten years after the last seizure with ten years not on any anti-epileptic treatment the risk of a seizure in the next year is below 2%
- In most cases there is no obvious provoking factor but the threshold for a seizure may be reduced by alcohol or alcohol withdrawal, by sleep deprivation and by some medications such as tricyclic antidepressants or by the withdrawal of others like benzodiazepines which are protective. In this situation it can be difficult to assess whether the provoking factor was the sole cause or whether it was coincidental with a first seizure for unrelated reasons. This means that a precautionary approach to see if there is a further seizure after removal of the provoking agent may be indicated

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- Local effects affecting the surface of the brain can trigger seizures. They may occur at the time of a head injury or after one if there is persisting damage. Tumours in and around the brain can present as seizures. These may either be primary growths or metastatic cancers from sites such as the lung, breast and skin (melanoma). The infarcted scar created by a stroke can be the location for seizure initiation. Infections – encephalitis or abscess - can also be triggers. Where the predicted seizure risk is high e.g. after severe head injury or with lung cancer, this may be sufficient to restrict a person from safety critical work even in the absence of a first seizure. Estimates of seizure probabilities based on severity of head injury and on the type of cancer and the stage at which it was diagnosed can be made and used as the basis for decisions on suitability for safety critical tasks, assuming there are no other impairments from the underlying condition
- In most people seizures are always of the same type, but there are occasions where there is a mixed or progressive pattern. At the extreme this can take the form of 'status epilepticus' when seizures follow each other without full recovery. There may be specific provoking factors. In some people seizures only occur during sleep. Stroboscopic lighting can provoke photosensitive epilepsy in susceptible individuals
- Seizures associated with fever are frequent in children. Provided these do not persist after the age of five they do not predict an increased future risk
- Diagnosis in equivocal cases needs the expertise of a neurologist. The Electroencephalogram can indicate an abnormal focus of electrical activity or the characteristic patterns from some seizure disorders. They may be used with provoking stimuli such as sleep deprivation or stroboscopic lights. However a negative EEG is not evidence of the absence of a seizure risk. Various forms of brain scan can be used to look for local lesions such as tumours or scars
- A range of medications are used to reduce the risk of seizures. Some are sedating. Compliance is essential if the risk is to be reduced and cessation of medication will result in a period when risk may be raised

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Clinical assessment and decision taking

Once a pattern of episodes has been observed a clinical diagnosis of epilepsy can be made. However often the first episode will be an unexplained and sometimes unwitnessed loss of consciousness (see question 2 above). There may be clues indicating whether the likely cause is syncope, a cardiac problem or a seizure but at times a period of observation may be needed, or where a seizure is the most likely cause, it will need to be treated as if this was the cause.

Given that anyone can have a first seizure or other sudden loss of consciousness at any time a criterion based on the level of excess risk which is considered tolerable would be appropriate and it might be set at differing levels depending on whether the consequences of a seizure posed a risk just to the individual or could have harmed others.

The <2% risk of seizure in the next year noted above is a level that fits well with current practice for safety critical work, that is used in other modes of transport and is not dissimilar to the levels used for risks of sudden incapacity from a cardiac event. The level used should be consistent for seizure risks from all causes.

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3. Seizures/epilepsy/ seizure risk factors (head injury, intracranial surgery, tumour or risk of cerebral metastasis)

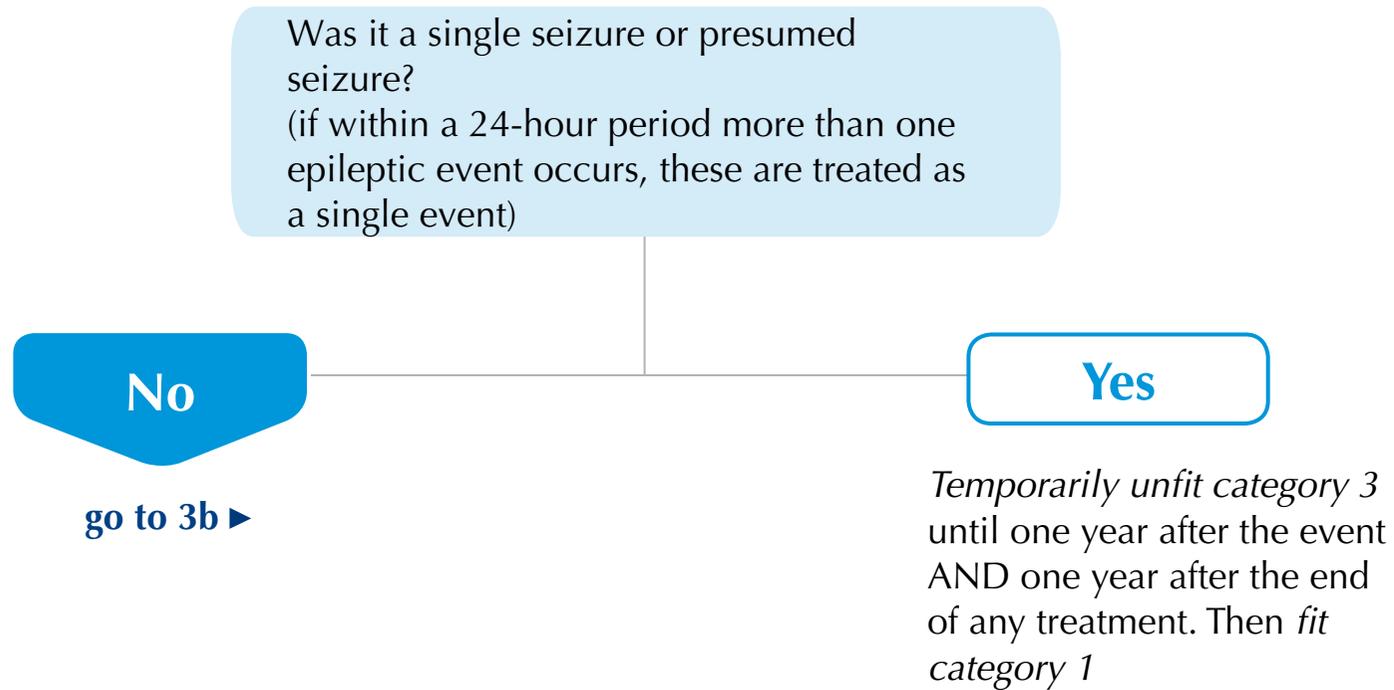
3a. For all seizures and suspect seizures on diagnosis

Temporarily unfit category 3 until investigated and treated

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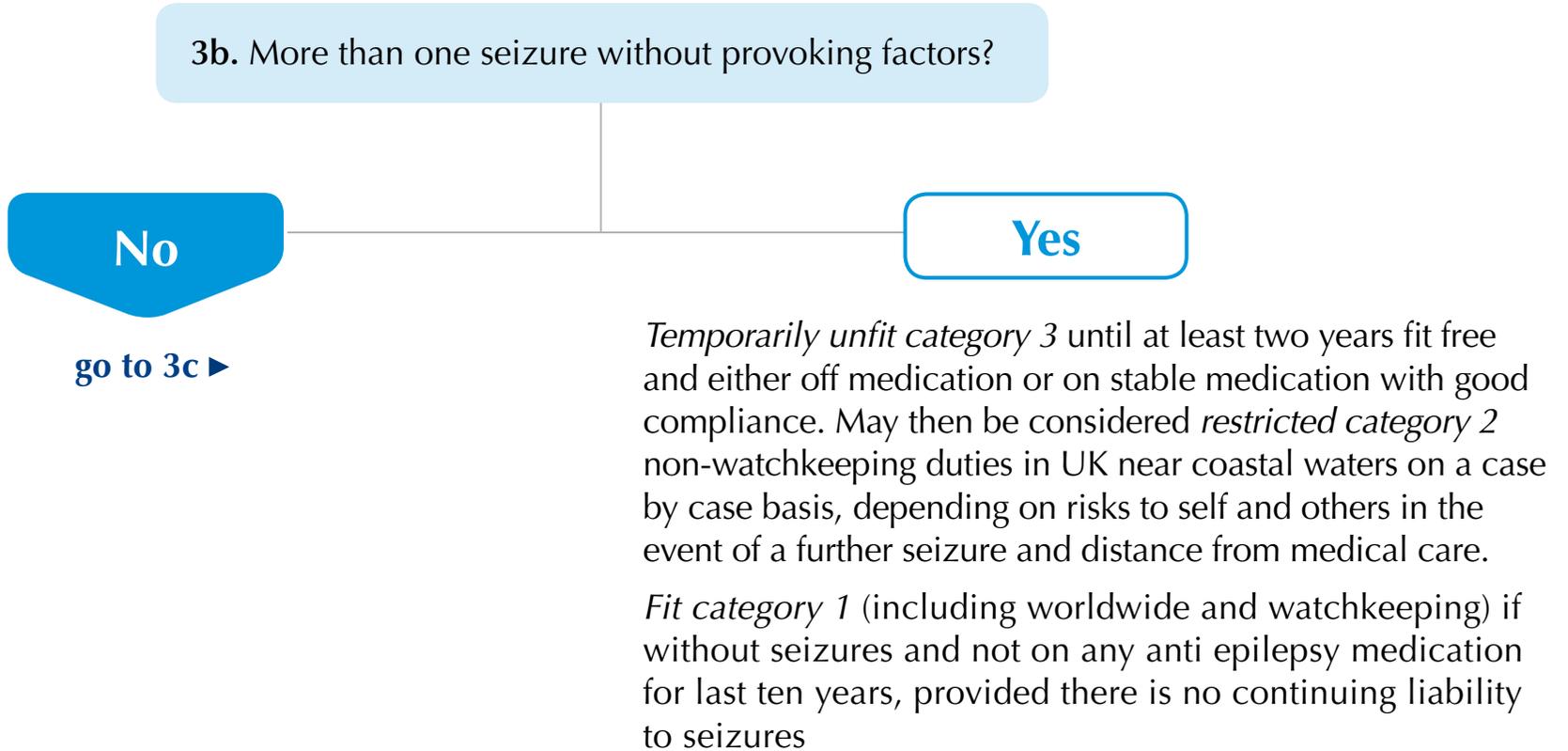
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3c. Seizures provoked by alcohol, medication head injury etc?

No

Risk factors only
[go to 3d](#) ►

Yes

Temporarily unfit category 3 until at least one year of abstinence from any known provoking factor (see [MSN 1886, Standards 5.2](#) on alcohol), fit free and either off medication or on stable medication with good compliance. May then be considered *restricted category 2* non-watchkeeping duties in UK near coastal waters on a case by case basis, depending on risks to self and others in the event of a further seizure and distance from medical care.

Fit category 1 (including worldwide and watchkeeping) if without seizures and not on any anti epilepsy medication for last five years, provided there is no continuing liability to seizures from exposure to provoking substances.

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3d. Seizure risk from severe head injury, intracranial surgery, stroke or tumour

Yes

Temporarily unfit category 3 for one year or more, based on advice from specialist, until such time as seizure risk is less than 5% p.a. Then *restricted category 2* UK near coastal waters and no lone watchkeeping provided the underlying condition does not restrict employment until seizure risk less than 2% p.a. When less than 2% p.a. *fit category 1*

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4. Sleep disorders

4a. Obstructive sleep apnoea?

Yes

Temporarily unfit category 3 until treatment initiated and demonstrably working effectively to prevent daytime sleepiness for three months. Confirmed compliance with CPAP use during this period needed. Then *fit time limited category 1* with six monthly assessments of compliance with CPAP use based on recording CPAP machine. Sleeping accommodation needs to be suitable for CPAP use without disturbance to other crew members. Sufficient spares need to be carried to guarantee continuity of use in the event of a breakdown. Other crew members will need to be aware of the nature of the condition and the effectiveness of the treatment.

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4b. Narcolepsy?

Yes

Permanently unfit category 4 if worldwide or watchkeeping. For other coastal non-watchkeeping duties may be *restricted time limited category 2* if specialist assessment confirms full control on treatment for a period of two years. If treatment required must remain compliant. Review annually.

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4c. Somnambulism?

Yes

Case by case assessment, must seek advice from MCA and CMA.

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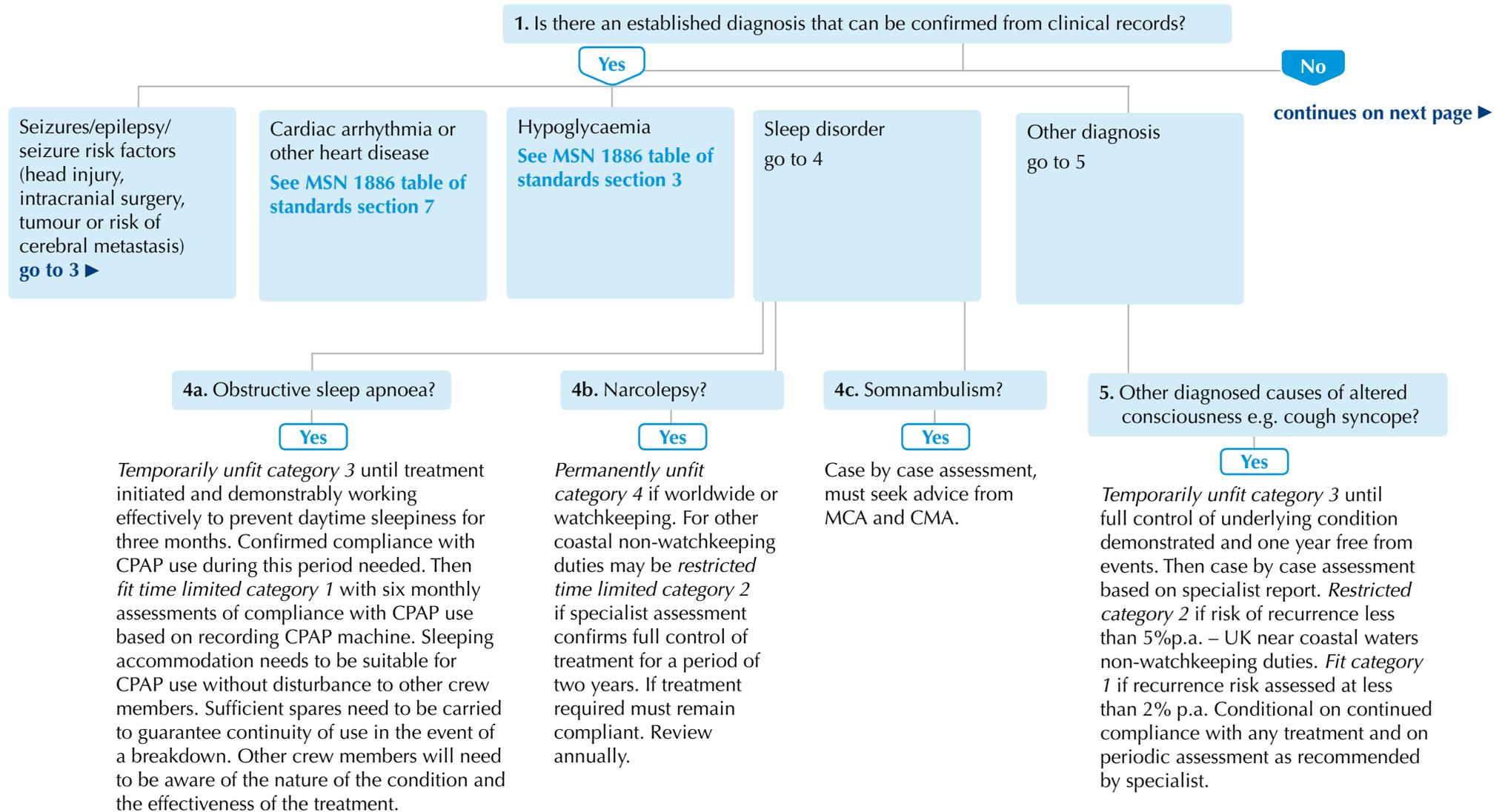
5. Other diagnosed causes of altered consciousness e.g. cough syncope?

Yes

Temporarily unfit category 3 until full control of underlying condition demonstrated and one year free from events. Then case by case assessment based on specialist report. *Restricted category 2* if risk of recurrence less than 5%p.a. – UK near coastal waters and non-watchkeeping duties. *Fit category 1* if recurrence risk assessed at less than 2% p.a. Conditional on continued compliance with any treatment and on periodic assessment as recommended by specialist.

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Loss of consciousness, altered awareness, epilepsy and sleep disorders



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2. When the cause is in doubt, decide which of the following descriptions (2a – d) fits best and follow the appropriate decision process

2a. Definite provocative factors such as prolonged standing or emotionally charged situation with associated prodromal symptoms of faintness, sweating, sighing etc. Did not arise while sitting or lying. If on more than one occasion the '3 Ps' (provocation, prodrome and posture) need to have been present on each occasion. Simple faint

Yes

Fit category 1 unless frequent attacks lead to incapacity, then temporarily unfit category 3 until resolved or treated

2b. Loss of consciousness or of altered awareness with no high risk markers such as:

- abnormal ECG
- clinical evidence of structural heart disease or relevant neurological condition
- syncope causing injury, while on duty or while sitting or lying
- more than one episode in previous six months
- sudden collapse with no prodromal features followed by immediate restoration of full consciousness ('drop attack' suggesting transient severe cardiac arrhythmia)

Unexplained syncope with low risk of recurrence

Yes

Restricted time limited category 2
 For deck or engine room personnel issue a time limited certificate valid for 3 months, restricted to UK near coastal waters and no lone navigational watchkeeping in order to evaluate probability of recurrence while minimising consequential risks. For other crew members restrict to UK near coastal waters. *Review after 4 weeks.*
 Thereafter *fit category 1* if no recurrences during this period. If recurrences occur – go to 2c

2c. One or more high risk markers present (as listed in 2b). Specialist referral for assessment and additional tests such as ambulatory ECG, echocardiography or exercise testing. Presumed syncope with high risk of recurrence

Yes

Temporarily unfit category 3 pending investigation and any treatment
 No cause found – *Temporarily unfit category 3* for six months. Then *restricted time limited category 2* UK near coastal waters and no lone navigational watchkeeping for next six months.
 After one year with no recurrences *fit category 1*
 Cause found and treated successfully – *Temporarily unfit category 3* for one month. Then *restricted time limited category 2* UK near coastal waters and no lone navigational watchkeeping for three months. Then *fit category 1* if no recurrences or treatment problems

2d. Unwitnessed (presumed) loss of consciousness or altered consciousness with seizure markers (strong clinical suspicion of epilepsy). Markers: these are indicators and not absolutes

- unconscious more than five minutes
- amnesia greater than five minutes
- injury
- tongue biting
- incontinence
- remaining conscious but with altered behaviour
- headache post attack

Yes

go to 3a ▶

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3. Seizures/epilepsy/ seizure risk factors (head injury, intracranial surgery, tumour or risk of cerebral metastasis)

3a. For all seizures and suspect seizures on diagnosis

Temporarily unfit category 3 until investigated and treated

Was it a single seizure or presumed seizure? (if within a 24-hour period more than one epileptic event occurs, these are treated as a single event)

Yes

No

Temporarily unfit category 3 until one year after the event AND one year after the end of any treatment. Then fit category 1

3b. More than one seizure without provoking factors?

Yes

No

Temporarily unfit category 3 until at least two years fit free and either off medication or on stable medication with good compliance. May then be considered restricted category 2 non-watchkeeping duties in UK near coastal waters on a case by case basis, depending on risks to self and others in the event of a further seizure and distance from medical care.
Fit category 1 (including worldwide waters and watchkeeping) if without seizures and not on any anti epilepsy medication for last ten years, provided there is no continuing liability to seizures

3c. Seizures provoked by alcohol, medication head injury etc?

Yes

No

Temporarily unfit category 3 until at least one year of abstinence from any known provoking factor (see [MSN 1886, Standards 5.2](#) on alcohol), fit free and either off medication or on stable medication with good compliance. May then be considered restricted category 2 non-watchkeeping duties in UK near coastal waters on a case by case basis, depending on risks to self and others in the event of a further seizure and distance from medical care.
Fit category 1 (including worldwide waters and watchkeeping) if without seizures and not on any anti epilepsy medication for last five years, provided there is no continuing liability to seizures from exposure to provoking substances

3d. Seizure risk from severe head injury, intracranial surgery, stroke or tumour

Yes

Temporarily unfit category 3 for one year or more, based on advice from specialist, until such time as seizure risk is less than 5% p.a. Then restricted category 2 UK near coastal waters and no lone watchkeeping provided the underlying condition does not restrict employment until seizure risk less than 2% p.a. When less than 2% p.a. fit category 1

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ADG 8

Blood pressure and its measurement

Impairment and risks

The prime reason for blood pressure measurement in seafarers is to identify if it is raised and needs treatment to reduce the risk of later vascular events such as stroke and heart attack (see standards for these conditions). These are long term risks and blood pressure control to reduce them needs to reduce pressure to levels close to the normal range.

Very high blood pressure, whether untreated or treated, can have more immediate risks – stroke, eye disease, kidney damage resulting in incapacity for safe performance of duties and the need for emergency medical care.

Some of the older medications used to treat raised blood pressure may cause impairing side-effects in users.

Rationale and justification

- High blood pressure increases the risk of all forms of arterial disease, notably heart attack, stroke and peripheral vascular disease
- The risks of arterial disease are increased in the presence of other risk factors such as smoking and diabetes

- High blood pressure damages small blood vessels and this can lead to eye and kidney disease
- Blood pressure reduction by lifestyle changes or by medication reduces the risks of long term harm
- The medications normally used to treat blood pressure rarely cause adverse effects that would impair fitness to work at sea. Some of the now rarely used older treatments can have significant adverse effects including an increased risk of fainting when standing up, reduced exercise tolerance and changes in mood
- Blood pressure can be raised by exercise and by anxiety. In the setting of an employment medical it may be difficult to obtain a baseline value and so repeated measurement or the use of a monitoring device may be needed to obtain a valid result

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Clinical assessment and decision taking

The conditions of a medical examination on which a person's job may depend are those that are likely to lead to a raised blood pressure, especially if the seafarer knows that the observed level has been a cause of concern in the past. The major practical difficulty is obtaining a realistic resting level in the course of the examination.

1. Measure the blood pressure sitting using the correct sized cuff applied with the balloon over the brachial artery. Either a manual or self-recording machine should be used. It should be checked and calibrated in accordance with the manufacturer's recommendations.

Is the initial reading less than 140 systolic and 90 diastolic?

No

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Yes

Fit category 1

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2. Repeat reading not less than three times in the course of the medical using the examining doctor's favoured method of achieving relaxation e.g. general conversation, lying down with eyes closed, use of self-recording machine on repeat setting, re-check by trained non-medical member of staff. The results of further measurements undertaken in another setting by a competent health professional and sent to the AD may help to clarify whether high readings reflect anxiety about a fitness assessment rather than a continuing high level. It may also sometimes be desirable to do 24 hour blood pressure monitoring but this is probably best undertaken by the clinician responsible for investigation and treatment.

Is the lowest reading less than 140 systolic and 90 diastolic?

No

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Yes

Fit category 1

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3. Is it less than 170 systolic and 100 diastolic?

No

Temporarily unfit category 3 until investigated and controlled. Refer to general practitioner or appropriate specialist

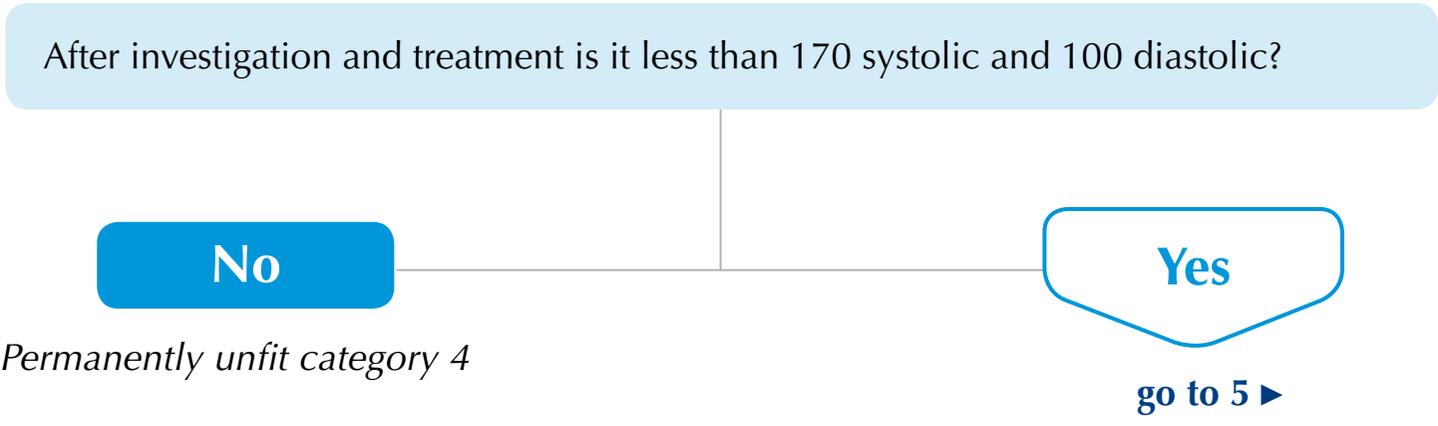
Yes

Between 140/90 and 170/100

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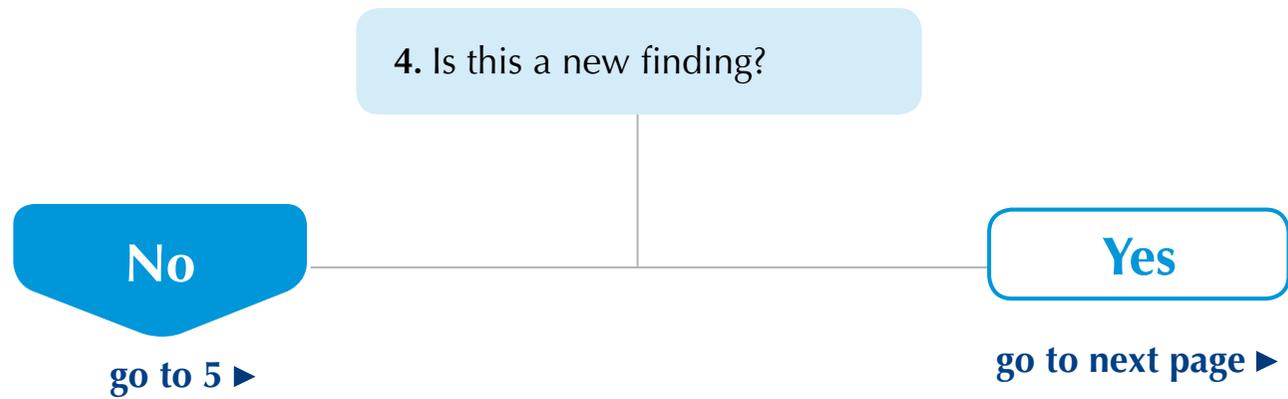
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Yes

This means that investigation and treatment are needed but that work at sea may be able to be continued. There are national and other good practice guidelines (e.g. British Hypertension Society: www.bhsoc.org) that aim to reduce the long term risks of vascular events from raised blood pressure. It is for the examining doctor to make a judgement on the appropriate fitness certificate to issue based on the likelihood of the person receiving adequate investigation and a treatment regime that meets good practice guidelines.

Recommended options are:

Fit category 1 – if the blood pressure is less than 150 systolic and 95 diastolic, there is ready access to effective investigation and treatment and a very high probability that the person will fully comply with treatment recommendations, including advice on how to respond to any risk from medication side-effects.

Fit time limited category 1. If there is access to investigation and treatment but uncertainties about its quality or the willingness of the person to comply. Return to same examining doctor for re-certification when treatment initiated.

Temporarily unfit category 3. When there is judged to be a high probability of non-compliance with either referral or subsequent treatment. Re-certification to be conditional on compliance.

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5. Prior investigation and treatment?

Yes

Review history of investigation and treatment. If considered inadequate follow recommended options as above. If adequate then:

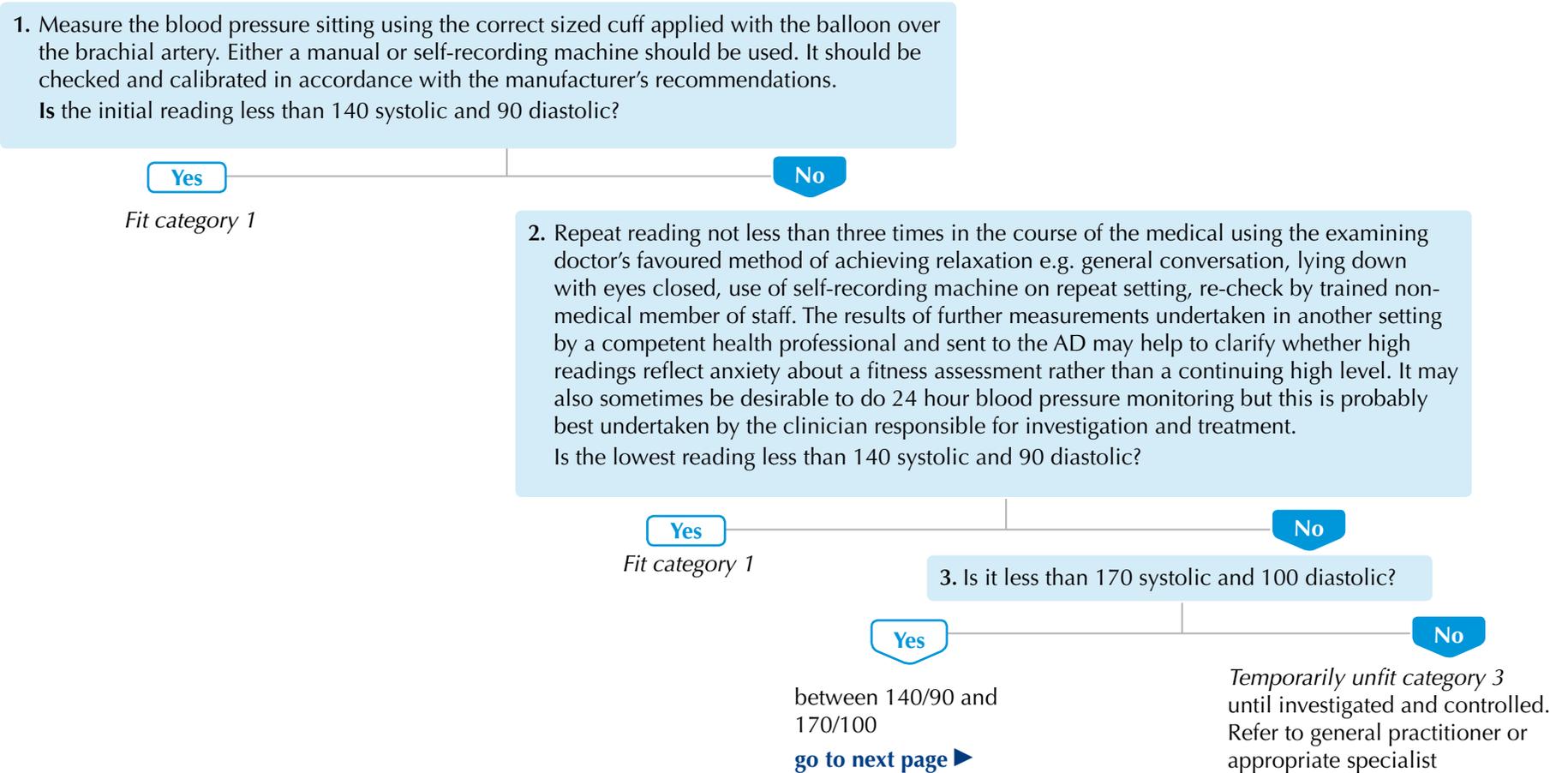
Fit category 1 – if under regular surveillance, compliant with recommended treatment and free from impairing side-effects

Fit time limited category 1 – if additional surveillance needed to ensure level remains less than 170 systolic and 100 diastolic

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Blood pressure and its measurement



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4. Is this a new finding?

Yes

This means that investigation and treatment are needed but that work at sea may be able to be continued. There are national and other good practice guidelines (e.g. British Hypertension Society: www.bhsoc.org) that aim to reduce the long term risks of vascular events from raised blood pressure. It is for the examining doctor to make a judgement on the appropriate fitness certificate to issue based on the likelihood of the person receiving adequate investigation and a treatment regime that meets good practice guidelines. Recommended options are:

Fit category 1 – if the blood pressure is less than 150 systolic and 95 diastolic, there is ready access to effective investigation and treatment and a very high probability that the person will fully comply with treatment recommendations, including advice on how to respond to any risk from medication side-effects.

Fit time limited category 1. If there is access to investigation and treatment but uncertainties about its quality or the willingness of the person to comply. Return to same examining doctor for re-certification when treatment initiated.

Temporarily unfit category 3. When there is judged to be a high probability of non-compliance with either referral or subsequent treatment. Re-certification to be conditional on compliance.

No

5. Prior investigation and treatment?

Yes

Review history of investigation and treatment. If considered inadequate follow recommended options as above. If adequate then:

Fit category 1 – if under regular surveillance, compliant with recommended treatment and free from impairing side-effects

Fit time limited category 1 – if additional surveillance needed to ensure level remains less than 170 systolic and 100 diastolic

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ADG 9

Cardiac events

Definition

'Cardiac events' include: myocardial infarction, ECG evidence of past myocardial infarction or newly recognised left bundle branch block, angina, cardiac arrest, coronary artery bypass grafting, and percutaneous coronary intervention.

Impairment and risks

- Ischaemic vascular disease is a common cause of incapacity and death. Its most frequent manifestations are angina and myocardial infarction. The conditions classified as cardiac events are almost always a consequence of such vascular disease.
- Risk factors are well established and include the same condition in near relatives, smoking, the metabolic syndrome of obesity, hyperlipidaemia and type 2 diabetes, hypertension and type 1 diabetes.
- This group of conditions are the commonest causes both of deaths at sea and of failure by middle aged seafarers to meet current medical fitness standards.

- After episodes of ischaemic vascular disease caused by atheroma there may be a loss of functioning heart muscle, limiting exercise capacity.
- Defects of heart rhythm may develop, themselves causing episodic incapacity.
- There is an increased risk of recurrence of both the same form and of other manifestations of the pathological processes of arterial blockage.
- Early specialist treatment can greatly reduce the risk from any recurrence of a cardiac event. As this will not be available at sea, the risk of death from a recurrence will be higher than it would be on shore.
- Lifestyle related preventative measures (risk factor modification) and medical interventions (treatment of predisposing factors, surgical procedures to remove blockages) can reduce or delay recurrences but do not reduce the risk to the same as that of those without the condition.

Rationale and justification

There is little direct evidence about risks in seafaring but the considerable body of work that relates to driving and to flying is relevant.

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Sudden death at sea

- there have been case reports of deaths of lone watchkeepers leading to collision but these are rare and do not appear in many large series of marine accident reports
- mortality studies show that sudden death that was subsequently attributed to cardiac causes was the predominant non-accidental cause of death (>80%) while at sea

Sudden death – Evidence from vehicle driving

- Sudden death at the wheel is a rare event (from under 1% to 3.5% of crash records)
- Post-mortem data (14 studies) shows that more than 80% have cardiovascular disease and more than 70% show evidence of coronary artery disease. In one study, more than 90% had cardiac hypertrophy
- Injury to others was rare in early studies but more recent investigations show an increase in passenger deaths – possibly a consequence of increased road speeds or traffic density
- Prodromal symptoms before the final journey had been reported to others by 25-40% of those dying
- The only evidence on warning of event prior to incapacitation is indirect. One study showed that in only 2 out of 44 deaths were there signs of braking prior to death. However, the most commonly noted site for an at-wheel fatality to be found is in the car halted at the side of the road, suggesting some warning and a response to it

- The role of stressful situations as initiators of sudden events is uncertain. One study showed that, whilst there were no ECG changes while driving in those without cardiovascular disease 17% of those with coronary artery disease did show significant changes

Recurrence of cardiac events

- Recurrence rates will indicate the likelihood of an emergency at sea. They can also be used as a proxy to stratify the risk of sudden incapacitation. However measures of recurrence such as death or hospital admission have only limited predictive value for sudden events
- Most evidence comes from large population studies. Most of these data are old and the frequency of recurrence has fallen markedly as a result of the use of better therapy. Most recent studies are of highly selected patient groups participating in studies on intervention. It is not possible to extrapolate in a valid way from their recurrence rates to the generality of seafarers
- The older studies identified predictors of recurrence such as poor exercise ECG performance, reduced ventricular ejection fraction, presence of type 2 diabetes and a failure to reduce risk factors
- A cardiac event makes impairment from vascular disease elsewhere, e.g. intermittent claudication, stroke or transient ischaemic attacks, more likely because the pathological processes are the same. Similarly, ischaemic disease elsewhere increases the probability of a cardiac event

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Clinical assessment and decision taking

Assessment principles

In terms of fitness for work at sea cardiovascular conditions can be viewed simply in terms of their impairing effects. Assessment needs to address the following:

1. Are there continuing limitations of exercise tolerance – lack of ability to increase pumping action of heart as needed? Particularly relevant to ability to undertake normal and emergency duties needing physical effort
2. Is there an increased risk of sudden incapacity – rapid reduction in output of blood from heart? May be from arrhythmia or from a new episode of infarction. Incapacity is normally a consequence of reduction in blood flow to the brain causing loss of consciousness as the brain uses up the available oxygen. Important as vessel safety depends on performance of watch-keeping crew, also a risk if working in dangerous places, such as at heights or if working alone
3. Is there risk of recurrence of an existing condition or of a condition which is already apparent in one part of the body presenting elsewhere? Early treatment of many vascular conditions, such as myocardial infarction can be lifesaving. The treatments are complex and rarely available at sea. Recurrence will result in direct excess risk for the individual but can also require diversion of crew to act as carers, the risks of medevac from a vessel or the costs and quality of care problems from diversion and treatment away from home country. May determine whether the person can only work close to healthcare facilities
4. Is there a foreseeable risk of the condition progressing? Do the treatments used need regular check-ups to ensure that they are working or that there are no complications? This may determine the timing of future medical assessments and hence the duration of tours of duty
5. Are there levels of risk factors such that there is an unacceptably high level of risk that a new vascular condition will arise? Concurrently present risk factors such as smoking, high/poorly controlled blood pressure, obesity/diabetes/hyperlipidaemia may create entirely foreseeable risks. Certification of unfitness in the absence of disease may not be acceptable. Compliance with a regime of treatment or lifestyle modification can be considered with sanctions for non-compliance
6. Is there additional information available from additional clinical investigations such as angiogram results or ventricular ejection fraction measurements? These results should be considered on a case by case basis with advice from a cardiologist on their implications for risk assessment when appropriate
7. For those on antithrombotic or anticoagulant medications, [see ADG 15](#) ►

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In all these situations quantification of risk should be used where possible to determine the borderline between fitness and unfitness. Large studies on shore based populations can provide such information but these are necessarily historic and if there are changes in patterns of disease, such as the reducing incidence of myocardial infarction in many countries or the increased effectiveness of angioplasty now that stents are used then this data will overestimate risk. Similarly if risk factors such as obesity are increasing in frequency and there is recognition of a new alignment of risks associated with the metabolic syndrome then the information on subsequent disease may not have recognised all the potentially impairing consequences.

Important and relevant quantification includes:

- The increased risk of vascular events associated with different levels of blood pressure, smoking, lipids, obesity, exercise alone and in combination with each other
- The prognosis after cardiac events in terms of early and subsequent mortality, morbidity, sudden incapacitation and recurrence
- Stratification of this data by the results of various predictive tests using relevant measures of cardiac function such as Bruce protocol exercise ECG, stress, echocardiography, ejection fraction
- Prognosis after coronary artery narrowing as seen on angiogram with information on the extent to which it is modified and for how long by the procedures used for angioplasty
- Cardiac events at sea – proportion fatal, location, scope for first aid intervention or medevac

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Decision aid

1. Has the seafarer had any of the forms of cardiac event listed in the last three months?

No

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Yes

Temporarily unfit category 3 until end of three month period. **Then go to 2 ►**

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2. Is the estimated level of excess risk of recurrence very low (i.e. expected to be <2% p.a)?

To reach this level there should not be:

- more than one prior cardiac event (treatments, such as angioplasty or bypass grafting, given for an event need not be counted as a second event) or other form of ischaemic vascular disease
- any other relevant co-morbidity, e.g. diabetes, or inadequately controlled blood pressure
- risk factor controls – smoking, diet, weight, exercise – need to be demonstrably complied with
- the standard Bruce protocol exercise test¹ needs to be completed to stage 3 (nine minutes)

without ECG evidence of ischaemic change. For subsequent assessments the Bruce protocol test must be repeated if the available results are more than three years old. A normal stress echocardiogram may also be accepted. If there is significant difficulty in obtaining an exercise test, then a cardiologist's opinion of the level of excess risk of recurrence should be sought, and if less than 2% p.a. then the test may be omitted. You may wish to seek advice from CMA.

No

go to 3 ►

Yes

Fit time limited category 1. Normal duties, but to be seen after six months and then annually to confirm compliance with risk factor control

1. Exercise evaluation shall be performed on a bicycle or treadmill. Seafarers should be able to complete 3 stages of the Bruce protocol or equivalent safely, without anti-anginal medication for 48 hours and should remain free from signs of cardiovascular dysfunction, ie angina pectoris, syncope, hypotension, sustained ventricular tachycardia, and/or electrocardiographic ST segment shift which accredited medical opinion interprets as being indicative of myocardial ischaemia (usually >2mm horizontal or down-sloping). In the presence of established coronary heart disease exercise evaluation shall be required at regular intervals not exceeding 3 years. If the cause of the chest pain is in doubt, an exercise test should be carried out as above. Those with a locomotor disorder who cannot comply will require specialist cardiologist opinion.

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3. Is the estimated level of excess risk of recurrence low (i.e. expected to be between 2% and 5% p.a.)?

To reach this level:

- the Bruce protocol exercise test needs to be completed to stage 3 (nine minutes) without ECG evidence of ischaemic change. For subsequent assessments the Bruce protocol test must be repeated if the available results are more than three years old. A normal stress echocardiogram may also be accepted. If there is significant difficulty in obtaining an exercise test, then a cardiologist's opinion of the level of excess risk of recurrence should be sought, and if between 2% and 5% p.a. then the test may be omitted. You may wish to seek advice from CMA.
- must be taking steps to control risk factors

No

go to 4 ►

Yes

Restricted time limited category 2. No lone working or bridge watchkeeping duties. Either UK near coastal waters only or Fit for service only on vessels with ship's doctor. To be seen after six months and then annually to confirm compliance with risk factor control.

(This guidance includes those working as commercial Yachtmaster or Boatmaster on a coastal passenger vessel).

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4. Is the seafarer asymptomatic and able to meet the physical capability requirements of their normal and emergency duties?

No

Permanently unfit category 4 unless case by case assessment indicates that they are capable to perform non-demanding customer service functions on short (<1hr) ferry crossings and then restricted to specified duties on specified route with annual review

Yes

Case by case assessment of ability to undertake non-lone working or non-lone watchkeeping duties. *Restricted time limited category 2* on local coastal vessels, unless working on a ship with a ship's doctor with annual review if considered to be capable

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Cardiac events

1. Has the seafarer had any of the forms of cardiac event listed in the last three months?

Yes

Temporarily unfit category 3 until end of three month period. Then go to 2

No

2. Is the estimated level of excess risk of recurrence very low (i.e. expected to be <2% p.a)?
To reach this level there should not be:

- more than one prior cardiac event (treatments, such as angioplasty or bypass grafting, given for an event need not be counted as a second event) or other form of ischaemic vascular disease
- any other relevant co-morbidity, e.g. diabetes, or inadequately controlled blood pressure
- risk factor controls – smoking, diet, weight, exercise – need to be demonstrably complied with
- the standard Bruce protocol exercise test needs to be completed to stage 3 (nine minutes) without ECG evidence of ischaemic change. For subsequent assessments the Bruce protocol test must be repeated if the available results are more than three years old. A normal stress echocardiogram may also be accepted. If there is significant difficulty in obtaining an exercise test, then a cardiologist’s opinion of the level of excess risk of recurrence should be sought, and if less than 2% p.a. then the test may be omitted. You may wish to seek advice from CMA.

Yes

Fit time limited category 1. Normal duties, but to be seen after six months and then annually to confirm compliance with risk factor control

No

3. Is the estimated level of excess risk of recurrence low (i.e. expected to be between 2% and 5% p.a.)?
To reach this level:
the Bruce protocol exercise test needs to be completed to stage 3 (nine minutes) without ECG evidence of ischaemic change. For subsequent assessments the Bruce protocol test must be repeated if the available results are more than three years old. A normal stress echocardiogram may also be accepted. If there is significant difficulty in obtaining an exercise test, then a cardiologist’s opinion of the level of excess risk of recurrence should be sought, and if between 2% and 5% p.a. then the test may be omitted. You may wish to seek advice from CMA.

Yes

Restricted time limited category 2. No lone working or bridge watchkeeping (including those as commercial yachtmaster or boatmaster on a coastal passenger vessel) duties. Not fit for worldwide waters on vessel without a doctor. To be seen after six months and then annually to confirm compliance with risk factor control

No

4. Is the seafarer asymptomatic and able to meet the physical capability requirements of their normal and emergency duties?

Yes

Case by case assessment of ability to undertake non-lone working on non-lone watchkeeping duties. *Restricted time limited category 2* on local coastal vessels, unless working on a ship with a ship’s doctor with annual review if considered to be capable

No

Permanently unfit category 4 unless case by case assessment indicates that they are capable to perform non-demanding customer service functions on short (<1hr) ferry crossings and then restricted to specified duties on specified route with annual review

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Advice to seafarers

Advice on prevention of recurrence needs to be given and recorded. This may include: risk factor screening (weight, smoking, blood pressure, lipids, exercise, diet, diabetes) at medical – dietary and lifestyle advice. Advice to cease smoking.

Seafarers returning post 'cardiac event' to be made aware of limited treatment facilities at sea and hence increased risk in the event of recurrence. Compliance with risk reduction (e.g. weight control, smoking cessation) measures may be made a condition of re-certification.

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ADG 10

Asthma

Introduction

Asthma is a chronic condition characterised by inflammation within the airways. Symptoms are usually episodic and include cough, wheezing, chest tightness and breathlessness. Episodes may last from a few minutes to several weeks and vary in severity from trivial to fatal. Episodes may be provoked by various factors. Respiratory infections are the commonest cause but more transient episodes may follow exercise, especially in cold dry air, or exposures to allergens or respiratory irritants. Some episodes appear to occur spontaneously but these are rarely severe. An individual with asthma may be affected by one or more of these factors. Asthma can occur at any age but is most common in childhood. Many children with asthma grow out of their symptoms during their teen age years. Occupational asthma may also occur in a previously unaffected individual as a result of sensitisation to certain chemicals and organic materials which are encountered in the course of work, some of which are found at sea. Modern treatment of asthma is very effective and results in good control of symptoms in most patients.

It is recommended in both the NICE and the BTS/SIGN guidelines on the management of asthma that all asthmatics should have an Asthma Action Plan, and should also arrange for a routine review of their asthma with their doctor (GP or specialist) annually. An action plan can reduce the rate of hospital admissions for asthma by up to four times. An Action Plan template can be found here: <https://www.asthma.org.uk/advice/manage-your-asthma/action-plan/>. For overseas seafarers, or those who have no regular doctor, the AD should instruct them to establish contact with a doctor who can regularly advise on management and formulate an action plan for them.

Impairment and risk

The importance of asthma in relation to fitness to work at sea lies in the possibility of an acute episode occurring while at sea leading to a severe or life threatening illness where the medical support required for appropriate treatment is unavailable.

Rationale and justification

- There is no evidence about asthma risks in seafarers beyond case reports. Hence information from onshore studies needs to be used. ■

A history of asthma is common in cadets entering seafaring.

- Asthma is very common in children; although > 25% have such a diagnosis recorded in their clinical notes the true prevalence is closer to around 15%. A large proportion of those with true childhood asthma cease to have symptoms in their teens, but some continue to have hyper-reactive airways and an asthmatic response to irritants and allergens into adult life.
- People whose asthma is reliably controlled by regular use of a preventer inhaler (corticosteroid or long term beta agonists) and with only occasional use of supplementary short term reliever bronchodilators rarely develop severe and potentially life threatening episodes.
- Test methods can sometimes be used to detect the causes of asthma. Specific immunoglobulin levels may be raised by some agents causing asthma.

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Classification of asthma as an aid to decision taking

Childhood Asthma

- Mild – few or no hospitalisations, normal activities between episodes, controlled by inhaler therapy alone, remission before age 16, normal lung function
- Moderate – few hospitalisations, frequent use of reliever inhaler between episodes, interference with normal exercise activity, remission before age 16, normal lung function
- Severe – frequent episodes requiring treatment to be made more intensive, regular hospitalisation, frequent oral or iv steroid use, lost schooling, abnormal lung function

Adult Asthma

Asthma may persist from childhood or start over the age of 16. There is a wide range of intrinsic and external causes for asthma developing in adult life. In late entry recruits with a history of adult onset asthma the role of specific allergens, including those causing occupational asthma should be investigated. Less specific inducers such as cold, exercise and respiratory infection also need to be considered. All can affect fitness for work at sea.

- **Mild intermittent asthma** – infrequent episodes of mild wheezing occurring less than once every 2 weeks, readily and rapidly relieved by beta agonist inhaler.
- **Mild asthma** – frequent episodes of wheezing requiring use of beta agonist inhaler or the introduction of a corticosteroid inhaler. Regular use of a preventer inhaler may effectively eliminate symptoms and the need for more than occasional use of a rapid acting bronchodilator reliever inhaler.

- **Exercise induced asthma** – episodes of wheezing and breathlessness provoked by exertion especially in the cold. Episodes may be effectively controlled by either long-term preventer inhalers, short term reliever inhalers used prior to or during exercise or by oral medication.
- **Moderate asthma** – frequent episodes of wheezing despite regular use of inhaled steroid (or steroid/long acting beta agonist) treatment requiring continued use of frequent beta agonist inhaler treatment, or the addition of other medication, occasional requirement for oral steroids.
- **Severe asthma** – frequent episodes of wheeze and breathlessness, frequent hospitalisation, frequent use of oral steroid treatment.
- **Reactive Airway Dysfunction Syndrome** – onset over age 16 following chemical inhalation incident. This is characterised by non-specific airway hyper-reactivity brought on by irritants, cold etc and will follow a single severe overexposure to an irritant such as chlorine or ammonia. It is likely to limit fitness for work at sea.

Assessment and decision taking

- **First determine how the asthma is classified, using the above criteria.** Essentially the clinical pattern of past episodes and the therapy required is a good assessment of severity/control, and a useful indication of the likely pattern of future episodes. Previous exacerbation is the most important predictor of future exacerbation. Control may be assessed using an [Asthma Control Test questionnaire](#).

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■ What is the pattern of past responses?

How frequent have they been and is there a pattern to their severity such that each is more severe than the one before? Do episodes regularly follow a particular provoking factor such as a respiratory infection, exercise in cold air or exposure to other irritants? This information may be a guide to the nature of future episodes, but respiratory infection in particular does not consistently produce an asthmatic response.

■ Is there evidence of an allergic cause for the asthma?

This is less common but important because the features of increasingly severe reactions and the need to avoid exposure totally to prevent recurrence are specific to allergy and may sometimes be the major reason for deciding that a person is unfit. If the causal agent is known it may be possible to determine whether it is likely to be present at sea. Thus exposure to cats will usually be avoided at sea (if not in port), but house dust mites are likely to be present.

■ Is prevention solely based on avoidance or is any medication used?

If medication is required then some degree of surveillance may be needed.

- **What oral medications are (or have recently been) used?** Oral steroids may be an indicator of a significant episode. The indications for a prescription should be explored, usually with the GP. Appropriate indications include:
 - Symptoms and PEF get progressively worse each day
 - PEF below 60% of best result
 - Sleep disturbed by asthma
 - Morning symptoms persist until midday
 - Maximum other treatment not including oral steroids does not work
 - Emergency nebuliser or injected bronchodilators needed

If steroids have been given as a precautionary measure when a known asthmatic has an RTI but no worsening of their asthma (when steroids would not normally be indicated), the prescription is not necessarily an indicator of increased risk.

- **Are inhalers used?** If used for prevention are they taken regularly or only from time to time? If beta agonists are used to relieve episodes of bronchospasm how frequently are they used? Prescribing data from the GP may give useful additional information on inhaler use.

■ Does the sufferer self treat in the event of an episode?

This will require assessment in terms of the acceptability of the medication at sea and the consequences of any failure to control symptoms effectively.

■ How secure is the diagnostic information?

An applicant who is concerned that asthma may have an adverse effect on the issue of a certificate is likely to minimise the severity of their condition and to overstate the effectiveness with which it is controlled. If the pattern of the condition and the effectiveness of its treatment is supported by a detailed medical report from the person's GP or from a chest physician then decision taking may have a firmer foundation. If there are doubts about severity then a medical report should be obtained and, if it is from a chest physician, the potential value of non-specific challenge testing to estimate current reactivity should be raised. In requesting a report it is important to indicate the reasons for needing it – as in 'Impairment and risk' on page 1 of this guidance.

Note: If an occupational cause for asthma that is present in the person's current pattern of employment is found it is important that the ship operator is made aware of this, this may be directly with the consent of the individual or by informing the MCA of the details of the case and providing contact information for the operator. In all cases where the classification of the person's asthma is in doubt an assessment by a specialist chest physician should be undertaken.

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Decision aid

1. Is there a history of severe childhood asthma with any symptoms at all present during the last five years OR moderate OR severe asthma as an adult?

No

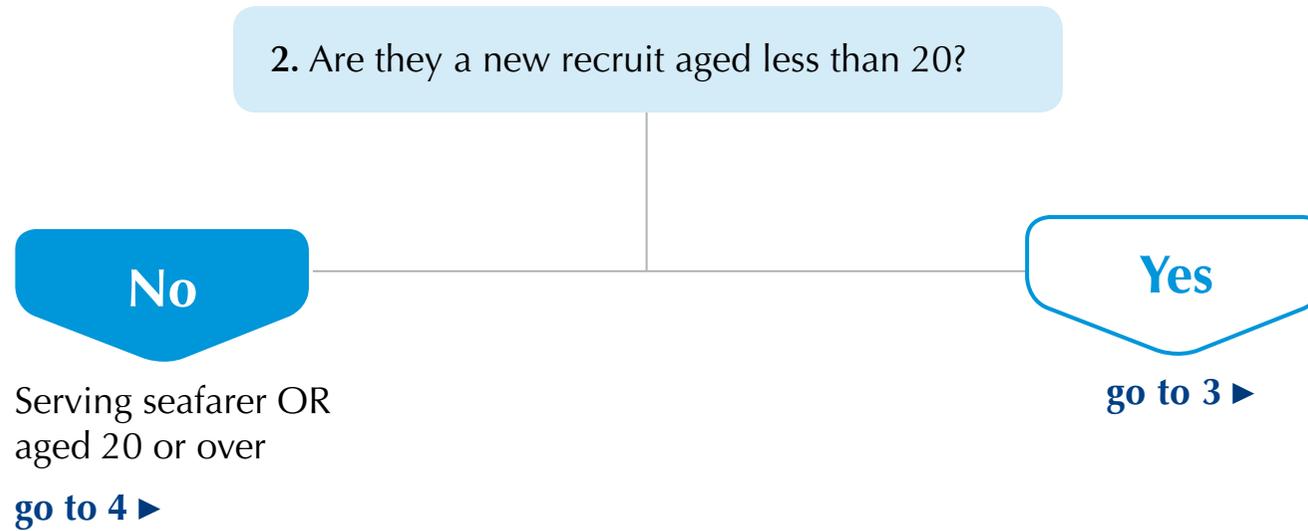
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Yes

High risk of future severe episodes
– *category 4 permanently unfit.*

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3. Is there a history of mild or moderate childhood asthma AND person does not currently need to use bronchodilator reliever inhalers (either alone or to supplement regular use of preventer inhalers) on more than two days a month. AND have had no hospital admissions over the last three years AND have had no oral steroid treatment appropriately prescribed for exacerbation of asthma during the last three years?

No

Time needed to assess if asthma resolving, *Category 3 temporarily unfit*

EITHER until three years since last hospital admission or oral steroid use.

OR, if not hospital admission or oral steroid use, for one year and then re-assess inhaler use.

Yes

Low risk of severe recurrence – *category 1 fit*.

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4. Is there a history of mild or exercise induced asthma as an adult that is fully controlled by the regular use of a preventative inhaler and/or by occasional use of a bronchodilator on not more than two days a month or only in relation to extreme and exceptional exercise?

No

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Yes

Low risk of severe recurrences
– *category 1 fit*

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5. Is there a history of moderate asthma as an adult but with good control using regular treatment with either preventer or reliever inhalers AND with no episodes requiring hospital admission or oral steroid treatment appropriately prescribed for exacerbation of asthma during the last two years OR do they have mild or exercise induced asthma that requires regular treatment?

No

Time needed to assess status of asthma or risks uncertain
– *Category 3 temporarily unfit* until two years after any hospital admission or use of oral steroids.

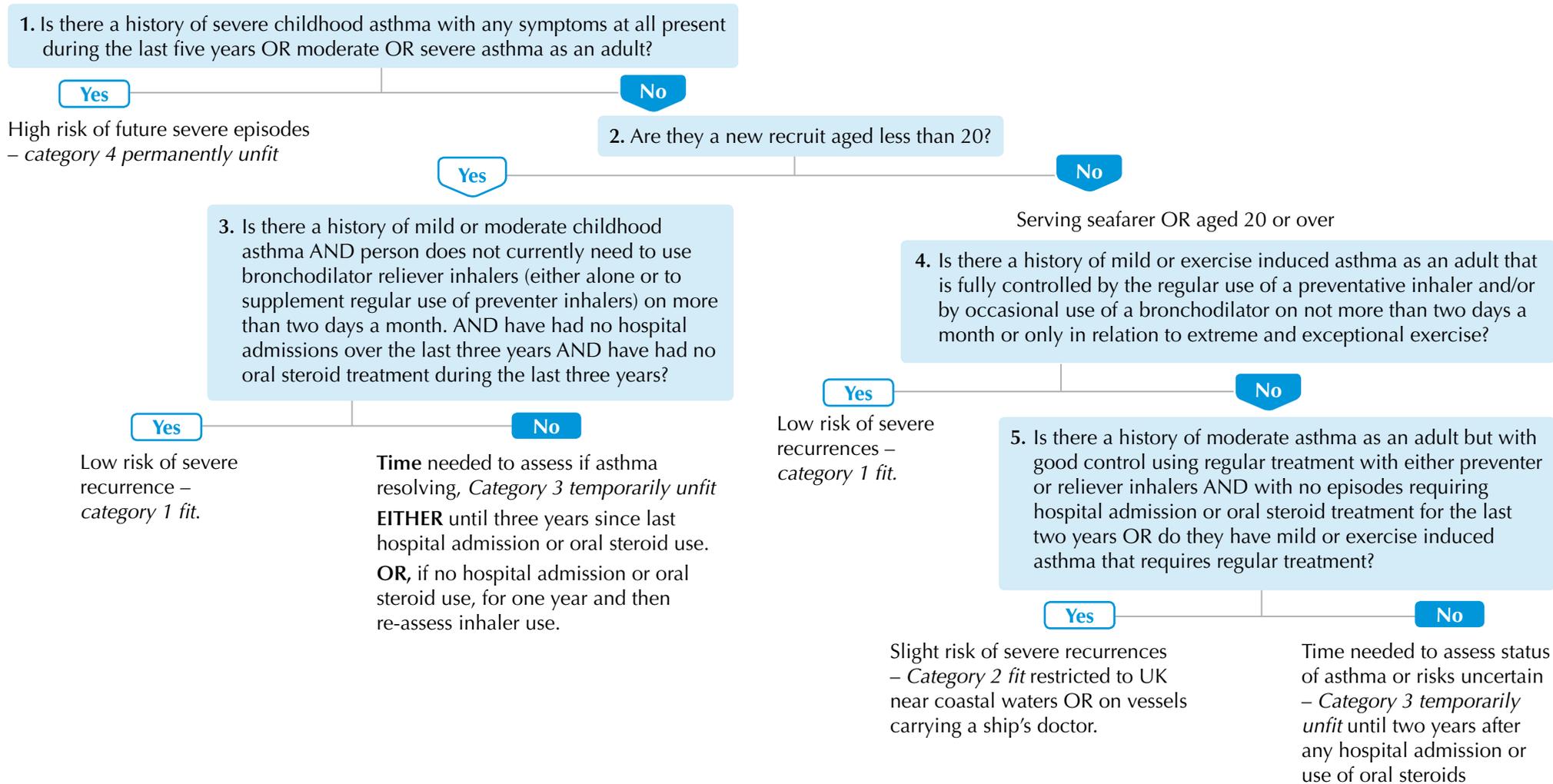
Yes

Slight risk of severe recurrences
– *Category 2 fit* restricted to UK near coastal waters OR on vessels carrying a ship's doctor. Must carry a written self management plan, or time limit to 6 months pending development of this with either GP or specialist.

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Asthma



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Conditions for certificate issue

1. For anyone who uses preventer inhalers their continuing use as prescribed will be made a condition of certificate issue. Sufficient medication must be taken aboard to cover the longest anticipated period before a return visit to the treating doctor. If a clinical decision is taken that the use of preventers should be stopped or modified the seafarer will need to be re-assessed and a period ashore may be needed to confirm that the change has not increased the risk of future episodes.
2. Anyone who uses reliever inhalers must take aboard sufficient to cover twice the current level of use for the longest anticipated period before return to the treating doctor.
3. Increased medication use is an indicator that the control of the asthma is no longer adequate and the seafarer should be advised to obtain medical advice at the next available/possible opportunity.
4. Seafarers should be given and carry a 'to whom it may concern' letter indicating their treatment regime, the fact that the validity of their certificate is conditional on maintaining any prescribed treatment and the need for medical assessment in the event of any problems with control. They should be advised to show this to the captain or responsible officer on embarkation.

Testing of lung function and bronchial reactivity

As spirometry frequently does not show any abnormalities between attacks of asthma it is an insensitive measure of either diagnosis or severity. A period of peak flow monitoring 4 times a day is more useful as an indicator of bronchial reactivity. Bronchial reactivity testing in the presence of possible asthma is a valid but hospital-based means of assessment. Various protocols using different provoking agents are used. Exercise will also act as a trigger and has been used in the armed forces, and is an easier to use but equally valid predictor of future asthma risk. Exercise testing if necessary should be undertaken at a specialist clinic so that results can be interpreted by the responsible clinician.

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ADG 11

Dental inspection

Impairment and risks

Severe dental pain is a common cause of medical emergencies at sea. The individual will be incapacitated or severely limited in their duties. Effective pain relief and treatment normally requires transfer to an onshore dentist. Less severe problems such as hot, cold or pressure sensitivity of teeth can make eating difficult or impossible.

Severe gum disease can lead to difficulty in eating and bleeding from the gums while eating or when teeth are cleaned. This can be distressing but is rarely a medical emergency.

The presence of orthodontic devices implies a continuing need for adjustment and treatment, as well as the need for urgent access to dental services in the event of breakage.

Complex prostheses can break, with repair restricted to a limited number of technicians or dentists. The individual may have spent a large sum of money on the dental work and hence expects to see a dentist competent in the techniques used urgently to avoid the need to have further expensive re-design work.

Rationale and justification

- The evidence base on the frequency and severity of dental emergencies in seafarers is very limited. Studies on offshore workers and in the military indicate that dental pain is one of the commonest medical emergencies requiring urgent transfer to medical care
- A well maintained dentition and healthy gums reduce the risk of emergencies, however very extensive dental work is also prone to failure in use
- Dental treatment will almost always reduce risk to a level that is compatible with work at sea
- The optimum frequency of dental check-ups is disputed

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Clinical assessment and decision taking

Note: When booking their appointment, seafarers should be advised that a fitness certificate will not be issued if there is evidence of poor dental health. If they have not had a dental check up in the last year, have any dental symptoms or missing fillings they should be advised to make a dental appointment prior to the medical in order to save time, should their dental fitness be in doubt.

Examining doctors will not usually be competent to do more than a general inspection of the teeth and gums to identify damaged teeth, missing fillings, the presence of prosthetic devices and obvious gum disease. Symptoms can be elicited but not reliably used as the basis for making specific dental diagnoses. The history of dental check-ups and treatment can be obtained.

- All seafarers should be asked if they have any dental symptoms (dental pain, hot/cold/pressure sensitivity, sore/swollen or bleeding gums), the date of their last check-up and whether they are currently receiving dental treatment. They should be asked if they have had any teeth replaced other than by normal filling and crowning procedures
- The teeth and gums should be inspected and any caries, badly broken teeth, large missing fillings, sore/swollen/retracted/bleeding gums noted. The presence of prostheses should be identified

- Complex prostheses or orthodontic appliances may fail and require repair or adjustment, less commonly they may lead to dental pain. The seafarer should be advised that, while dental pain can be considered an emergency at sea, malfunction is not and so they are likely to have to wait until the end of their period of duty for any repair or adjustment

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1. Does the health of teeth and gums (gums alone if edentulous and with well fitting dentures in good repair) appear to be good, with no complex prostheses?

No

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Yes

Fit category 1

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2. Has the seafarer had a dental check-up in the last year, had any recommended treatment completed and not been aware of any new problems since completion? (In cases of doubt about the history require the person to obtain confirmatory letter from treating dentist before taking decision.)

No

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Yes

Fit category 1

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3. Does the seafarer work on near coastal shipping where access to emergency dental facilities is normally within 24 hours and where being absent from vessel because of treatment will not lead to safety critical problems in relation to manning levels or to other safety critical problems (e.g. oil rig emergency standby vessels)?

No

Temporarily unfit category 3. Inform the seafarer that they need to consult with a dentist prior to issue of certificate:

- if complex prostheses or orthodontic appliances present obtain written dental confirmation, or telephone confirmation to examining doctor, that risk of malfunction leading to disabling dental pain is anticipated to be less than 10% p.a.
- otherwise obtain written dental confirmation, or telephone confirmation to examining doctor, that dental health is good, that there is no excess risk of a dental emergency and that treatment is planned and agreed to or that all recommended treatment has now been completed.

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Yes

Restricted category 2. Limited to work on specified duties that meet these criteria. Advise on need for dental assessment and consider time limitation to check that treatment obtained

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4. Has confirmation been received?

No

Yes

Temporarily unfit category 3 if resolution anticipated.

Fit category 1

Permanently unfit category 4 if risk will remain or person non-compliant with dental recommendations. May consider near coastal restricted option (as above) as alternative to permanent unfitness.

Note: Some forms of maritime employment may be such that the consequences of severe dental pain at sea will be very disruptive for the operation of the vessel, e.g. work in Antarctica or on nuclear materials transport vessels. Employers in such circumstances may require a certificate of dental fitness on all crew members prior to engagement and regular dental checks thereafter.

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Dental inspection

1. Does the health of teeth and gums (gums alone if edentulous and with well fitting dentures in good repair) appear to be good, with no complex prostheses?

Yes

Fit category 1

No

2. Has the seafarer had a dental check-up in the last year, had any recommended treatment completed and not been aware of any new problems since completion? (In cases of doubt about the history require the person to obtain confirmatory letter from treating dentist before taking decision.)

Yes

Fit category 1

No

3. Does the seafarer work on near coastal shipping where access to emergency dental facilities is normally within 24 hours and where being absent from vessel because of treatment will not lead to safety critical problems in relation to manning levels or to other safety critical problems (e.g. oil rig emergency standby vessels)?

Yes

Restricted category 2.
Limited to work on specified duties that meet these criteria. Advise on need for dental assessment and consider time limitation to check that treatment obtained

No

Temporarily unfit category 3. Inform the seafarer that they need to consult with a dentist prior to issue of certificate:

- if complex prostheses or orthodontic appliances present obtain written dental confirmation, or telephone confirmation to examining doctor, that risk of malfunction leading to disabling dental pain is anticipated to be less than 10% p.a.
- otherwise obtain written dental confirmation, or telephone confirmation to examining doctor, that dental health is good, that there is no excess risk of a dental emergency and that treatment is planned and agreed to or that all recommended treatment has now been completed.

4. Has confirmation been received?

Yes

Fit category 1

No

Temporarily unfit category 3 if resolution anticipated.

Note: Some forms of maritime employment may be such that the consequences of severe dental pain at sea will be very disruptive for the operation of the vessel, e.g. work in Antarctica or on nuclear materials transport vessels. Employers in such circumstances may require a certificate of dental fitness on all crew members prior to engagement and regular dental checks thereafter.

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ADG 12

Urine testing

Background

Urine testing, normally by dipstick, forms an essential part of the medical assessment. The rationale for this is as an indicator of kidney and other disease and that positive findings require certification of temporary unfitness until fully investigated, with their causes resolved. Recent studies and reviews indicate that the excess risk of serious or sudden illness after some sorts of positive results is very low and cessation of routine testing for blood and protein has even been advocated. In medical fitness assessment simple urine testing can still be justified as the pressures to obtain and retain work may be sufficient to mean that past urinary tract or other disease is not otherwise disclosed. Recent general recommendations about follow up to positive urine tests enable the requirements for investigation and determination of cause to be specified in more detail for seafarers and in a way which will enable many to return to sea immediately. In the case of recruits, the low rate of abnormality associated with findings of trace proteinuria or haematuria mean that these findings, without any other signs or symptoms are not a reason for failure.

Notes:

1. These recommendations apply to seafarers from the United Kingdom. Where there is a different national pattern of renal and urinary tract disease, for instance a high incidence of renal calculi or parasitic infections, then local criteria for investigation should be followed.
2. The guidance only relates to decision taking about fitness to work at sea. If abnormal results are found on any test it will normally be appropriate to either advise the seafarer to see their general practitioner or to write them a letter stating the result.

Haematuria

Impairment and risk

May be an indicator of the potential for a medical emergency at sea from renal colic or from recurrence of urinary tract infection. May identify longer term risk from the development of a urinary tract cancer.

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Rationale and justification

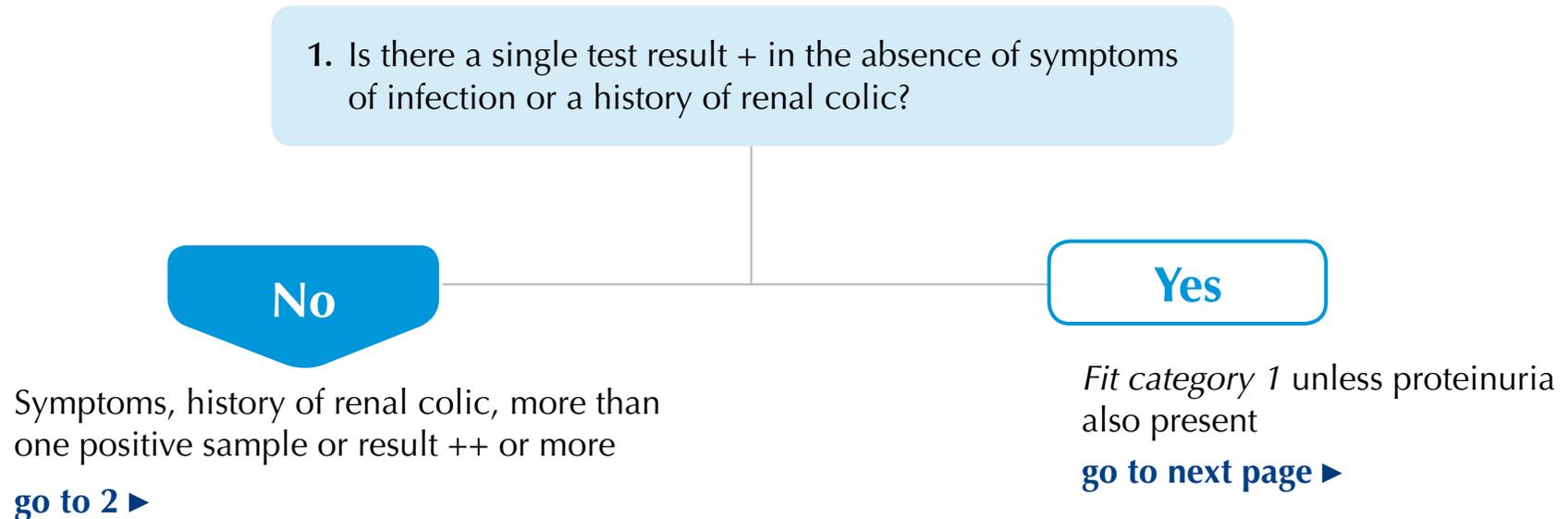
- Dipstick tests are highly sensitive and there are only weak links between positive findings and subsequent disease. The extrapolation of prognosis from visible to dipstick haematuria is not justified. Haematuria can be present in urinary tract infection, with calculi, from prostatic disease or from a carcinoma of the urinary tract. Blood may also be present in a urine sample from menstruation or from minor lower tract trauma
- Detection of urinary tract cancers based on detailed investigation of all cases of dipstick haematuria does not appear to improve prognosis as compared with action taken when they first present with visible haematuria or other signs
- Haematuria associated with proteinuria, even at quite low levels, can be an indicator of early glomerular disease

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Assessment and decision taking

Haematuria

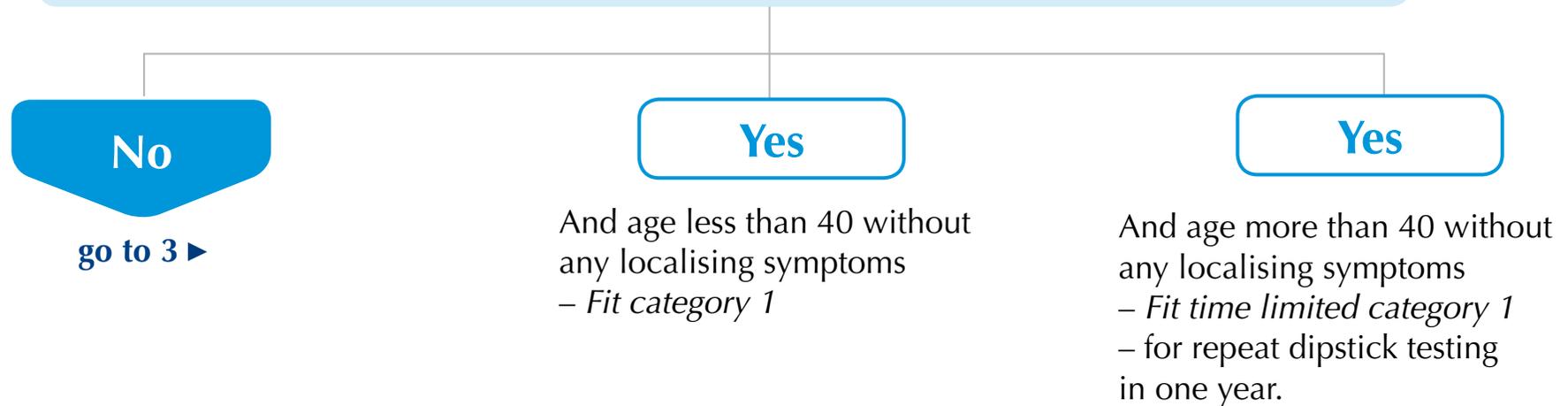
Trace haematuria may be considered negative and does not need to be investigated



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Haematuria

2. Exclude transient cause e.g. menstruation, exercise induced haematuria or myoglobinuria. Unless negative dipstick result for leucocytes and nitrites, arrange culture for infection. This may be either done by AD or by GP. Repeat testing then normal and no infection.



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Haematuria

3. Arrange specialist investigation, normally via GP. Is there severe haematuria, signs or symptoms of infection or colic or prostatic disease?

No

Yes

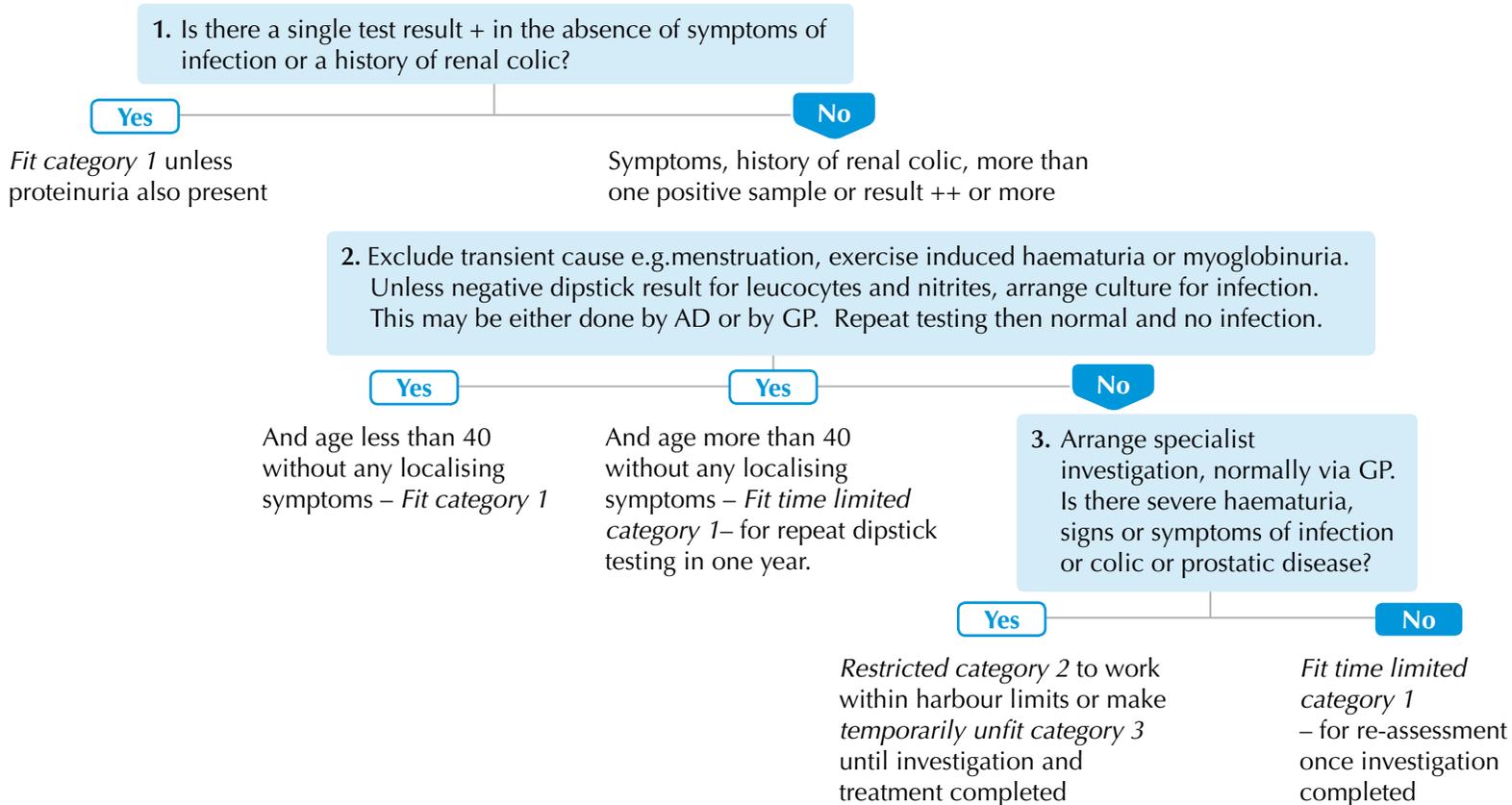
Fit time limited category 1
– for re-assessment once investigation completed

Restricted category 2 to work within harbour limits or make temporarily unfit category 3 until investigation and treatment completed

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Urology – Haematuria



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Proteinuria

Impairment and risk

Proteinuria may be an indicator of kidney pathology. In this case there is a risk of progressive kidney failure. This may lead to illness at sea. It may also indicate that the kidney has less than the normal ability to deal with dehydration or fluid overload.

Rationale and justification

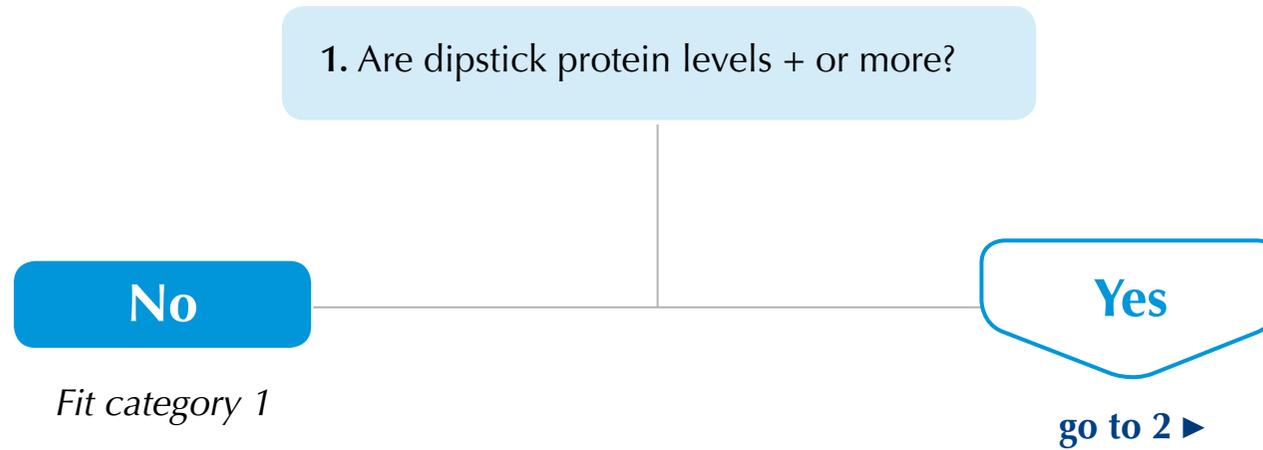
- The dipstick tests for protein are very sensitive. Levels +++ are likely to indicate significant renal or metabolic problems, lower levels are rarely indicative of serious pathology. The presence of both haematuria and proteinuria together can be an indicator of the early stages of glomerular disease
 - The presence of casts on urine microscopy increases the likelihood that the proteinuria (with or without haematuria) is an indicator of renal pathology. The ratio of protein to creatinine is an indicator of whether there is a normal pattern of urinary excretion from the kidney. The laboratory used can advise on reference values
 - The presence of semen or vaginal fluids and urinary tract infection can all lead to the detection of protein in the urine
- The presence of proteinuria + + + indicates a risk in the short term from depletion of protein or from the presence of severe renal damage
 - Progression from minor degrees of kidney impairment to serious kidney disease that could lead to an emergency at sea does not always occur and when it does it normally takes place over a period of several years. Progression can be monitored

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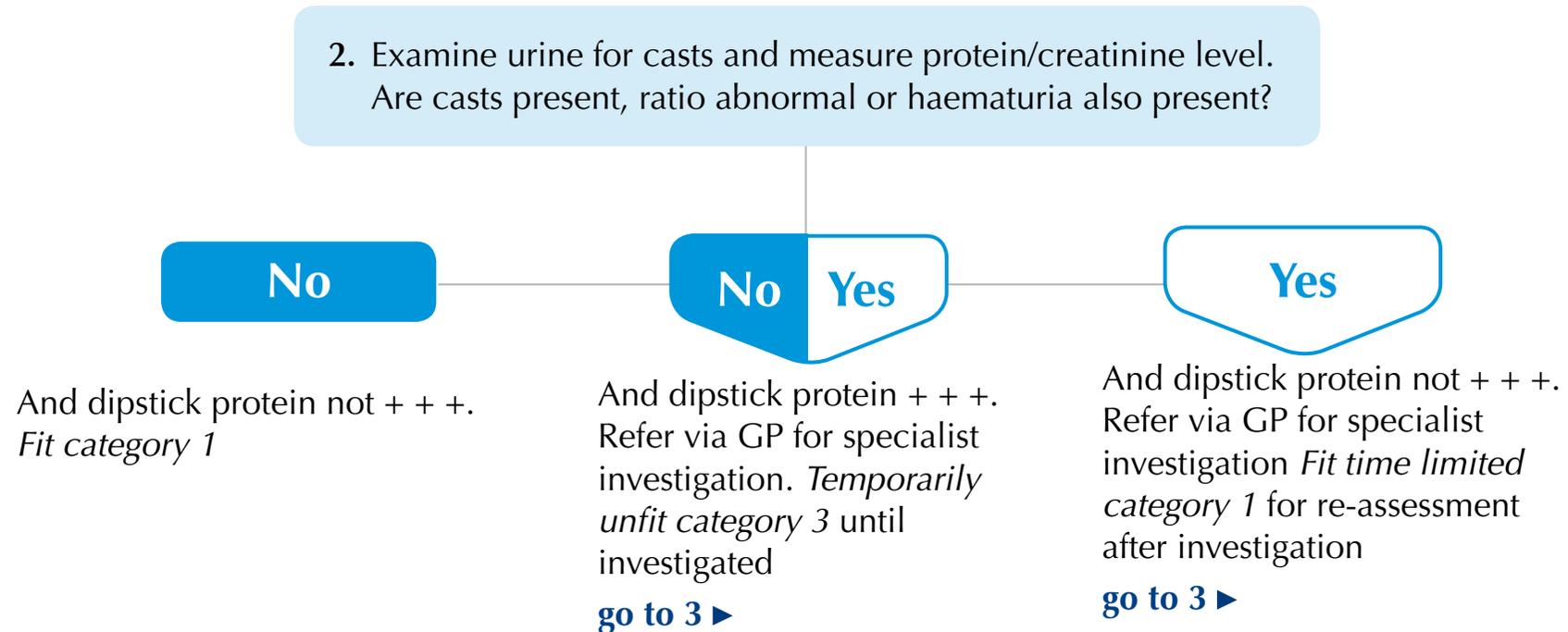
Assessment and decision taking

Proteinuria



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Proteinuria



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Proteinuria

3. Assessment after specialist investigation and report.
Is there significant impairment of kidney function?

No

Based on specialist advice. *Fit category 1*, with time limit if surveillance recommended

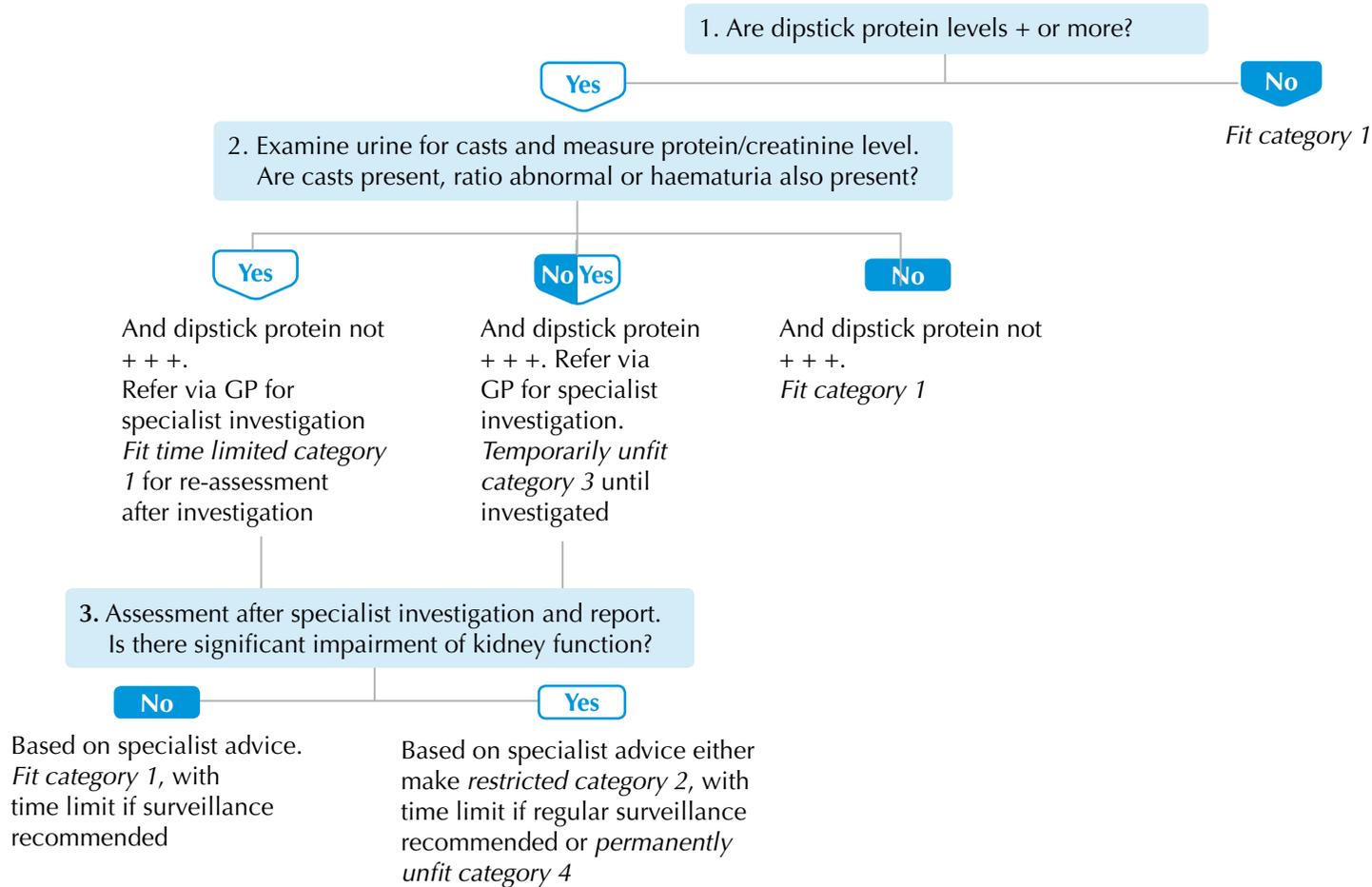
Yes

Based on specialist advice either make *restricted category 2*, with time limit if regular surveillance recommended or *permanently unfit category 4*

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Urology – Proteinuria



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Glycosuria

Impairment and risks

Glycosuria is a common presenting feature of diabetes. The risks are those of the condition. Untreated it may indicate a short term risk of diabetic keto-acidosis and coma.

Rationale and justification

- Glycosuria occurs when the threshold for glucose re-absorption by the kidney has been exceeded. It is not as reliable a way of screening for diabetes as measuring fasting blood glucose or looking at the effects of an acute glucose load on blood and urine levels
- The presence of glycosuria in a person with diabetes indicates that the control of their blood glucose levels is poor and their treatment needs reviewing.

The presence of ketones on dipstick testing indicates that changes that are a consequence of altered glucose metabolism are present

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Assessment and decision taking

Glycosuria

1. Glycosuria found on dipstick

Yes

Refer for investigation of results if not previously diagnosed with diabetes and for review of treatment if a known case. [See MSN 1886 standards section 3.2 – 3.4](#) for details of investigations needed. *Temporarily unfit category 3* Re-assess after investigation and treatment.

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Urology – Glycosuria

1. Glycosuria found on dipstick

Yes

Refer for investigation of results if not previously diagnosed with diabetes and for review of treatment if a known case. [See MSN 1886 standards section 3.2 – 3.4](#) for details of investigations needed. *Temporarily unfit category 3* Re-assess after investigation and treatment.

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ADG 13

Hearing, ear disease, speech and communication disorders

Impairment and risks

Adequate hearing is essential for interpersonal and radio/telephone communications at sea. These communications often take place with background noise or interference and often have to transcend language barriers. Failure to hear and respond to a message correctly is frequently safety-critical.

Audible alarms are widely used to signal safety information. They form the usual means of arousing off duty and sleeping seafarers if action is needed to safeguard the vessel or ensure personal survival.

High noise levels are a feature of machinery spaces. Prolonged exposure to high noise levels leads to noise induced hearing loss (NIHL), a recognised occupational disease. This can result in inability to hear the spoken word, and in severe cases, alarms.

The aim is not to require perfect hearing but the functional capability to meet the safety critical job requirements. Local risk assessment may need to be performed to determine suitability for proposed duties.

Rationale and justification

- There is limited evidence about the degree of hearing loss needed to prevent correct understanding of the spoken word and it is highly dependent on signal to noise ratio
- Understanding of face to face speech is normally better than for telecommunications as there are non-hearing clues about content. However technical improvements such as wider bandwidth and noise cancelling or excluding headsets and earpieces can improve reception of auditory information
- The middle frequencies of hearing are those most relevant to speech recognition
- Unilateral hearing loss may slightly reduce a person's ability to identify the direction of a noise but it is the hearing in the better ear that determines ability to hear speech
- The level of audible warning needed to wake a person from sleep is variable and so it is not possible to define objective levels that are needed to arouse those with hearing impairment. Vibrating alarms or bright flashing lights are suitable alternatives
- Hearing aids will improve speech comprehension to varying extents depending on the nature of the hearing loss in the individual and any associated complications of deafness such as tinnitus. Individual assessment in noisy as well as quiet surroundings will be needed

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- There is good evidence that prolonged high levels of noise in ship machinery spaces cause noise induced hearing loss. There is also good evidence from onshore studies that links the severity and duration of exposure to the degree of hearing loss. This forms the basis for design standards of new vessels
- Ear defenders (muffs and plugs) produce some reduction in noise exposure and in the risk of damage. To be effective they must be worn all the time in noisy areas and fit well. Problems may arise from skin saturation leading to irritation or infection in hot and humid conditions. Ear defenders reduce both the levels of noise and of any communications by the same amount. As the signal to noise ratio is unchanged it is just as easy to hear conversation, alarms and abnormal sounds with and without defenders on. Incorporation of telecoms receivers within ear defenders can enhance reception while at the same time encouraging the use of the defenders
- Assessment of deafness by whisper tests is inherently subjective and should not be used
- Accounts of communication difficulties from other crew members are important evidence of impairment
- Pure tone audiometry provides a valid and reliable way of measuring hearing loss in each ear across a range of frequencies. It is the method used for evaluating noise induced hearing loss but does not correlate well with subjective impairment when there is moderate hearing impairment
- There is now a well validated and simple to use screening test of speech recognition (see below). The criteria used for this test set thresholds that are appropriate to fitness to work safely at sea. They are not intended to pick up high tone loss of the sort that is relevant to NIHL nor to detect unilateral loss as one good ear is enough to meet the standards.

Clinical assessment

a) Frequency of testing

Hearing normally deteriorates only slowly. Hearing testing must be performed at the first medical for all seafarers, then every ten years. If therefore there is evidence of testing within the ten years prior to the date of examination, it need not be repeated unless a hearing loss is suspected. Evidence may come from the AD's own clinical records, a test date given on the ENG 1 certificate that is being withdrawn or from a named and dated audiometry tracing made for other purposes, such as during a hearing conservation programme which is available to the AD. The date of the last test, either as identified from records or as performed during the current medical, should be entered on the newly issued ENG 1.

b) Methods

Hearing should be tested using either **pure tone audiometry** or the **speech recognition test**. As the basic hearing test (when required) forms part of the essential requirements for the ENG 1 medical, no additional charge is permitted for performing either test. Should audiometry be necessary as an additional test at the request of the employer, or when there are hearing problems, an additional charge may be made. (See AD manual 3.13).

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Audiometry

At the start of a seafaring career as part of health surveillance a baseline audiogram provides both information on any current hearing impairment and a benchmark against which future changes from noise exposure or other causes can be identified.

In addition a loss greater than 30dB (unaided) in the better ear, taking the averages of the frequencies 500, 1000, 2000, 3000 Hz, indicates that there are likely to be problems with hearing normal speech at a distance of 2-3 metres.

The need for health surveillance of seafarers exposed to noise using audiometry will be determined by the employer's assessment of noise levels and the length of exposure to them. In general engineers regularly spending two or more hours a day in machinery spaces where a normal talking voice cannot be heard at 2 metres will need periodic audiometry examinations and these should be arranged by their employer.

Speech recognition test

For all seafarers an ability to hear speech and warning signals is essential. A number of screening tests for speech reception ability have been developed. These are mostly based on responding to triplets of single digit numbers presented through headphones or by loudspeaker that have varying levels of white sound masking applied to interfere with their clarity.

There are now two validated tests recognised for use by the MCA. The Action on Hearing Loss (AHL) test which has been in use since 2010 is unfortunately no longer available on line, but can be accessed by telephone on +44 (0)8448003838, preferably using a speaker phone so that you can hear the result yourself. Alternatively, for those with a smartphone or iPad, the WHO app can be found by searching the App store for hearWHO and is compatible with both iOS and android devices. This requires either headphones or speakers connected using a jack (it does not work with the phone's internal speakers). It works well on an iPad, but on an iPhone the bottom line of the guidance may be missing, but reads as follows.

- Find a quiet place for the test. You can only do the test when the noise meter indicates yellow or green
- Adjust the volume so you can hear all the three digits
- What does the score mean?
- If your score is below 50 You may have a hearing problem
- Between 50 and 75 Your hearing is OK
- If your score is above 75 You have good hearing

For more information see:

<https://www.actiononhearingloss.org.uk/hearing-health/check-your-hearing/>
<https://www.who.int/deafness/news/hearWHOApp-news/en>

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Testing requires a quiet room but does not require a soundproof booth and only takes about five minutes to complete. Because it uses correct reception of numbers it can be seen as immediately relevant to the sort of practical task for which hearing at sea is essential.

The results categorise those tested as:

1. AHL Unimpaired (WHO score above 75, You have good hearing): approximates to less than 25 dB loss
2. AHL Possibly impaired (WHO score between 50 and 75, Your hearing is OK): approximates to 25-35 dB loss
3. AHL Definitely impaired (WHO score below 50, You may have a hearing problem): approximates to more than 35 dB loss

These tests may be used at all medicals but where there is continuity of records it will be appropriate to use it at initial medicals and then every ten years or if there is any suspicion of a hearing problem. If audiometry is undertaken then speech recognition tests need not be used.

The test must be conducted during the course of the examination, a print out of a test done at home is not sufficient.

The whisper test

This test is no longer acceptable as a means of assessment and should not be used at the ENG medical.

Testing – other aspects

The effectiveness of audible alarms is difficult to assess except on board a vessel. Definite impairment is shown by audiometry, speech recognition testing, or less reliably by, for instance, an inability to hear a telephone ringing in the same room.

An audiologist's assessment may be needed if there is defective hearing in one ear to establish that this is caused by a condition that could later reduce hearing in the other ear. As decline in hearing is slow this is unlikely to influence immediate decisions about fitness, but may be relevant when advising on future career options.

Testing of those who wear a hearing aid is complex. A view from an audiologist on impairment with and without the aid should be obtained. The speech recognition test (using speakers rather than headphones) with and without the aid in place can be used as an initial screen. As volumes differ with different speakers, the speech recognition test is not sufficiently accurate to test those with hearing aids unless it is possible with a sound level meter to ensure that the volume of the test is 65 dB at the level of the ear.

Normally, those who wear hearing aids can be expected to attend with an up to date hearing assessment from their NHS or private provider, which should allow the AD to assess their hearing against the MCA fitness standard. If this is not provided, then testing by the AD should be possible.

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Audiometry using headphones is not advisable for those with hearing aids, due to feedback. The speech recognition test (using speakers rather than headphones) may be used for formal testing as long as the volume of the test at the ear can be measured using a sound meter and is at least 65dB. Otherwise this test should be used for screening but not for a definitive decision. A free sound meter can be downloaded onto a smartphone.

If this is not possible, or the results are borderline, then the seafarer should either return to their hearing aid provider for testing, or otherwise they should request an audiological referral from their GP. They should be given a letter explaining the standard that needs to be met i.e. less than 30dB loss (averages of 500-3000 Hz) in the better ear. In the meantime, those who have not met the standard should be made temporarily unfit and given an ENG 3, for 3 months or less.

It may be possible for those who do not meet the standard to be made fit if the employer is able to do a risk assessment with respect to ability to hear speech and alarms on board. See note on P 240 Please note that not all those providing hearing testing can do testing on specific hearing aids as they may not have the appropriate testing equipment for hearing aids that they have not themselves provided, so testing may need to be done by NHS services or privately when usually a freefield aided audiogram and freefield aided speech audiogram will be performed. The exact nature of the test is not as important as the report as to whether the seafarer meets the standard. If there is a long waiting list for NHS services, an NHS appointment may be requested from the Dreadnought Unit at Guys and St Thomas' Hospital in London.

Hearing Aids

For a hearing aid or cochlear implant to be acceptable for use in a seafarer, it must provide a level of hearing compatible with the minimum hearing standard required for a non-user.

It is not recommended that hearing aids are worn 24 hours a day, so any seafarer who sleeps aboard must either have sufficient residual hearing to be woken from sleep by an emergency alarm or have alternative arrangements made to ensure arousal. In general, digital aids can be expected to perform better than analogue ones. In-ear aids can be expected to perform better under the adverse conditions met at sea but are more prone to breakdown than behind-ear models. Behind-ear aids are simpler to replace than in-ear ones during brief periods on shore.

The seafarer must be responsible for carrying sufficient spares (including a spare hearing aid) to ensure that loss or malfunction does not impair their capabilities. Enough consumables must be taken onboard to ensure that the device can operate for more than the maximum expected time before access to new supplies. The AD should check that the seafarer is aware of this and understands that they have to ensure that they have made prior arrangements to have the equipment needed before they embark.

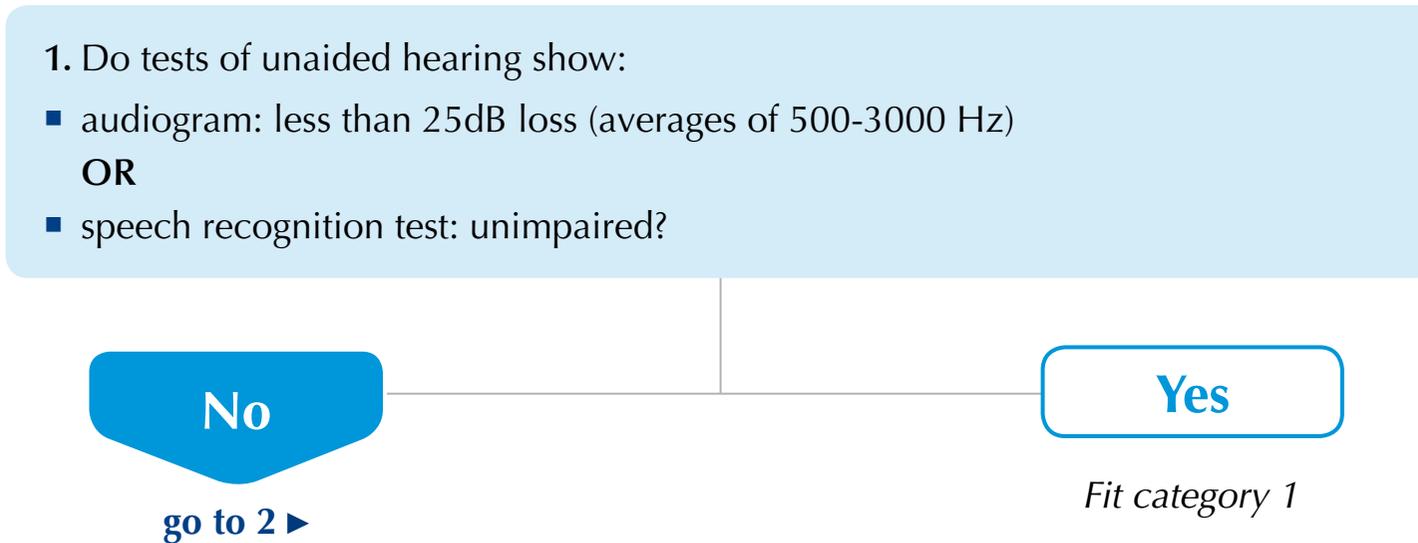
An audiological assessment of the adequacy of the aid to meet both the hearing requirements and the rigours of maritime work should be obtained in all seafarers whose hearing is likely to be relevant to the safe operation of the vessel, including emergency procedures. The hearing aid will need to meet standards of intrinsic safety (against ignition of fires and explosions) if it is to be worn in parts of the vessel where other electrical equipment must also meet these standards. Any requirement to use a hearing aid while at sea should be identified in the relevant box on the ENG 1 certificate.

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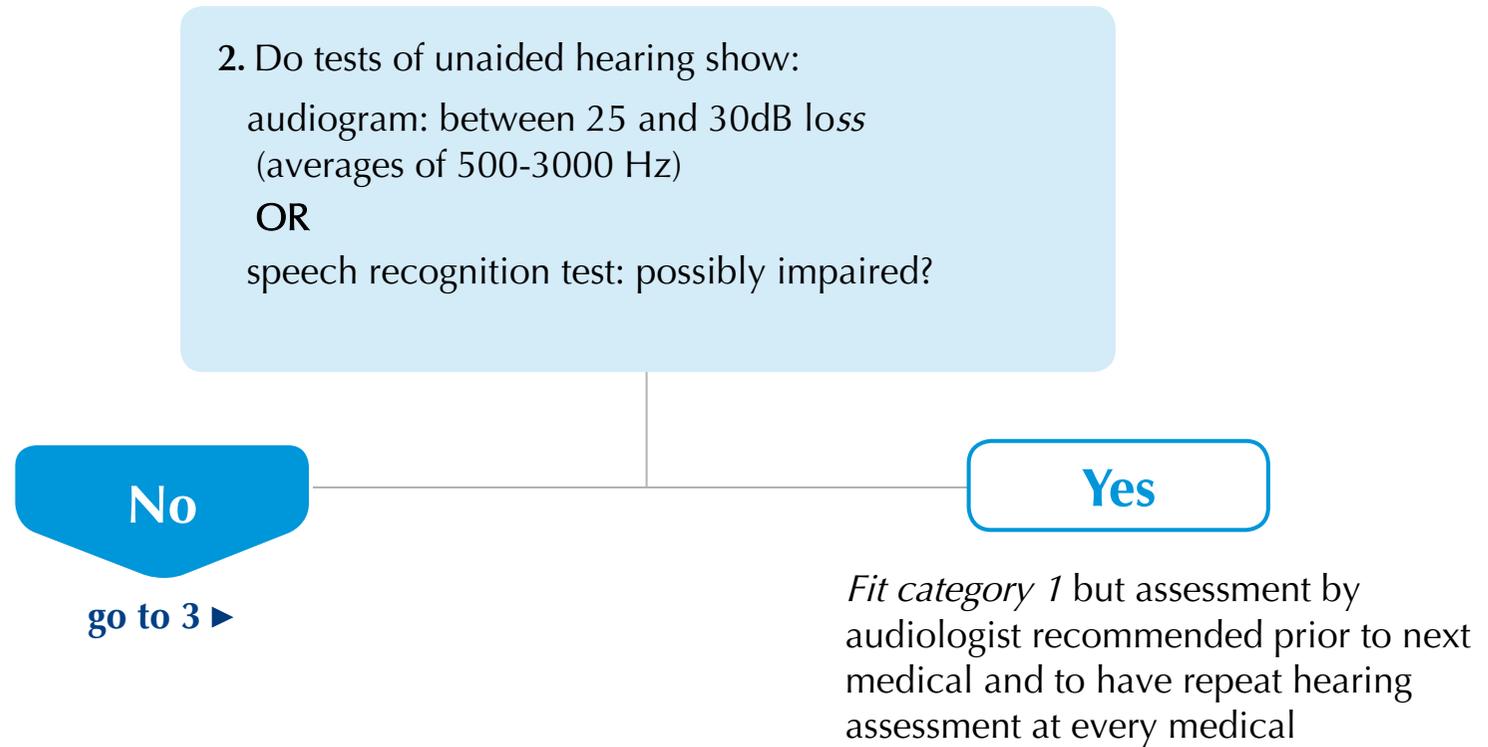
c) Decision taking – communication abilities

NB the thresholds for each test are test specific, so differ slightly at each level. **This decision tree applies to hearing in the better ear**



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3. Tests of unaided hearing therefore show:
audiogram: more than 30dB loss
(averages of 500-3000 Hz)

OR

■ speech recognition test: definitely impaired?

Is a hearing aid used?

No

Yes

go to 4 ►

Temporarily unfit category 3, refer to audiologist for assessment and then reconsider based on outcome. If loss not remediable (including by the use of a hearing aid) then *permanently unfit category 4*, for watchkeeping duties.

Case by case assessment, based on functional requirements of job for non-watchkeeping staff on UK near-coastal vessels. See note on page 240.

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4. Do tests of hearing using the hearing aid (see 'Testing – other aspects' on P 227) show:

- audiometry: less than 30dB loss (averages of 500-3000 Hz)

OR

- speech recognition test: unimpaired or possibly impaired?

No

Yes

go to 5 ►

NO

Temporarily unfit category 3, refer to audiologist for assessment and then reconsider based on outcome. If loss not remediable permanently unfit category 4 for watchkeeping duties.

Case by case assessment, based on functional requirements of job for nonwatchkeeping staff on UK near-coastal vessels. See note on page 240

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5. Is aid removed when off duty or sleeping?

No

Fit category 1, for repeat assessment at each medical

Yes

Restricted category 2

EITHER

Restricted to vessel where there is demonstrated ability to hear alarms, or where reliable alternative arrangements for arousal have been made

OR

Only to work on vessels which return to home port each night if emergency alarms may not be heard without aid in place

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For a small number of seafarers at the end of their careers who have little subjective loss but show impairment on testing there should be some latitude in decision taking. A risk assessment by the employer may be helpful.

Where information on the level of the emergency alarm is available and an audiogram shows that hearing is adequate to be aroused by it OR where a practical test on board the vessel where the person works can be undertaken OR where the employer undertakes to make alternative arrangements to arouse the seafarer in the event of an emergency.

- a certificate restricted to work on that vessel may be issued

NB seafarer must carry spares as listed in note on hearing aids

d) Noise induced hearing loss

See MCA advice in MGN 352 (M&F) and MGN 377 (M&F) on health surveillance by audiometry and the handling of results. If findings do not comply with capability requirements noted above similar decisions on fitness should be made. In addition the hearing protection used by the person needs to be reviewed and removal from noisy work should be considered. The individual should be informed that their hearing shows a pattern that is consistent with damage by noise exposure if the audiogram shows the characteristic pattern of noise induced hearing loss (initially a dip at 4000 Hz with a later reduction at all high frequencies that progressively encroaches on the speech frequencies). Where the hearing loss is considered to have arisen from current conditions of work the ship operator will need to reduce the risk to all those who work there. The Approved Doctor may make contact direct, but only with the individual's consent. Alternatively they should inform the MCA, with details of the vessel.

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Hearing, ear disease, disorders of speech and communication

1. Do tests of unaided hearing show:

- audiogram: less than 25dB loss (averages of 500-3000 Hz)
- OR
- speech recognition test: unimpaired?

Yes

Fit category 1

No

2. Do tests of unaided hearing show:

- audiogram: between 25 and 30dB loss (averages of 500-3000 Hz)
- OR
- speech recognition test: possibly impaired?

Yes

Fit category 1 but assessment by audiologist recommended prior to next medical and to have repeat hearing assessment at every medical

No

3. Tests of unaided hearing therefore show:

- audiogram: more than 30dB loss (averages of 500-3000 Hz)
- OR
- speech recognition test: definitely impaired
- Is a hearing aid used?

Yes

4. Do tests of hearing using the hearing aid show:

- audiometry: less than 30dB loss (averages of 500-3000 Hz)
- OR
- speech recognition test: unimpaired or possibly impaired?

Yes

5. Is aid removed when off duty or sleeping?

Yes

Restricted category 2

EITHER

Restricted to vessel where there is demonstrated ability to hear alarms, or where reliable alternative arrangements for arousal have been made

or

Only to work on vessels which return to home port each night if emergency alarms may not be heard without aid in place

No

Fit category 1, for repeat assessment at each medical.

No

Temporarily unfit category 3, refer to audiologist for assessment and then reconsider based on outcome. If loss not remediable permanently unfit category 4 for watchkeeping duties.

Case by case assessment, based on functional requirements of job for non-watchkeeping staff on UK near-coastal vessels. See note on page 231

Temporarily unfit category 3, refer to audiologist for assessment and then reconsider based on outcome. If loss not remediable (including by the use of a hearing aid) then permanently unfit category 4 for watchkeeping duties.

Case by case assessment, based on functional requirements of job for non-watchkeeping staff on UK near-coastal vessels. See note on page 231

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ADG 14

Vision, eye diseases

Impairment and risks

In addition to the requirements for safely moving around a vessel many seafaring tasks require specified standards of visual performance.

Lookout duties need shape and colour discrimination, often in conditions of poor visibility both during the day and at night. These aspects of eye performance need to be combined with eye-brain co-ordination to support visual scanning capabilities and the ability to analyse the visual patterns seen.

The use of instrumentation and visual displays in all parts of a vessel similarly relies on adequate acuity and colour perception.

Denotative colour codes are used, especially in engineering, for cabling, gas cylinders and for visual warning and alarm systems.

Rapid changes of light intensity can occur and even where the seafarer has good dark adaptation, management arrangements need to allow time for adaptation to take place before reliance is placed on night-time visual observations.

Misperceptions and failures to interpret visual information correctly during bridge duties are common contributors to maritime incidents.

Prior to the introduction of visual standards defects in acuity and colour perception also contributed. Incorrect judgements made about colour coding can also be safety critical.

Most visual defects are relatively stable and so individual capabilities can be tested. Some eye diseases are progressive, but change is generally over years rather than shorter periods. Defects in acuity (form perception) can usually be remedied by the use of spectacles or contact lenses. However in emergencies these aids may not be available and some minimum uncorrected vision is needed.

Loss of or poor vision in one eye has a minimal impairing effect in normal circumstances, but even minor problems with the single remaining eye will be incapacitating.

Rationale and justification

- Good distant visual acuity has long been seen as essential for look-out duties. There are, however, no recent studies on the level of performance required and current standards worldwide have their origins in naval criteria set in the first half of the twentieth century. At this time it became feasible to accept vision corrected by spectacles as enclosed bridges prevented problems from spray
- Testing for acuity traditionally relies on high contrast static discrimination in the central visual area (fovea). There are no tests of dynamic discrimination, low contrast performance or response to objects first identified in the periphery that are practicable to apply to the routine assessment of seafarers

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- Defects in the peripheral fields of vision or patchily across the whole visual field will give rise to blind spots. The brain normally fills in across such areas and so there may be loss of essential information that is needed to direct the gaze to objects of concern. The level of field loss that increases risk is unknown
- The Donders confrontation test of visual field is not reliable, except for detecting very large field defects. Several more reliable methods are available but all need dedicated equipment
- As the eye ages, its ability to respond to changing levels of illumination, to recover from glare and to accommodate to visual tasks at all distances deteriorates. The use of corrective lenses or spectacles can usually overcome accommodation limitations
- A few rare conditions lead to night blindness. In everyone, full dark adaptation takes at least ten minutes after coming from a well lit area. This can result in failure to see dim objects or faint lights when starting night time lookout duties. The use of tinted or photochromic lenses in spectacles can further impair dark adaptation. There is a detailed but dated research based on dark adaptation
- Defects in colour vision were found to be a cause of maritime accidents in the late nineteenth century. The commonest form of defect, found in around 5% of males but rare in females, is an inability to distinguish between red and green, the colours adopted for oil navigation lights and still used. The defect is genetic and present throughout life. Very rarely a defect can develop secondary to another medical condition, or a minor level of impairment may become apparent as the eye ages

- Various tests for colour defects have been developed. Commonly Ishihara plates are used as an initial screen. Trade tests, for instance using coloured wires in electricians, do not give reliable results. For those doing lookout duties a lantern that simulates navigation lights in a dark room was the definitive test until lanterns became impossible to replace and maintain. Research was therefore commissioned by MCA to set criteria for the Colour Assessment and Diagnosis (CAD) test giving equivalent results to the lantern. For engineers who need to correctly recognise denotative colour codes there are several well validated colour matching tests.

Clinical assessment and decision taking

Vision testing

Background

All seafarers are required to meet the internationally agreed eyesight standards as specified in the medical and eyesight standards (Table of standards Ch 6.1, also see Annex A and Annex B at the end of this ADG). These include a basic standard for unaided vision to ensure a degree of capability in emergency situations, should glasses be missing. The standards are framed to provide maximum flexibility in their interpretation compatible with ensuring the health of the individual seafarer and maintaining the safety of ships at sea. There is a tick box on the ENG 1 certificate which should be completed to confirm that the seafarer's eyesight is satisfactory for the duties to be performed.

Both good visual acuity and unimpaired colour vision are essential for those undertaking lookout duties. This includes all deck officers and ratings. Lookout duties are those involving actually looking out to sea, (to check for hazards, other vessels etc) and should not be confused with 'watchkeeping' which is simply a nautical term for being on duty.

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Engineering staff generally do not carry out lookout duties and are therefore required to meet somewhat less stringent eyesight standards. However, they will need to be capable of correctly recognising colour coding on cables, pipes and display screens.

The tick box on the ENG 1 regarding fitness for lookout duties should always be completed whichever department the seafarer is in, as on some types of vessel roles may be less clear-cut than in the merchant navy. For example, an engineer whose visual acuity meets the Deck department standards but who has not passed the Ishihara test should be certificated not fit for lookout, even if they have passed the engineer supplementary tests.

In view of the serious consequences of not meeting the acuity and colour vision standards, anyone considering a seagoing career is strongly advised to have a full sight test/medical examination before beginning training to ensure that they meet the standards.

Catering and other passenger service staff are not required to meet specific acuity or colour vision standards, although they require adequate vision to undertake their duties efficiently.

Since good vision is central to lookout duties and hence to ship safety, it is essential that vision testing is carried out to a high standard, which ensures consistent results. Discrepancies between repeat tests which result in restriction and consequential loss of work, for instance where previously undetected colour defects are found, can have a disastrous effect on a seafarer's career.

It is therefore essential that conditions such as lighting balance and level are suitable and that any delegation of the testing is to someone who is fully trained in procedures and aware of the need to be alert for any deception. Test results brought by the seafarer should not be used as a substitute for testing at the examination. Borderline results should always be rechecked and all results recorded.

Any seafarer who requires visual aids to meet the aided acuity standard must use them when on watch and must have spare glasses or contact lenses with them on board at all times. These should be checked to ensure that the prescription remains adequate if they are over three years old. Contact lens users should, in addition, have a pair of glasses to use in the event that soreness of their eyes prevents the wearing of contact lenses. They should also have the required cleaning fluids or a sufficient supply of disposable lenses to cover the full duration of their duty period. There is a "tick box" on the ENG 1 certificate which should be completed to indicate that visual aids are required. A requirement to carry spare aids to vision should NOT however be recorded as a restriction on the ENG 1 Certificate.

Photochromic lenses (those which darken with exposure to strong light and lighten in dark surroundings) have been shown significantly to reduce light transmission compared to uncoated lenses, which may reduce the likelihood of identifying navigation lights. Seafarers should be advised not to wear glasses with photochromic lenses or glasses that are permanently tinted when undertaking lookout duties at night.

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Visual acuity

The Snellen test type for distance vision should be used. Where ADs are required to use alternative vision testing charts such as the 'LogMar' chart for other purposes, such charts may be used but the result must be recorded on the ENG 2 converted to the Snellen notation and a Snellen chart should be retained and used for those who are very close to the standard. The test type should be either on an internally illuminated chart or externally illuminated either by daylight or by artificial illumination: lighting should be uniform and free from reflections. The test should be done at a measured distance (preferably marked on the floor or otherwise the wall) of six metres or at three metres if using half scale charts designed for this purpose. Vision in each eye should be tested separately, with observation to ensure that the unused eye is fully covered. Testing should be carried out without glasses or contact lenses and also with glasses/contact lenses if they are worn. 'Keystone' and similar desk based screeners are not an acceptable alternative.

Contact lenses will need to be removed for unaided visual acuity testing. Testing soon after removal can be inaccurate. Candidates should ideally wear glasses instead of lenses on the day of the examination, but bring their lenses to insert for corrected acuity testing. Where this is not possible, they should be aware that if their unaided acuity is borderline they will need to be re-tested either by the AD or an optometrist.

The table at Annex B provides a framework for restrictions to certification if visual acuity does not meet the required standards, in cases of defective near vision, or in serving seafarers with monocular vision.

As the international standard for visual acuity is mandatory as laid down in STCW it is not possible for deck candidates to obtain a Certificate of Competency unless they meet both basic and higher visual acuity standards, so a restriction is generally not appropriate, and candidates who do not meet the standard should therefore be made unfit.

For new entrants to officer cadetships where restricted duties are impractical because the full range of training cannot be carried out, those with visual acuity defects should be made permanently unfit, but where appropriate advised of the duties for which they could be suitable if they chose to apply for a different cadetship.

Colour vision

Initial testing

The AD must ensure that the seafarer meets the colour vision standards. To comply with international guidelines, testing for all seafarers should be done with the standard 24 or 38 plate Ishihara book. Some screen-based tests for colour vision are now available, however to ensure consistency, ADs should continue to use all plates of the Ishihara book.

Testing must be carried out every medical examination. Illumination should be good north facing daylight or with daylight fluorescent lighting. Incandescent lighting is unsuitable because of its colour balance. Plates should be shown in random order, since colour blind seafarers have been known to memorise them. The criteria for a pass are two or less misreadings on the 24 plate test, or three or less misreadings on the 38 plate test. It is essential that seafarers applying for certificates of competency as deck or dual (deck/engine) officers have full colour vision. **Aids to colour vision e.g. red-tinted x-chroma, chromas lenses and chromagen lenses are not permitted.**

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When testing a seafarer for the first time, special care must be exercised to ensure that the test is properly conducted. Such testing should not be delegated, and the AD should be aware that those with problems have been known, on occasions, to memorise the sequence of Ishihara plates. An inappropriate pass causes major problems for the seafarer and their employer if detected at a subsequent medical.

The Ishihara test is an effective screening test but where supplementary testing, see below, is performed the results of the supplementary test will determine any restrictions to be placed on the seafarer.

Although security officers are usually part of the deck department, and may be looking out for threats to the security of the ship, they are not usually required to carry out navigational duties, so if colour vision is defective should be given the restriction “No navigational lookout duties”.

Supplementary testing – Deck

A deck applicant who fails the Ishihara test may arrange for their colour vision to be re-tested using the Colour Assessment and Diagnosis (CAD) test. MCA has stopped conducting Holmes Wright B Lantern (HWB) supplementary tests for colour vision. The lanterns are no longer manufactured, so it has not been possible to replace them. Lantern tests conducted before February 2018 will still be considered as valid.

The Colour Assessment and Diagnosis (CAD) test measures the severity and type of colour vision loss, and reliably detects congenital deficiency. The CAD test was developed by City University in conjunction with the UK's Civil Aviation Authority (CAA) and is being used by the aviation industry worldwide. It is also being used in other parts of the transport sectors.

The Colour Assessment and Diagnosis (CAD) test is the supplementary test for Deck personnel. See [MSN 1886](#) and [MIN 564 \(M\)](#) for more details. There will be a charge for the test which the seafarer will need to pay directly to the test centres [listed here](#) (along with a list of items the seafarer must take to the test centre). A seafarer who is referred for a CAD test should not usually be issued with an ENG 1 until the results of the test have been returned to the AD, although the AD may offer to issue the seafarer with a suitably restricted ENG 1 from the outset.

For new entrants to deck officer cadetships where restricted duties are impractical because the full range of training cannot be carried out, those with defects should be made permanently unfit but advised of the duties for which they could be suitable if they chose to apply for a different cadetship.

All other new deck candidates, or existing seafarers including those with an existing restriction should be given the restriction “**Not fit for lookout duties at night. Not eligible for MCA Deck CoC or Rating Certification**”. The tick box on the ENG 1 form relating to fitness for lookout duties must also be ticked ‘No’. The implications in terms of the limitations this will place on their career should however be explained.

If the seafarer provides evidence that they already hold an MCA Certificate of Competency, then issue “Not fit for lookout duties at night” or discuss with the MCA, if the seafarer requests the continuation of a previous restriction. If an employer confirms a seafarer cannot be employed with the new restriction (when they could be employed with their previous one) then you may discuss with MCA. This is not a valid route if the seafarer is simply unhappy with a change and the employer has not been consulted.

In cases where a seafarer being examined by a non-UK based AD fails Ishihara, the AD should advise the seafarer of their right to attend for a CAD test in the UK if they choose to although it should be pointed out that the likelihood of passing the test is small.

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It may aid their decision on whether to travel for a supplementary test if they have additional investigation by an optometrist or ophthalmologist locally to determine the severity of their colour impairment as it is very unlikely that anyone who has more than a minor degree of impairment will pass a supplementary test. Unfortunately there are no acceptable equivalent supplementary tests for deck candidates outside the UK.

Supplementary tests – Engineer/ETOs/Radio officer

Applicants intending to work as engineer or radio officers must also meet colour vision standards and those who fail the Ishihara test may be re-tested using the Farnsworth D15 or City University tests. This may be done by the Approved Doctor if they have the equipment required and are competent at using it or by any registered optometrist. Payment arrangements for these tests need to be clarified with the seafarer and their employer in advance. **For MCA purposes, a single error in either of these tests denotes a failure.** The AD should withhold the issue of an ENG 1 until the supplementary test has been carried out and the results received. Failure in these tests will mean that a certificate may only be issued with a restriction “Not fit for work with coloured cables etc”. Specific engineer card and cable tests should no longer be used.

Test results

The quantitative results rather than a statement of pass/fail should be recorded in the examination records (ENG 2).

In completing the certificate of fitness, clarity about any restrictions is important. The term ‘lookout duties’ should be used if acuity or colour vision do not meet the standards for deck duties rather than ‘watchkeeping’ as the latter term refers to the pattern of hours (watches) worked rather than to the use of the eyes.

A table of possible outcomes when testing colour vision and the restrictions to be applied is attached as Annex A to this ADG.

Follow up

Where a seafarer has failed the Ishihara test but has subsequently passed a CAD, previously passed the MCA HWB lantern, City University or Farnsworth D15 test, they should be issued with a note by the tester, on letter-headed paper, giving details, including the date and location of the test and the name of the tester. Presentation of this letter at subsequent medicals should generally preclude the need for repeat tests. Clear pass results should normally be considered valid for the duration of the seafarer’s career.

Most colour vision defects will be found in new seafarers and appropriate vocational advice should be given. Cases do occur where defects are detected in seafarers who previously apparently met the standards. The AD should try to obtain details of past test results and contact the AD concerned. It may be appropriate to recommend the seafarer seek an ophthalmological opinion in case of any undetected eye disease.

A seafarer with colour vision defects working or potentially working in both deck and engine departments should be tested and restricted, if necessary, in relation to both. For new entrants to officer cadetships where restricted duties are impractical because the full range of training cannot be carried out, those with defects should be made permanently unfit but, where appropriate, advised of the duties for which they could be suitable if they chose to apply for a different cadetship.

Other personnel

Seafarers with colour vision defects who only carry out other duties on a ship e.g. catering, entertainment, etc, with no lookout duties, where full colour vision is not strictly required, do not require a restriction with respect to colour vision, but the “colour vision defective” and “fit for lookout duties” boxes on the ENG 1 must be completed appropriately for all seafarers.

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Visual fields

Clinical testing by confrontation should be undertaken. The seafarer should be referred to an optometrist for perimetry if there is any doubt about the completeness of fields, for instance because of a history of stroke or transient ischaemic attack, or if the seafarer draws attention to any visual problems. Any seafarer with a history of diabetic retinopathy or glaucoma requiring medication should also be referred or recent results obtained. Any defect other than a single small scotoma in the peripheral field will make the person unfit for lookout duties.

Monocular vision

Monocular vision is acceptable in a serving seafarer, but only where the functioning eye fully meets the standards required for the duties performed. However, it is not acceptable for any new seafarer starting their career or applying for the first time in the deck or engineering departments. Monocular vision may be accepted in those newly entering the ENG medical examination system in the following situations.

- Customer service staff
- Monocular seafarers with sea service in the fishing sector transferring to work in the merchant navy, where they are formally new merchant seafarers despite their past experience
- Yachtmasters may gain commercial endorsements and thus become new entrants to the medical examination system. They should **never** be considered fit if to be **the sole competent crew member on a commercial yacht** but may be considered fit if there will always be other crew members fully competent to take over their duties on board.

Employer responsibility

The employer will have a 'special duty of care' to ensure that the one good eye in a monocular seafarer is not put at risk of injury. Such a duty has been defined in onshore court cases. This may be expressed, for instance, by a restriction (as appropriate) on work with strong alkalis, or with power tools that create fast-flying debris. Continuous use of protective eyewear is an alternative approach. Seafarers or their employers, depending on the relationship of the AD to the employer, should be advised of the need to adopt special precautions. This can be indicated in the "medical/other" restriction box on the ENG 1.

Functional Monocular Vision

Seafarers who become monocular while in service may continue to work if the remaining eye meets the standards set out in Appendix 1 to the table in Annex A of [MSN 1886](#). In addition, where a seafarer loses vision in one eye such that they no longer meet the binocular standards but do meet the monocular standard with their better eye, they may be considered functionally monocular and remain in service. This is provided that the vision in the weaker eye does not impair overall vision because of diplopia or other forms of interference.

Newly developed monocular vision

There should be a sufficient period of adaptation after becoming monocular to enable stairs to be descended rapidly and safely.

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Laser refractive surgery

Whilst it is acknowledged that laser refractive surgery can significantly improve visual acuity, the MCA does not specifically support or promote this course of action in view of potential adverse consequences. The National Institute of Clinical Excellence (NICE) has produced guidance on their website <http://www.nice.org.uk/guidance/ipg164>, or search for “Photorefractive surgery for the correction of refractive error”. This document provides very clear information on the probability of improvements and the likelihood of adverse consequences.

In addition, the Rail Safety and Standards Board have issued good practice guidance on laser eye surgery. Their conclusions form a useful model to aid decision taking for seafarers who are intending to have or have had this procedure. The document can be accessed through the website <http://www.rgsonline.co.uk> under Search. The document number is GO/GN3655 – simply type in 3655 and scroll down.

If a seafarer decides to undertake the procedure and returns for reassessment, the Standards require you to make them temporarily unfit for lookout duties for 6 months after surgery. On retesting, they can be issued with a short term unrestricted ENG 1 until stability is confirmed.

Where a seafarer has undergone other novel treatment for eye disease, or asks advice on the effect of such treatment on their fitness for seafaring, the basis for determining fitness should remain current performance and the best estimate of its stability until the next medical. *Please contact MCA for advice in these cases.*

Orthokeratology

This is the use of rigid contact lenses that are worn overnight during sleep to correct distant vision. They are designed to reduce the curvature of the cornea by applying differential pressure. If the lenses are not regularly worn vision slowly reverts to its former state over the next 1-2 weeks.

Complications such as infection are rare but some people do not tolerate night wearing and tear quality is important for comfortable use.

Several features make these devices unsuitable as a means of vision correction for those who do safety critical navigational lookout duties:

- Compliance is dependent on the individual and it will not be possible to be sure of the degree of visual correction present at any time
- A regular daily pattern of sleep is needed when the lenses must be worn. Watchkeeping schedules may pose problems with compliance
- If lenses are not used for a period and acuity changes it is not possible to use spectacles or conventional day-use contact lenses to correct vision as the prescription changes day by day
- While there is no subjective evidence of problems with low light or low contrast acuity this has not been formally investigated. As with corneal refractive surgery large pupil size at night may lead to light entering the eye from beyond the zone of correction

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- Spectacles or contact lenses can always be used as a preferred, tried and tested means of improving acuity to meet statutory standards

Those who use these devices should normally be certified as unfit for lookout duties, except possibly in the case of those who have a history of good compliance and return to home port for a regular pattern of sleep each night.

The above considerations are of less immediate relevance to engineering and other crewmembers, whose need for distant vision is less safety critical. Decisions for these seafarers should be taken on a case-by-case basis. However a good record of compliance with use, a stable level of correction and a pattern of leave that ensures access to the prescribing optometrist for follow up checks is essential. Confirmation should be obtained from the optometrist that these criteria are met.

Eye diseases

Testing of current visual function is the main basis for determining visual fitness. However certain diseases may either result in types of vision defect that will not be apparent on the routine tests used or will, because of their progressive or recurrent nature, mean that frequent surveillance is needed in serving seafarers or that a career at sea is not advisable because it is likely to come to a premature end as a result of deteriorating vision.

Cataract and Intraocular replacement lenses

Most commonly in older seafarers. Reduced acuity and problems with glare. Obtain ophthalmological opinion on rate of progression and

decide if time limited certificate needed. Where cataract is unilateral with confirmed absence of change in the other eye a serving seafarer may be considered to be functionally monocular (see above). If unusually they meet acuity standards then a specialist assessment of interference with vision from glare is needed. Where surgery has been performed intraocular replacement lenses are not a barrier to employment, provided the vision standards are met and there is confirmation from an ophthalmologist that there is no other eye disease or visual impairment present. This advice also applies to intraocular replacement lenses inserted for other reasons eg myopia

Glaucoma

Most commonly in older seafarers. Reduced field of vision, reduced acuity and patchy visual field losses (scotomata) in central area of vision. If unusually they meet acuity standards then ophthalmological report on visual fields, scotomata and expected rate of progression is needed. Regular eye medication is usually prescribed. Check that there are no side effects or visual impairment from its use and that sufficient is carried to cover period at sea. Issue a time limited certificate if progression likely within next two years.

Diabetic eye disease

Most of those with this condition have clinically diagnosed diabetes and so will have limitations on work at sea. It is characterised by patchy visual loss (scotomata) at random across the visual fields. Acuity standards will often not be met, but if a diagnosis of diabetic retinopathy has been made, and they are met, a specialist report on likely progression should be obtained to determine the duration of certificate given. Limitation of work to UK near coastal waters may be needed in case of an exacerbation of the retinopathy or of the underlying diabetes (see section 3 in table of standards).

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Macular degeneration

This is mainly a condition of older seafarers. As central vision is lost it will not normally be possible to meet the requirements for visual acuity.

Keratoconus and borderline visual fitness in new recruits

Progressive reduction in visual acuity is likely. For keratoconus this may be slowed by corneal lens. Likely to progress to the stage where vision standards are not met by middle age. If diagnosed in new entrants they should be advised of the risk of a shortened career. If they currently meet the visual standards and an ophthalmological report indicates that they are likely to continue to do so for several years they should be considered fit but have their vision tested annually and be issued with a time limited certificate.

Recurrent eye infection or inflammation e.g. corneal ulcers, uveitis

These conditions may cause transient impairment of vision. A specialist report indicating likelihood of a recurrence and the scope for prevention of impairment by prophylaxis or by early treatment should re-infection arise should be the basis for decision taking. Eye inflammation is a medical emergency that will almost always need shore based treatment.

Diplopia and Squint

Provided the image in the non-dominant eye is adequately suppressed to avoid visual confusion it may be possible to work at sea. Where appropriate the standard for monocular vision may be applied for serving seafarers. If diplopia arises as the consequence of an accident then a period of restriction or temporary unfitness while vision becomes re-adapted may be needed.

Conditions of the eyelids, blepharospasm and recurrent infections

Severe blepharospasm may reduce effective visual function and lead to rapid visual fatigue. A specialist opinion on the scope for treatment should be obtained and if the person can meet the visual standards with or without treatment then they should be considered fit. Infections of the eyelids will not threaten vision but can be temporarily disabling. If there is a history of recurrent blepharitis or other lid infections then the condition should be investigated and definitively treated before the person is considered fit for unlimited duties.

Retinitis pigmentosa

This genetic condition results in loss of night vision and reduced visual fields. The rate of progression is variable. The condition is likely to limit the fitness of the sufferer, particularly in relation to navigational watchkeeping duties. A specialist opinion should be obtained to include assessments of low light acuity and visual fields and the vision testing results and the specialist opinion then be used to decide on fitness category.

Neurological disease and head injury affecting visual function

Conditions including multiple sclerosis, stroke, tumours and severe head injury can cause damage to the processing of visual information in the brain. Some of these changes can be subtle and are not detectable by the normal vision tests used. If a person has a history or any significant neurological disease or head injury a detailed report on their visual function should be obtained from the specialist who treated them and this, together with the results of vision tests should be used to decide on fitness category and the duration of any certificate issued.

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Annex A

Colour vision testing – possible outcomes

Note: Seafarers with colour vision defects should normally be issued with restricted ENG 1 certificates (Cat 2), as below, rather than be failed (Cat 4). However, a new entrant deck candidate will be unable to obtain a CoC as a deck officer. If after career advice, they do not wish to pursue an alternative seafaring career, an ENG 3 Cat 4 should be issued.

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POSSIBLE TEST RESULTS				OUTCOME OF EXAMINATION		
Department	Ishihara	City University or Farnsworth D-15	Holmes Wright B Lantern or CAD	ENG 1 Fitness Category	Fit for lookout duties box Y /N	Restriction to be applied
Deck Trainee Officer or Cadet	Fail	N/A	Fail or not taken	Fail Cat 4	No certificate issued	No certificate issued
	Fail	N/A	Pass	Unrestricted Cat 1	Y	None. Results letter to be carried
Deck: Existing or New e.g. Yacht Personnel, Boat Masters	Fail	N/A	Fail/ Not taken	Restricted Cat 2	N	Not fit for lookout duties at night. Not eligible for MCA Deck COC or Rating certification.
	Fail	N/A	Pass	Unrestricted Cat 1	Y	None. Results letter to be carried
Engineer	Fail	Fail or not taken	N/A	Restricted Cat 2	N	Not fit for work with colour coded cables etc.
	Fail	Pass (no errors)	N/A	Unrestricted Cat 1	N	None. Results letter to be carried
Other (Catering, Entertainment, Hotel)	Fail	N/A	N/A	Unrestricted Cat 1	N	None but occupation to be shown on certificate
Security Guard	Fail	N/A	Fail or not taken	Restricted Cat 2	N	No Navigational lookout duties

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POSSIBLE TEST RESULTS				OUTCOME OF EXAMINATION		
Department	Ishihara	<i>City University or Farnsworth D-15</i>	Holmes Wright B Lantern or CAD	ENG 1 Fitness Category	Fit for lookout duties box Y /N	<i>Restriction to be applied</i>
<i>Duel Deck and Engineering Trainee Officer or Cadet</i>	Fail	Fail or not taken	Fail or not taken	Fail Cat 4	No certificate issued	No certificate issued
<i>Duel Deck and Engineering: Existing or New e.g. Yacht Personnel, Boatmasters</i>	Fail	Fail or not taken	Fail or not taken	Restricted Cat 2	N	Not fit for lookout duties at night. Not eligible for MCA Deck COC or Rating certification. Not fit for work with colour coded cables etc.
	Fail	Fail or not taken	Pass	Restricted Cat 2	Y	Not fit for work with colour coded cables etc.
	Fail	Pass (No errors)	Fail/ Not taken	Restricted Cat 2	N	Not fit for lookout duties at night. Not eligible for MCA Deck COC or Rating certification.
	Fail	Pass (No errors)	Pass	Unrestricted Cat 1	Y	None. Results letter to be carried

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ADG 14

Annex B

Visual acuity testing – possible outcomes

As the international standard for visual acuity in deck and engine candidates is mandatory as laid down in STCW it is not possible for candidates to obtain a Certificate of Competency unless they meet both basic and higher visual acuity standards for their role, so a restriction is generally not appropriate, and candidates who do not meet the standard should therefore be issued with an ENG 3 Cat 4 unless, after career advice, they wish to pursue an alternative seafaring career. The only exceptions are those deck candidates with recent laser surgery who meet the VA standard but may have fluctuating visual acuity for up to six months. These candidates may be given No lookout duties. The only other very unusual exception would be deck ratings who have no lookout responsibility eg some deck hands on car ferries, but this would only be appropriate if they did not need a watch rating certificate (for which meeting the visual acuity standard is mandatory). They would of course need vision appropriate to undertake their duties efficiently. This decision would need to be taken in consultation with the company.

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POSSIBLE TEST RESULTS				OUTCOME OF EXAMINATION			
Department	Basic (unaided) distant acuity standard	Higher (aided) distant visual acuity standard	Near vision	ENG 1 Cert Fitness Category	Fit for lookout duties box Y or N	Restriction to be applied	
Deck or dual career	Pass	Pass	Pass	Unrestricted	Y	N/A	
	Fail	Pass	Pass/fail	Fail	N/A	N/A	
	Fail	Fail	Pass/fail	Fail	N/A	N/A	
	Pass	Fail – better eye	Pass/fail	Fail	N/A	N/A	
	Pass	Pass – better eye	Pass/fail	Pass	New entrant to seafaring – Fail	N/A	N/A
		Fail – worst eye	Pass		Serving seafarer – Treat as monocular. Fit if no evidence of progressive disease in better eye.	Y	Eye protection to be worn for all work
	Pass	Pass	Fail	Restricted – based on assessment of capability to perform duties	Y	Restricted to duties within capabilities	
Engine	Pass	Pass and also meets deck standards	Pass	Unrestricted	Y	N/A	
	Pass	Pass but does not meet deck standards	Pass	Unrestricted	N	N/A	

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POSSIBLE TEST RESULTS				OUTCOME OF EXAMINATION		
Department	Basic (unaided) distant acuity standard	Higher (aided) distant visual acuity standard	Near vision	ENG 1 Cert Fitness Category	Fit for lookout duties box Y or N	Restriction to be applied
Engine	Fail	Fail	Pass/fail	Fail	N/A	N/A
	Fail	Pass	Pass/fail	Fail	N/A	N/A
	Pass	Fail – better eye	Pass/fail	Fail	N/A	N/A
	Pass	Pass – better eye	Pass/fail	New entrant to seafaring – Fail	N/A	N/A
		Fail – worst eye	Pass	Serving seafarer – Treat as monocular. Fit if no evidence of progressive disease in better eye	Y if meets deck standards	Eye protection to be worn for all work
Others	Vision sufficient to undertake duties efficiently And meeting deck standards for aided and unaided vision			Unrestricted	Y	N/A
	Vision sufficient to undertake duties efficiently but not meeting deck standards for aided and unaided vision			Unrestricted (note – duties to be indicated on ENG 1 certificate)	N	N/A
	Vision insufficient to undertake duties efficiently			Fail	N/A	N/A

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Annex C

Colour Assessment and Diagnosis (CAD) Test

The CAD test has been developed following research at the City University. MCA commissioned research to duplicate the results of the Holmes Wright B lantern test which will be phased out. It is the same test as used by the CAA but candidates should note that the pass criteria are different, and the CAD test for seafarers should only be undertaken at MCA approved CAD centres.

The seafarer should contact the test centre directly to make a booking for a test. There will be a charge for the test which the seafarer will need to pay directly to the test centre.

Details of the MCA Approved CAD Test Centres can be found [here](#).

See [MSN 1886](#) and [MIN 564 \(M\)](#) for more details.

The seafarer must take the following documents to the test centre:

A referral document, which can be any one of the following;

- an ENG 3 form
- a letter from the Approved Doctor
- an ML5 form (MSF 4112)
- Application for a seafarer vision test sight test form (MSF 4100) if visual acuity and the Ishihara test were conducted by an optometrist

The seafarer will also need to take;

- Any normal glasses or contact lenses (colour correcting lenses or glasses are not permitted)
- A statutorily issued form of photo identification document (ID) such as a passport, driving licence or seafarer discharge book. A photocopy or scanned copy is not acceptable.

The CAD test result

All seafarers whose red / green threshold is less than or equal to 2.35 Standard Normal CAD units will pass the test.

The Approved CAD Test centre will issue the seafarer with a letter, clearly indicating if the seafarer has passed or failed the CAD test, as well as being given a completed MSF 4100, showing the result.

The seafarer will be advised that they are responsible for taking or forwarding the result of the CAD test to the AD issuing their seafarer medical fitness certificate.

They should be referred to the MCA for any queries on administrative matters. Tel 0203 8172835 or seafarer.sh@mcga.gov.uk

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MCA Approved Colour Assessment and Diagnosis (CAD) Test Centres

Heathrow Medical Services
Weekly House
Padbury Oaks
583 Bath Road
Longford
Middlesex
UB7 0EH

For bookings tel: Aviation Vision Services on 07561 453465
or email enquiries@aviationvisionservices.com

The AMS (London)
Aeromedical Centre
22 Upper Wimpole Street
London
W1G 6NB

For bookings tel: Aviation Vision Services on 07561 453465
or email enquiries@aviationvisionservices.com

City, University of London
Colour Research Laboratory
Northampton Square
London
EC1V 0HB

colourvision@city.ac.uk
Direct bookng and payment via website: <http://www.city.ac.uk/avot>

University of Bradford
School of Optometry & Vision Science
Phoenix South West
Shearbridge Rd
Bradford
BD7 1DP

Tel : 01274 234648 or 01274 234649 (eye clinic reception)
Email for bookings: d.mckee@bradford.ac.uk

School of Psychology
William Guild Building
Room G35
Kings College University of Aberdeen
Aberdeen
AB24 3FX

Tel: 01224 272387
Email for bookings: vision@abdn.ac.uk

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ADG 15

Medication

Introduction

The risks from medications used by seafarers vary widely as do the benefits in terms of control of disease and symptoms. Both over the counter and prescribed medications include statutory information on their uses and side effects in their packaging or in widely available reference sources held by pharmacists and doctors. This information does not relate directly to work at sea but warnings such as ‘do not drive or work with moving machinery’ or the red, yellow and green traffic light coding used in some countries to warn of driving risks carry obvious implications for safety critical work at sea.

This guidance relates to decision taking on fitness for work at sea in those who are using medication at the time of examination. It does **not** cover:

- Emergency use of medication from a ship’s medical chest while at sea, except insofar as prior information on individual risks of adverse effects is available to the medical examiner
- Occasional use of non-prescription remedies while at sea or on shore. However seafarers should be made aware of the importance of reading warning labels or package inserts and not undertaking safety-critical tasks if the medication may cause drowsiness or visual disturbances

- Responsibilities for providing and paying for medication
- Immunisations and prophylaxis against malaria, except insofar as prior information on individual risks of adverse effects is available to the medical examiner
- Misuse of medication, including taking doses outside the range recommended by the supplier
- ‘Performance foods’ and nutrients

Assessment of medication use and risks

In the course of the medical assessment, information on any medication use, including complementary remedies, should be obtained. Every medication will have a clinical indication for use and fitness must be considered in terms of both the disease and its treatment. Seafarers should be asked about benefits and symptoms arising from their use of medication. If the medication is not familiar to the AD then the product information leaflet or other sources of information on the medication should be reviewed for warnings about side effects.

During the assessment any history of adverse reactions to medication should be obtained. The seafarer should be made aware of the need to inform anyone giving them medication about such reactions. Particular attention needs to be given to risks arising from the medications carried in the ship’s medicine chest (MSN 1768 (M + F)) and to medications used for malaria prophylaxis (MGN 399).

Where a short course of medication is being taken or where the dose of a medication is being adjusted, a case by case judgement is needed

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on whether (either because of the medication or the condition for which it is given) the seafarer should be made temporarily unfit or the issue of a certificate delayed until completion.

Impairment and risks, clinical assessment and decision taking will be considered separately for each type of therapeutic effect or side-effect. Where feasible these are grouped together. Where a particular medication is not covered reference sources and analogy should be used to identify the likely problems.

Many ship operators require crew members to declare any medication to the master at embarkation. It is considered to be contraband if not declared. If a seafarer is on medication it is advisable to recommend that they have the information leaflet for the medication available when they board so that decision taking on any adverse effects will be simplified.

Side effects to be considered

Medications that can impair safety critical duties

Note: Where the product information leaflet states that the user must not drive or work with moving machinery, this will normally be an indication of unfitness to work at sea.

Where the recommendation is that, if there are any subjective adverse effects, the user should not drive or work with moving machinery, an assessment of any effects in relation to the person's duties is required.

1. Central nervous system depressants (Sleeping tablets, antipsychotics, some anti-anxiety and anti-depression treatments, some antihistamines)

2. Agents that increase the risk of sudden incapacitation (insulin, some of the older anti-hypertensives, medications predisposing to seizures)
3. Medications impairing vision (hyoscine, atropine)

Medications and increased risk to user while at sea

4. Risk of bleeding from injury or spontaneously (warfarin, aspirin and some other analgesics)
5. Dangers from cessation of medication use (metabolic replacement hormones including insulin, anti-epileptics, anti-hypertensives, oral anti-diabetics)
6. Antibiotics and other anti-infection agents
7. Anti-metabolites and cancer treatments
8. Medications supplied for use at individual discretion (asthma treatments, antibiotics for recurrent infections)

Medications that require limitation of period at sea because of surveillance requirements

9. A wide range of agents, such as anti-diabetics, anti-hypertensives, endocrine replacements

Advice to seafarers who are taking regular medications

- Be aware of any possible side effects of the medications you use

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and if they occur inform the officer responsible who can obtain radio medical or other advice on the action required

- Always have more than enough of any medication to last a trip in case of unforeseen delays
- There will often be a requirement to notify the master of any medications brought on board and a failure to notify may be a breach of your crew agreement, or of a company drug and alcohol policy
- Ensure that you have arrangements for any required doctor visits and repeat prescriptions organised for your next leave period
- Ensure that appropriate storage is available for medications requiring refrigeration
- If on injectable medications, facilities for sharps disposal must be arranged

Specific classes of medication

Note: The condition for which the medication is used, as well as the effects of the medication itself, needs to be considered when making an assessment of fitness. This should include any beneficial effects that the medication may have in reducing the impairment or risks from the underlying condition.

1. **Narcotic analgesics.** Impairment of cognition.

Opiates including methadone

– *Unfit for work at sea, other than in non-safety critical duties on vessels within harbour areas. Case by case assessment for opiate antagonists*

2. **Other analgesics.** Few complications, risks of allergy and of gastrointestinal bleeding with regular use of some products
– *Normally no restrictions*
3. **Antidepressants.** Impairment of cognition and drowsiness (tricyclics), impairment of cognition (SSRIs), adverse interactions with other medications and foods (MAOIs).
– *Need to be stabilised on treatment and without apparent adverse effects prior to work at sea. MAOIs not usually acceptable because of interactions (See ADG 6 ►).*
4. **Benzodiazepines as sedatives, hypnotics and anxiolytics.** Long acting preparations cause day-long sedation. Short acting hypnotics are without adverse effects if eight hours sleep taken, unsuitable for shorter periods between watches. Habituation may occur leading to use of increasing doses. Alcohol greatly increases impairing effects.
– *Not generally acceptable for work at sea. Only suitable if stable pattern of use, absence of subjective and objective impairment and regular monitoring of dose and effects*
5. **Anti psychotics and therapy for bipolar disorders.** Consider in relation to underlying condition.
– *Not normally acceptable for work at sea. (See ADG 6 ►)*
6. **Stimulants.** Other than caffeine. Erratic behaviour.
– *Not generally acceptable*
7. **Antihistamines.** Used for treatment of allergies, as cough suppressants, as sedatives and as treatments for motion sickness.

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Many available as non-prescription medicines. All can have sedative effects but many of those used for allergy treatment do not cross the blood brain barrier and only sedate at doses in excess of those recommended.

– Sedating antihistamines are incompatible with most safety critical duties. Regular use is not acceptable at sea. Non-sedating preparations are acceptable provided the user is aware of the dangers of exceeding the recommended dose

8. **Atropine and hyoscine containing systemic medicines**, including motion sickness remedies, and topical eye medications. Paralysis of accommodation in the eye leading to visual impairment occurs.

– Not acceptable if lookout duties or other safety critical visual tasks. Non absorbable hyoscine salts used in intestinal antispasmodics acceptable

9. **Antihypertensives**. Some of the older medications can lead to postural hypotension, impaired cardiac responses to exercise and to depression. Such effects are not generally found with newer products.

– May work at sea once stabilised on treatment unless it is one of the medications with the above side effects. If so assess risks in the individual and decide on fitness based on these

10. **Medications increasing the risk of seizures**. Few medications increase the risk of seizures to a level where it will prevent work at sea. The anti smoking product bupropion increases the risk at doses higher than those used for smoking cessation and carries a small risk at the dose now used. It is best to start treatment at the beginning of a period of leave.

– Bupropion should not be used at sea if there is a history of past seizures or head injury.

11. **Insulin**. Hypoglycaemia risk – (See ADG 4 ►)

12. **Oral antidiabetic medications**. Hypoglycaemic risk with sulphonyl ureas and glinides – (See ADG 4 ►)

13. **Endocrine replacement medications**. In addition to insulin, therapy replacement hormones may be used for thyroid and adrenal deficiencies as well as for sex hormone replacement. The latter is not relevant to fitness to work at sea. The effects of imbalance of thyroid hormones will be slow to develop but regular surveillance will be needed. The requirements for adrenal hormones will increase if there is intercurrent infection or other stress. Inadequate doses can lead to serious illness.

– Case by case assessment of adrenal insufficiency. Not normally fit for duties other than in UK near coastal waters

14. **Therapeutic use of corticosteroids**. Short courses of inhaled steroids for asthma treatment are normally free from problems over and above those of underlying condition. Continuous use or high dose oral use will increase a range of health risks.

– Self administered inhaled steroids for asthma (See ADG 10 ►).

– Prolonged use or oral administration not compatible with work at sea except for non safety critical UK near coastal duties

15. **Antibiotics and other anti infection medications**. Range of side effects, commonly gastro intestinal disturbances.

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For short courses

– *temporarily unfit until any impairing infection resolved.*

Self administered courses for infection prophylaxis

– *case by case decision based on underlying conditions and antibiotic used.*

Prolonged use of antibiotics

– *case by case decision based on underlying conditions and medication used.*

Treatment of tuberculosis ([See ADG 1 ►](#))

Treatment of HIV with retrovirals ([See ADG 2 ►](#))

16. **Antimetabolites and anti-cancer medications.** These may increase the risk of infection and a range of other complications in addition to those of the underlying condition.

– *Case by case decision, normally will be unfit or require a limited certificate in terms of distance from health care or duties*

17. **Medications requiring regular surveillance of dose, effectiveness or side effects.** In all cases the period of service at sea should not be such that surveillance is prevented. A case by case decision is needed on whether this requires a further visit to the AD or whether the seafarer can be relied on to relay any relevant information about changes to fitness to the AD.

18. **Medications where cessation of treatment can be dangerous.** When cessation of medication use could increase the risk of a medical emergency in a seafarer it is essential that sufficient is carried for

the duration of the period at sea. In addition the risks from inability to take the medication because of sea sickness or vomiting from other causes need to be considered. If they are such that severe adverse consequences can be anticipated an injectable form of the medication may need to be carried or their certificate restricted.

19. **Known adverse effects from a medication in an individual.**

Information on any known allergies or other severe side effects from medication use in an individual should be recorded and the person advised to tell anyone who treats them. Where these are potentially life threatening or the cause is a medication that could be used in an emergency they may need to be restricted or advised to wear a warning bracelet giving the details.

20. **Self-administered courses of prescription medications.** See 15 and 16 above. If such medications are carried then the seafarer should be advised to inform the master or responsible officer in advance of the medication and the indications for use. Self administration of emergency anti-allergy treatments such as the ‘epi-pen’ for acute allergic reactions needs to be carefully considered. If the reaction is severe and can be reasonably foreseen to be a risk at sea, for instance from a reaction to a widely used food ingredient such as peanuts, then this should limit the fitness of the seafarer as use of self-medication alone may well not be sufficiently effective. However if it is carried, for instance for use in the event of a bee sting, and the event is unlikely at sea it may be considered a useful form of personal risk reduction. ([See ADG 16 ►](#))

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21. **Warfarin and other anticoagulants.** This section covers the use of warfarin and other anticoagulants and the implications of this for work at sea. It applies to their use after heart valve replacement (MSN 1886 7.1), myocardial infarction (MSN 1886 7.3), deep vein thrombosis and pulmonary embolism (MSN 1886 7.9), and in atrial fibrillation and other arrhythmias (MSN 1886 7.4). In all of these situations there is a trade off between the risks of embolism and the increased risk of bleeding from anticoagulation. The clinical criteria for use of anticoagulants are set such that the overall total risk of embolism plus that from bleeding is minimised.

Antithrombotic drugs (anticoagulants, antiplatelets) and their risks

The antithrombotic drugs commonly used include antiplatelets (e.g. aspirin, clopidogrel), and anticoagulants (e.g. warfarin and the newer replacements for warfarin such as dabagatran and rivaroxaban). Their modes of action and metabolism vary and this affects both the pattern of risk and the consequences of any episode of bleeding.

A number of individual risk factors for bleeding have been reliably identified. These include age, use of multiple agents with antithrombotic properties and a history of bleeding or of stroke. These factors form the basis for several well-validated risk scoring systems that are used to take decisions on when to prescribe anticoagulants. These systems have the potential to be used to stratify risk in seafarers. Because seafarers are of normal working age, and because of other selection factors applied during medical assessment, most will be in groups with a relatively low risk of bleeding from anticoagulation use.

Until recently anticoagulant use has prevented people from working at sea or in other remote locations so there is no direct evidence about risks. Radio medical data indicates that head injury in the whole current population of seafarers, one of the major risks for serious bleeding when on anticoagulants, is not a common cause of requests for advice. Hence the frequency of such an incident in most of those working at sea and on anticoagulants can be expected to be low.

The key features of the different medications and their risks have been reviewed in some detail.¹ Most of the data relates to use in those with atrial fibrillation but it is probably reasonable to extend it to all uses. These are:

- **Aspirin alone:** small (but not negligible) risk of bleeding, limited effectiveness as an anti-embolic medication.
- **Clopidogrel alone:** small (but not negligible) risk of bleeding, limited effectiveness as an anti-embolic medication.
- **Aspirin and clopidogrel together:** more effective to prevent stroke in atrial fibrillation but with a risk of bleeding comparable to warfarin.
- **Warfarin:** dose requirements vary so INR monitoring is essential and a period of stabilisation on the medication is needed. Effective reduction of embolization risk, with appreciable risk of bleeding. Well-defined individual risk factors that can be used to stratify risk. Bleeding risks increase greatly when anticoagulation aims for INR levels above 3, as is the case with artificial heart valve replacements. Effects are reversible in 10-12 hours by

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administration of vitamin K, or sooner with infusion of clotting factors. The aim of therapy is to keep the INR level within the therapeutic range (INR 2-3) for more than 60-70% of the time. Normally a period of 4-6 weeks is needed at the start of treatment to confirm the stability of control, with at least 3 consecutive readings within the therapeutic range.

- Dabagatran and related agents:** standard dosages, so no monitoring needed. Reduction in embolic risks similar to (or better than) warfarin. Bleeding risks comparable to warfarin, but with some evidence of a lower risk for some types of serious bleeding. Effects cannot be reversed with an antidote, half-life of dabagatran is c12 hours and so cessation of medication will progressively reduce the excess risk of bleeding.

Because of the relatively lower risk (compared to warfarin, at least in younger patient groups) of bleeding from aspirin or clopidogrel, these do not require medication-related restrictions on duties, although the underlying condition being treated may require this. As aspirin is a widely used OTC medication, often at higher doses than those used for embolic risk reduction, restrictions would be impractical. See below for aspirin used with clopidogrel.

For those on warfarin or dabagatran and related agents, their risk should be assessed using the HAS-BLED score.² This score has been validated for atrial fibrillation but there is no reason to expect that it is not also relevant to other indications for anticoagulation.

HAS-BLED Bleeding Risk Score

(INR in 2-3 range or standard dose of dabagatran or equivalent)

H	Hypertension (i.e. uncontrolled BP, e.g. systolic >160 mm Hg)	1
A	Abnormal renal and liver function (biochemical evidence) – 1 point each	1 or 2
S	Stroke (medical history)	1
B	Bleeding tendency or predisposition (hospitalization or haemoglobin drop >2g/L)	1
L	Labile INRs (in therapeutic range <60% of time)	1
E	Elderly (e.g. >65 years)	1
D	Drugs (e.g. concomitant Aspirin, NSAIDs) or alcohol (misuse) – 1 point each	1 or 2

Add up scores.

0 = 1.13 major bleeding risk % p.a.

1 = 1.02 “ “

2 = 1.88 “ “

3 = 3.74 “ “

4 = 8.70 “ “

Thus a score of 2 or less carries a risk less than the 2% p. a. threshold used for other maritime health risks such as cardiac events and seizures.

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Assessment of individuals

All indications for the use of anticoagulants should be assessed in a similar way, but the risk of the underlying condition and of any other medical conditions will also need to be taken into account.

Restrictions

For those on either **just aspirin or clopidogrel**, no specific restrictions need to be applied.

For those on **aspirin and clopidogrel together**, advice should be obtained from the treating physician on the risks of bleeding, but consider treating as with warfarin unless there is a clear opinion that the risk is lower.

For those on **warfarin**, reliable control within the therapeutic range is needed and the person should be made temporarily unfit until this has been confirmed. Once it is confirmed they may be considered fit for restricted duties as follows provided their HAS-BLED score is between 0 and 2. (This is subject to the conditions noted below).

- fit for work with low liability of injury in UK near coastal waters, once stabilized on treatment and with regular monitoring

For those on **dabagatran and similar agents**, the HAS-BLED score should be between 0 and 2. They should be restricted as follows. (This is subject to conditions 1 and 3 noted below).

- fit for work with low liability of injury in UK near coastal waters

Conditions for certificate issue

1. Compliance with treatment and with any coagulation monitoring requirements should be made a condition of certification and the duration of the certificate may need to be shortened to correspond with clinical surveillance.
2. Self-monitoring with a personal INR meter is acceptable. The meter should log results obtained or if it does not do so the seafarer should keep a record of the date and value of each reading and make this available at their next ENG medical.
3. Seafarers on anticoagulants should be given a 'to whom it may concern' letter outlining their condition, its treatment and the risks. In the case of warfarin it should include instructions on the administration of vitamin K. Seafarers should be advised to show it to the captain or responsible officer on embarkation.
4. For those on warfarin, vitamin K, plus instructions on its use, must be carried either by the seafarer or on board the ship.

Explanatory note

There are no duties on board that are entirely free from injury risks. Adverse outcomes following head injury are more frequent in those on anticoagulants, and so any work where severe impacts to the head are foreseeable is unsuitable, for instance cargo-handling using cranes or work at heights.

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UK near coastal waters are those within helicopter range. Exceptionally this restriction may be extended to include other named national waters where there are comparable evacuation and onshore hospital facilities.

For those on anticoagulants other than aspirin or clopidogrel, an unrestricted ENG certificate should never be issued, and one with a duration of less than two years would be appropriate if regular surveillance of coagulation control and bleeding incidents is indicated. Beyond helicopter range crewmembers are likely to be faced with complex and prolonged medical care requirements until evacuation can be arranged.

Stabilisation should be taken to mean, in the case of warfarin, a period of at least three months with stable dosage and at least 3 consecutive INR levels in the therapeutic range of 2-3.

Higher levels of anticoagulation, as commonly used after heart valve replacements, will normally result in permanent unfitness.

1. Bleeding risk assessment and management in atrial fibrillation patients: a position document from the European Heart Rhythm Association, endorsed by the European Society of Cardiology. Working Group on Thrombosis. Gregory Y.H. Lip et al. *Europace* (2011) 13, 723–746

2. A novel user-friendly score (HAS-BLED) to assess 1-year risk of major bleeding in patients with atrial fibrillation: the Euro Heart Survey. Pisters R et al. *Chest* 2010;138:1093-1100.

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ADG 16

Allergies

Introduction

A wide range of health problems may be attributed to an allergy. The quality of evidence supporting the diagnosis varies widely and, because of the implication that a severe reaction may occur in the event of further exposure to the allergen, such a diagnosis may restrict a person's life and employment opportunities.

Allergic asthma (see [ADG 10](#) ►) and dermatitis (see **12.2** in table of standards) are among the most common forms of allergy but in both cases irritant mechanisms can also either be a sufficient cause for similar symptoms or contribute to the response in those who do have an allergic reaction. A considerable range of foods can cause adverse effects and here the separation of true allergy from the effects of habit, dislike and infection can be difficult. Other environmental agents causing allergy include plants, animals and chemical agents.

Patterns of allergic response are often established in childhood. Some such as asthma and eczema often resolve with maturity. However an allergic response can develop at any age and occupational causes, including some agents that are found at sea, can cause the onset of an allergy in a working age person.

Impairment and risk

The importance of allergy in relation to fitness to work at sea lies in the possibility of a repeat exposure to an agent to which a person is allergic leading to a severe or life-threatening response in a situation where the medical support needed to treat it is not available.

Likely forms are exacerbations of asthma and generalised reactions to foods such as nuts.

Allergic dermatitis will not present such an immediate risk but can prevent seafarers from doing their duties, especially where these involve contact with foods, liquids, solvents and detergents.

Rationale and justification

- There is no evidence about risks in seafarers beyond case reports of incidents of allergy. Hence information from onshore studies needs to be used
- Test methods can be used to detect some forms of allergy, for instance skin prick tests for dermatitis or specific immunoglobulin levels for some agents causing asthma and anaphylaxis. These are complex and should be interpreted by allergy specialists. There are in addition many more doubtful tests promoted by commercial interests and alternative practitioners, which are not to be recommended
- An expert clinical opinion is essential to determine whether signs and symptoms have an allergic origin and so can be expected to recur. This opinion will rely on the history of the condition, the clinical findings during and between episodes, the response to therapy as well as on test results

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- *The severity of an individual reaction to the same dose of allergen is usually constant, but may be affected by co-factors occurring during the time of the reaction (e.g. acute illness or exercise), with larger amounts being likely to result in more severe reactions.*
- *When there is doubt regarding the likely severity of a reaction to a common allergen (such as peanuts) because of limitations in history when there has been no reaction for years, and the possibility of a life-threatening reaction cannot be ruled out, UK candidates should be referred to an NHS allergy specialist in order to inform the risk assessment underlying the fitness decision. In other countries, an accredited allergy specialist or immunologist should be sourced.*
- *If there is any difficulty in finding a local service in UK, the British Society for Allergy and Clinical Immunology website (www.bsaci.org) has a useful "Find a Clinic" function under Resources for Allergy Sufferers and Carers.*
- *In cases where a timely referral is not possible locally you may wish to consider referral via the Dreadnought Unit at Guy's and St Thomas's in London.*
- Immediate treatment with adrenaline and oral antihistamines can abort an acute episode but treatment with adrenaline is not generally practicable at sea, and may only produce short term improvement in severe cases. In the longer term steroids, bronchodilators (asthma), antihistamines (general responses) and topical treatments (dermatitis) may suppress effects but will not cure the underlying sensitivity

Assessment and decision taking

Seafarers have presented with a wide range of proven or suspected allergies. **If this is the first examination it is essential to establish the severity of any potential reaction** with an allergy focused clinical history as described in [NICE guidance](#). Apart from allergic dermatitis and asthma there is no mention of allergies elsewhere in the published medical standards, hence decisions must be taken from first principles. The variability of allergic responses means that it is impossible to write a single standard which has meaning and general validity. Some of the principles applied in the case of asthma and dermatitis are sound starting points for other allergic responses, and it may be helpful to ask the following questions:

- Is the diagnosis of an allergic mechanism secure? Could irritation or infection, for instance, be the cause? This is important because the features of increasingly severe reactions and the need to avoid exposure totally to prevent recurrence are specific to allergy and are major reasons for deciding that a person is unfit. Confirmation by a suitably qualified medical specialist (normally an NHS consultant in the UK) should be obtained if there is any doubt, as many people self diagnose or receive advice from less orthodox practitioners, leading to unsubstantiated labelling of conditions as allergic
- Is the causal agent known? This is important because it may determine whether it is likely to be present at sea, and whether avoidance will be possible. Thus an exposure to cats or to bee stings will usually be avoided at sea (if not in port), but eating peanuts, which are likely to be a trace ingredient in many foods, will be hard to avoid at sea. Less common foodstuffs can more easily be avoided. A careful risk assessment is therefore required in each case, considering both the likelihood of the event and its possible consequences.

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- What is the nature of the allergic response? If it is a skin rash or intestinal disturbance this would be impairing but not life threatening, whereas anaphylactic shock can be rapidly fatal
- What is the pattern of past responses? How frequent have they been? Has the same amount of allergen exposure been needed on each occasion or has it been less each time? Both these facets may be important predictors of the risk from future exposures
- Is prevention based on avoidance or is any medication used? If medication is required then some degree of surveillance may be needed
- Does the sufferer self treat in the event of an episode? 'Epi Pens' are commonly used but their adequacy in the absence of rapid medical support will usually mean that they are not acceptable as the mainstay of management at sea. The possession of an Epi-pen does not necessarily imply that a life threatening reaction can be predicted, but should be a trigger to careful history taking, risk assessment and further investigation if necessary.

Note: If an occupational cause for an allergy that is present in the person's current pattern of employment is found it is important that the ship operator is made aware of this, with the consent of the individual. This is because the employer has a responsibility to report relevant occupational disease.

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Note: If Diagnosis not established – Cat 3 Temporarily unfit pending further investigation

1. Based on the answers to the above questions, is there a pattern of response which indicates that a rapid life-threatening incident while at sea is reasonably foreseeable? (e.g. established allergy to a common foodstuff, for example peanuts that has led to an anaphylactic reaction previously, or the specialist opinion indicates that this is likely)

No

And they do not have a strongly suspected allergy – consider in relation to pattern or impairment, symptoms or alternative diagnosis

No

And they have a strongly suspected allergy

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Yes

Permanently unfit category 4 Self-treatment of life-threatening reactions using 'Epi-Pen' or other immediate treatments is not acceptable as such devices are intended as an immediate measure in situations where medical care is available and not as definitive treatments remote from care

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2. Do they have a pattern of response that is impairing and may lead to incapacity for work but is not life-threatening (e.g. Coeliac disease with gluten – wheat protein – sensitivity; dermatitis attributed to nickel, reaction to food that is consistent but not severe and responds to oral medication such as antihistamine)?

No

Trivial response or cause of allergy unlikely to be encountered at sea (such as insect stings or cats) – *Fit category 1*

Status uncertain – seek advice from accredited specialist in allergy or in relevant form of disease and base case by case assessment on this

Yes

And exposure to allergen can be avoided by access to suitable diet or by avoidance of exposure to sensitising agent – *Restricted category 2*

- list specific items to be avoided in restriction, and issue conditions letter
- consider UK near coastal restriction if complete avoidance is impracticable (e.g. traces of wheat in processed foods)
- consider time limitation if regular surveillance needed to confirm lack of worsening in reactions
- **warn the seafarer that a future severe reaction could result in permanent unfitness**

Yes

Impairment will frequently affect performance at work and avoidance of exposure is impossible
Permanently unfit category 4

Yes

But effects can be fully controlled by self-medication. If this is by the use of topical dermatitis) or long term non-steroidal medications that do not have safety critical adverse effects. Case by case assessment – *Fit category 1 but issue conditions letter*

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Allergies

Note: If Diagnosis not established – Cat 3 Temporarily unfit pending further investigation

1. Based on the answers to the above questions, is there a pattern of response which indicates that a rapid life-threatening incident while at sea is reasonably foreseeable? (e.g. established allergy to a common foodstuff that has led to an anaphylactic reaction previously or the specialist opinion indicates that this is likely)

Yes

No

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And they have a strongly suspected allergy

And they do not have a strongly suspected allergy – consider in relation to pattern or impairment, symptoms or alternative diagnosis

2. Do they have a pattern of response that is impairing and may lead to incapacity for work but is not life-threatening (e.g. Coeliac disease with gluten – wheat protein – sensitivity; dermatitis attributed to nickel, reaction to food that is consistent but not severe and responds to oral medication such as antihistamine)?

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And exposure to allergen can be avoided by access to suitable diet or by avoidance of exposure to sensitising agent –
Restricted category 2

- list specific items to be avoided in restriction, and issue conditions letter
- consider UK near coastal restriction if complete avoidance is impracticable (e.g. traces of wheat in processed foods)
- consider time limitation if regular surveillance needed to confirm lack of worsening in reactions
- consider restriction of not working as sole expert in a field

Impairment will frequently affect performance at work and avoidance of exposure is impossible
Permanently unfit category 4

But effects can be fully controlled by self-medication. If this is by the use of topical treatment (for non-occupational dermatitis) or long term non-steroidal medications that do not have safety critical adverse effects. Case by case assessment – *Fit category 1 but issue conditions letter*

Trivial response or cause of allergy unlikely to be encountered at sea – (such as insect stings or cats) *Fit category 1*

Status uncertain – seek advice from accredited specialist in allergy or in relevant form of disease and base case by case assessment on this

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ADG 17

Assessment of physical capabilities

Introduction

The physical capability requirements for work at sea vary widely and have to take account of both normal and emergency duties as well as the requirement for training and refresher training. The functions that may require assessment include

1. Strength
2. Stamina
3. Flexibility
4. Balance and co-ordination
5. Size – compatible with entry into confined areas
6. Exercise capacity – heart and respiratory reserve
7. Fitness for specific tasks – wearing breathing apparatus

In addition, exercise may be used as a stimulus for assessing other risk factors such as the liability to bronchospasm and asthma and the state of the blood supply to the heart. These are not covered by this guidance document.

Medical conditions and physical capability

Physical capability assessment may be applied to all seafarers or it may be used selectively where there are indications that there is an increased probability of limitations. Limitations may arise after an injury or from a range of conditions:

- Obesity
- Severely reduced muscle mass
- Musculo skeletal disease, pain or limitations
- Lung disease
- Heart and blood vessel disease
- Some neurological diseases

Physical capability testing

The following approaches can be used:

- Observed ability to do routine and emergency duties in a safe and effective way. Information may be obtained from the employer with permission.
- Tasks that simulate normal and emergency duties ([MSN 1886 Appendix 2 to Annex A](#))
- Assessment of cardio-respiratory reserve. This will predict maximum exercise capacity and hence the person's ability to perform physically demanding work. A large reserve will also indicate that heart and lung performance is less likely to be compromised in the next few years. The benchmark test is

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maximum oxygen uptake (VO₂ max). This requires dedicated equipment. Step tests such as the Chester, the YMCA, or less reliably, the Harvard step test are simpler alternatives which give results comparing performance to the average. Details of a range of tests can be found at www.nrpt.co.uk/training/advice/tests/fitness/index.htm. This sort of testing has the advantage that it is quantitative, and repeat tests are comparable, particularly if done by the same operator. It may also demonstrate to the candidate their level of fitness should the fitness decision be questioned.

- Informal testing of reserve, for instance climbing 3-6 flights of stairs and assessing any distress plus the speed of pulse rate decline on stopping. This is not readily reproducible but can be used for repeat assessment at the same location by the same doctor
- Clinical assessment of strength, mobility, co-ordination etc
- Additional information may come from activities recently or regularly undertaken, as described by the seafarer, such as:
 - Physically demanding duties on the vessel e.g. carrying weights, handling mooring equipment
 - Attendance at physically demanding course within last two years e.g. firefighting, helicopter escape, safety of life at sea
 - Confirmed personal pattern of regular strenuous exercise
 - When there is no specific clinical reason for concern with respect to physical capability, but an employer has raised a concern, it may be more appropriate for a work place assessment to be carried out by the employer with respect to the seafarers' specific duties.

If further fitness testing is required, either via referral or on site, the seafarer should be told that they are responsible for the fee incurred as this is not a part of the routine examination.

Interpretation of results

1. Is there any evidence that the person is not able to perform their routine and emergency duties effectively?
2. Are there any observed limitations on strength, flexibility, stamina and co-ordination?
3. What is the outcome of tests for cardio-respiratory reserve?
 - a) test performance limited by shortness of breath, musculoskeletal or other pain, exhaustion. Causes need to be investigated and taken into account in determining fitness
 - b) unable to complete test
 - c) completed but stressed or with poor recovery after stopping
 - d) completed to good or average standard (step test results are generally graded into levels of Excellent, Good, Above average, Average, Below Average or Poor)
4. Discuss subjective feelings during test with subject and also go over experiences of fitness and capability when doing normal tasks and emergency drills. Obtain corroboration from others if performance at work uncertain

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Decision taking

1. Physical capability testing is not required as a routine, unless there are good reasons for not applying it selectively. Information from a range of sources is required and many of these are not easily accessed in the course of a medical examination. Is there any indication that physical capability may be limited? (e.g. stiffness, obesity, history of heart disease)

No

Do not test

Yes

Consider what tests or observations will enable the person's capability to perform routine and emergency duties to be determined. This should be based on the nature of the anticipated limitation (see options as above).

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2. Do the test results indicate that capabilities may be limited (e.g. a step test result below Average)?

No

Fit category 1 – provided there are no underlying conditions that affect decision

Yes

But duties can be modified to enable safe working, without putting excess responsibilities on others. *Restricted category 2.*

Yes

But cause of limitation can be remedied. *Temporarily unfit category 3.*

Yes

Incapable of performing routine or emergency duties without scope for remedy *Permanently unfit category 4.*

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Assessment of physical capabilities

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2. Do the test results indicate that capabilities may be limited (eg a step test result below Average)?

Yes

Yes

Yes

No

But duties can be modified to enable safe working, without putting excess responsibilities on others.
Restricted category 2.

But cause of limitation can be remedied.
Temporarily unfit category 3.

Incapable of performing routine or emergency duties without scope for remedy
Permanently unfit category 4.

Fit category 1 – provided there are no underlying conditions that affect decision

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Frequently asked questions (FAQs)

Q: Who do I contact if I require advice on a medical issue?

A: Contact the MCA's Medical Administration Team (contact list at Annex A of Chapter 2) in the first instance. If necessary they will arrange for the Chief Medical Adviser to make contact with you.

Q: What is the definition of a seafarer?

A: A: This is defined in Regulation 2(2), "Seafarer" means any person, including a master, who is employed or engaged or works in any capacity on board a ship and whose normal place of work is on a ship." This is taken to mean a person whose usual place of work is on board a seagoing ship, and includes any crew member, resident entertainer and franchise employee on passenger ships.

However, if an individual requests an ENG 1 medical and is able to pay the fee, it is not for the Approved Doctor to decide whether or not they actually require one for their job. Some employers will require an ENG 1 rather than setting up their own employment medical standards. This sometimes causes a problem for the Referee if the individual appeals against a failure or restriction, but should not prevent the Approved Doctor conducting the examination.

Q: Is there a minimum or a maximum age for seafarers to obtain an ENG 1?

A: No. An ENG 1 can be issued to anyone who meets the medical fitness standards. Anyone under the age of 16 is not legally allowed to work on a sea-going ship, but may require the medical certificate in order to apply for cadetships etc. For seafarers under the age of 18 years, a medical certificate should be issued for a maximum of one year.

Q: What is the definition of a seagoing ship?

A: A sea-going ship is one which is certificated under Merchant Shipping Legislation for navigation at sea. See [MSN 1886 2\(3\)](#)

Q: Do the Regulations make it a requirement for all seafarers to have medical fitness certificates?

A: The Regulations make it a legal requirement for any seafarer (defined above) to hold a valid certificate attesting to their medical fitness for the work for which they are employed. The requirement for a medical fitness certificate does not apply to anyone employed on a non-commercial pleasure vessel, an offshore installation while on its working station, or to those whose normal place of work is ashore but are working on a temporary, short-term basis for the duration of the voyage. Examples include guest lecturers, research

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scientists, riding crews, pilots, trainees and volunteers on sail training ships who are not carrying out safety critical roles.

Q: What is meant by ‘acceptable medical fitness certificate’?

A: A certificate (form ENG 1) issued by an MCA Approved Doctor appointed in accordance with the provisions of the Regulations, (Reg 8) or a certificate issued by the Maritime Authority of any country listed in MSN 1815 (M).

Q: Where can I find a list of Approved UK Doctors?

A: A ‘live’ list is also maintained on the GOV. UK website www.gov.uk/seafarers-medical-certification-guidance

Q: Do seafarers always have to produce photographic ID when attending for a medical?

A: Yes. When attending a medical examination the seafarer must produce an official document which includes a photograph e.g. a passport which is then checked by the AD. The AD must record on the seafarer’s medical records, the form of ID produced.

Q: If a seafarer is unable to produce a discharge book, passport or photographic driving licence, can I still conduct a medical examination?

A. If the seafarer has simply forgotten to bring their ID with them, you should conduct the medical examination, but withhold the certificate until the seafarer has returned with their ID. If they have no suitable ID, for example because they are a student and have not yet obtained all the relevant documentation, consider other options (e.g. an official student card issued by their college, which you could verify with the issuing body). [Any seafarer going to work on a seagoing ship will require a passport or a discharge book for security checks in foreign ports, so this is unlikely to be a problem with serving seafarers, and within the UK it is less of an issue].

Q: Who do I contact if I suspect that a seafarer has misrepresented information i.e. over their true identity or state of health?

A: Contact the MCA Medical Administration Team with full details.

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Q: What are the categories of medical fitness?

A: The following categories are applied in assessing whether or not a seafarer is fit in the terms of the medical and eyesight standards:

- Category 1:** Fit for sea service, with no restriction
- Category 2:** Fit for sea service but with restrictions (e.g. medical, geographical or vessel type)
- Category 3:** Temporarily unfit for sea service
- Category 4:** Permanently unfit for sea service

Q: Is there a maximum period for which a temporarily unfit certificate can be issued?

A: The period of unfitness should be determined primarily by clinical considerations. However, we would not normally expect a “temporarily unfit” notification to be issued for a period of longer than 2 years.

Q: Can a seafarer attend for a seafarer medical examination after being issued with a Category 4 notification?

A: Yes, because they may have had their condition treated, or have had a significant change in their medical condition. You should discuss the case with the AD who issued their previous notification to avoid the risk of non-disclosure.

Q: What time period does a night seafarer work?

A: Under the Regulations, ‘night’ relates to the period between 11pm and 6am, and a night seafarer is one who works on a regular basis during those hours.

Q: If a seafarer has previously failed a lantern or CAD test and been issued with a restricted certificate, does he/she need to take another test?

A: No. Having failed a lantern or CAD test at any time, a seafarer can be presumed to have the same colour deficiency, and should be failed or issued with a restricted certificate. The Marine Office or CAD Test Centre conducting the test should provide the seafarer with a letter recording the results or decision following the test, for the seafarer to produce at the next medical examination.

Q: Can a seafarer appeal more than once, following successive examinations?

A: Not if it relates to the same restriction or reason for failure.

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Reference material

- 6.1** Maritime glossary
- 6.2** Categorisation of waters (non sea)
- 6.3** Sources of help outside MCA
- 6.4** Useful publications
- 6.5** Useful Merchant Shipping Notices (also previously issued M Notices)

6.1 Maritime glossary

6.1.1 Common acronyms

AD	Approved Doctor
BML	Boatmaster's Licence
CEC	Certificate of Equivalent Competency
CoC	Certificate of Competency
CMA	Chief Medical Adviser
DfT	Department for Transport (UK)
gt	gross tonnage
HMCG	Her Majesty's Coastguard
HSE	Health and Safety Executive
ILO	International Labour Organization

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IMO	International Maritime Organization
ISM	International Safety Management
MCA	Maritime and Coastguard Agency
MLC	Maritime Labour Convention
MNTB	Merchant Navy Training Board
RSS	Registry of Shipping and Seamen
SOLAS	Safety of Life at Sea Convention
STCW 78	The International Convention on Standards of Training, Certification and Watchkeeping 1978, as amended
UKOOA	United Kingdom Offshore Operators Association – now known as Oil and Gas UK
OGUK	Oil and Gas UK

6.2 Categorisation of waters (non sea)

These determine which waters are not regarded as ‘sea’ for the purposes of Merchant Shipping legislation, and are described in Merchant Shipping Notice MSN 1827 (M) as follows:

Category A: Narrow rivers and canals where the depth of water is generally less than 1.5 metres.

Category B: Wide rivers and canals where the depth of water is generally more than 1.5 metres and where the significant wave height could not be expected to exceed 0.6 metres at any time.

Category C: Tidal rivers and estuaries and large, deep lakes and lochs where the significant wave height could not be expected to exceed 1.2 metres at any time.

Category D: Tidal rivers and estuaries where the significant wave height could not be expected to exceed 2.0 metres at any time.

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6.3 Sources of help outside MCA

6.3.1 Websites on immunisations and malaria prophylaxis

<https://www.gov.uk/government/publications/malaria-prevention-transmission-symptoms>

Department of Health, England

www.fitfortravel.scot.nhs.uk

NHS Scotland

www.masta.org

(medical advisory service for travellers abroad) Access to information and to advisory service

www.cdc.gov/travel

Easy-to-use USA official site

<http://www.who.int/en/>

International requirements specified

<http://www.hpa.org.uk/>

This site does not contain specific immunisation requirements but contains a wealth of information on the diagnosis, treatment and prevention of a wide range of infectious diseases

6.3.2 Other

<https://www.gov.uk/seafarers-medical-certification-guidance>

MCA's Medical Administration Team webpage

<http://www.imo.org/>

The International Maritime Organization

www.mntb.org.uk

The Merchant Navy Training Board. Syllabuses for first aid and medical training for seafarers can be downloaded free of charge under publications/short courses

<http://www.ms-sc.org/>

The Marine Society

www.chirp.co.uk

Maritime CHIRP – confidential reporting of hazardous incidents

<http://www.menshealthforum.org.uk/>

useful source of information to which male seafarers can be referred

www.seahospital.org.uk

Seamen's Hospital Society

020 7188 2049

Dreadnought Medical Service

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6.4 Useful publications

6.4.1 Maritime and Coastguard Agency free publications

Booklets and seafarer information leaflets

A wide range of booklets and leaflets is available from the MCA's suppliers:

EC Group, Europa Park, Magnet Road, Grays
Essex RM20 4DN

Tel: **0845 6032431**

E-mail: mca@ecgroup.uk.com

Useful Health and Safety Publications

Code of Safe Working Practices for Merchant Seamen (consolidated edition 2010 plus amendments) is a chargeable publication and can be ordered from the Stationery Office www.tsoshop.co.uk under **Transport/Maritime** and Nautical. It can also be viewed on the MCA website under **Working at Sea/Health and Safety**.

Leaflets (L) and posters (P) in the following series can be ordered free of charge from EC Group:

Your Health at Sea

- L1 – Seafarer Medical Examinations
- L2 – Seafarer Medical Examinations, Additional Tests and Procedures
- L3 – Protect Your Skin – Health Risks from Exposure to Direct Sunlight
- L4 – Fatigue in Seafarers
- L5 – Stress in Seafarers
- L6 – Medical fitness requirements for those working on domestic vessels and small commercial vessels
- L7 – Stress in Seafarers
- P1 – Hearing-Ear Muffs – General Fitting Instructions
- P2 – Hearing – Disposable Ear Plugs – General Fitting Instructions
- P3 – Don't take Risks in the Sun
- P4 – Wake up to Fatigue
- P5 – Give Stress the Heave Ho!

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Your Safety at Sea

- L1 – Hear Today or Gone Tomorrow
- L2 – Manual Handling and You
- L3 – Protecting Yourself from Slips, Trips and Falls
- L4 – Be Safe, Work Safely and Know your Ship
- P1 – Watertight Doors (x three varieties)
- P2 – Mooring Deck Safety – Bights of Rope (poster)
- P3 – Mooring Deck Safety – Snap-Back Zones (poster)
- P4 – Manual Handling (poster)
- P5 – The Code of Safe Working Practices for Merchant Seamen
- P6 – Know your Safety Signs

Safety Management at Sea

- L1 – Sun Protection for Seafarers Exposed to Direct Sunlight
- L2 – Maritime Health and Safety Law
- L3 – Catch the Risk before the Risk Catches You
- L4 – Legionella and Legionnaires Disease
- L5 – Preventing Slips, Trips and Falls on Board
- L6 – Managing Fatigue in Seafarers
- L7 – Managing Stress at Sea
- P5 – Risk Assessment – Merchant Navy (poster)
- P6 – Risk Assessment – Fishing Industry (poster)

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The Law and You

Hours of work

6.4.2 Statutory Instruments (S.I.s)

A copy of the Statutory Instrument which governs the appointment of Approved Doctors and the issue of medical certificates is included in this Manual at Annex A to this Chapter). To purchase a copy of an Act of Parliament (e.g. Merchant Shipping Act) or Regulations (statutory instrument or S.I.) made under such an Act from The Stationery Office you should quote the number of the relevant S.I.

S.I.s can also be viewed and downloaded from HMSO's website at: www.legislation.gov.uk

6.4.3 National Maritime Occupational Health and Safety Committee publications

(available from the Chamber of Shipping, Tel: 0207 417 2800).

Guidelines to Shipping Companies on Alcohol Misuse (June 1992)

Guidelines to Shipping Companies on HIV and AIDS (March 2000)

Guidelines to Shipping Companies on Drug Abuse (May 2001)

6.4.4 Miscellaneous

British Hypertension Society guidelines for hypertension management 2004 (BHS-IV); summary BMJ 13 March 2004 pages 634-640

A Guide to Standards in Private Practice Occupational Health – Academy of Medical Royal Colleges, 1, Wimpole Street, London W1G 0AE – September 2000

'Positive Health at Sea' by Andrew Neighbour published jointly by the Marine Society and the Seamen's Hospital Society

HSE Guidance Note MS 26 on Audiometric Testing

Guidance on Ethics for Occupational Physicians – published by the Faculty of Occupational Medicine. 5th Edition May 1999. ISBN 1-86016-112-X

IMO Guidance on Assessment of Minimum Entry-Level and In-Service Physical Abilities for Seafarers (see Chapter 6.1 Appendix 2 to Annex B of [MSN 1886 \(M+F\)](#))

NICE Guidance on laser refractive surgery (RS/503 Issue 1 August 2005) Available from website at: <http://guidance.nice.org.uk/IPG164>

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6.5 Useful Merchant Shipping Notices (also previously issued as M Notices)

Merchant Shipping Notices (MSNs): provide mandatory information which must be complied with under UK legislation;

Marine Guidance Notes (MGNs): provide advice and guidance;

Marine Information Notices (MINs): provide information for limited audiences such as training establishments or equipment manufacturers, or which will only be valid for a short period of time (max 12 months).

- 6.5.1 Current lists of MSNs, MGNs and MINs are available from the GOV.UK website www.gov.uk/government/organisations/maritime-and-coastguard-agency
- 6.5.2 [MSN 1886 \(M+F\)](#) Medical and Eyesight Standards for Seafarers is a key document for the conduct of seafarer medical examinations, and all Approved Doctors are sent a copy on appointment.
- 6.5.3 The SI that governs the appointment of ADs is [SI 2010/737](#)
- 6.5.4 [MGN 219](#) Seafarer Medical Examinations: Guidelines for Maritime Employers and Manning Agencies

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The following notices are useful reference material:

M Notice	Title
MGN 493 (M+F)	Asbestos regulations and amendments
MSN 1521 (M)	Possible hazards to seamen from oils used on ships
MSN 1841 (M+F)	(Guidance on) The Merchant Shipping (Ships' Doctors) Regulations 1995
MSN 1745 (M+F)	Seafarer Vision Test: Deck/Dual Career Personnel
MSN 1768 (M+F)	(Guidance on) The Merchant Shipping and Fishing Vessels (Medical Stores) Regs 1995
MSN 1827 (M)	Categorisation of Waters
MSN 1845 (M+F)	Maritime Labour Convention, 2006: Food and Catering: Provision of Food and Fresh
MGN 522 (M+F)	Merchant Shipping and Fishing Vessels (Health and Safety at Work) Regulations 1997 and Merchant Shipping (Maritime Labour Convention) (Medical Certification) Regulations 2010; New and Expectant Mothers
MGN 147 (M+F)	Training in First Aid and Medical Care (for personnel not covered by STCW 95)
MGN 193 (M+F)	The Effects of Alcohol or Drugs on Survival at Sea
MGN 399 (M)	Prevention of Infectious Disease at Sea by Immunisation and Anti-Malaria Medication (prophylaxis)
MGN 296 (M)	Medications at Sea
MGN 297(M)	The Carriage of Defibrillators on Ships
MGN 352 (M+F)	The Merchant Shipping and Fishing Vessels (Control of Noise at Work) Regulations 2007
MGN 353 (M+F)	The Merchant Shipping and Fishing Vessels (Control of Vibration at Work) Regulations 2007
MGN 356 (M+F)	The Merchant Shipping and Fishing Vessels (Health and Safety at Work) (Carcinogens and Mutagens) Regulations 2007
MGN 357 (M+F)	Night-time lookout – Photochromic lenses and dark adaptation



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Guidance

MSN 1886 MLC and ILO 188 medical standards

Medication examination system and appointment of approved doctors and medical and eyesight standards.

Published 2 November 2018

From: [Maritime and Coastguard Agency](#)

Documents

[MSN 1886 \(M+F\) ILO work in fishing convention medical examination system appointment of approved](#)

Related content

Fishing

Recreational and commercial fishing vessel regulations, codes of practice, safety, equipment and training.



[doctors and medical and eyesight standards](#)

PDF, 699KB, 42 pages

This file may not be suitable for users of assistive technology.

[Request an accessible format.](#)

Details

This notice should be read in conjunction with the merchant shipping (maritime labour convention) (medical certification) regulations 2010 as amended and the merchant shipping (work in fishing) (medical certification) regulations 2018 and replaces in part MSN 1886(M+F).

Notice to

- approved doctors
- shipowners
- ship operators and ship managers
- fishing vessel owners and managers
- employers of seafarers and fishermen
- masters
- officers and seafarers and fishermen

Published 2 November 2018

Maritime safety

Safe operation of vessels and ports, safety standards, life saving appliances, insurance, codes of practice and how to ship dangerous goods.

Ship crew health and safety

Crew working hours and fatigue, food and catering, working with noise, chemicals and dangerous materials, accommodation and approved nautical doctors.

Collection

[ILO work in fishing convention](#)

[Merchant shipping notices \(MSNs\)](#)

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