Approved Doctor's Manual

Seafarer Medical Examinations

November 2026

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.

It is produced to assist Approved Doctors (ADs) with examination procedures, the issue of medical fitness certificates and record keeping, and 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.

Guidance is 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 conditions that are common and which have previously led to questions about the correct issue of fitness certificates. It is not possible to include detailed guidance for all medical conditions or all standards included in MSN 1886. When specific guidance is not available, the general principles of assessment should be used, specifically that 'no disease or defect is present which could either be aggravated by working at sea or represent an unacceptable risk to the health of the candidate, the health or safety of other crew members or the safety of the ship'. Medical conditions should be investigated and treated as far as possible and all medication should be stable, providing good clinical effect and no side effects.

The below M-Notices should be referred to alongside this Manual.

- MSN 1886 (M+F) which contains the medical standards applicable to both seafarers and fishermen; it also contains the statutory information which 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.

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 a fitness decision. 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, please contact the Medical Administration Team at medical@mcga.gov.uk.

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Chapter 1

Health of seafarers

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Annex A: Grandfather Rights – ILO 188 Work in Fishing Convention

1.1 Introduction

1.1.1. It is universally accepted that seafaring and fishing are potentially hazardous occupations which call for high standards of health and fitness for all those working in the industry. Regulations place a duty on seafarers and fishers 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 and fishers 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' and fishers' 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 telemedical advice services and onshore health care facilities is required.

1.2 Legal requirements for medical examination

Medical examination

1.2.1. The Merchant Shipping (Maritime Labour Convention) (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 to hold a valid medical certificate attesting to their medical fitness to perform their duties. A seafarer is 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. In addition, the Merchant Shipping (Work in Fishing Convention) (Medical Certification) Regulations 2018, (also referred to in this manual as 'the Regulations') came into force on 30 November 2018. They put into UK law the medical certification provisions of the International Labour Organization's (ILO) Work in Fishing Convention (No. 188) ("the Convention").

1.2.2. MSN 1886 (M+F) describes the Medical Examination System and Medical and Eyesight Standards and contains the detailed mandatory requirements specified by the Secretary of State under the Regulations. It also 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 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. The International Convention on Standards of Training, Certification and Watchkeeping for Seafarers, 1978, as amended (STCW Convention), together with its associated Code (STCW Code), sets the minimum international standards for merchant seafarer qualifications and training, as well as watchkeeping arrangements. All officers and ratings serving on UK flagged vessels must hold appropriate STCW Certificates of Competency (CoC) or Certificates of Proficiency (CoP).

1.2.6. In the United Kingdom, these requirements are implemented through the Merchant Shipping (Standards of Training, Certification and Watchkeeping) Regulations 2022, which came into force in January 2023. These Regulations give effect to the most up-to-date provisions of the STCW Convention and Code within UK law.

1.2.7. In addition to the training and assessment requirements, all candidates for UK CoCs and CoPs must satisfy prescribed medical standards (including eyesight requirements). All prospective candidates are strongly advised to undergo a medical examination and sight test, including assessment of colour vision and visual acuity, before commencing training. **A**

CoC or CoP cannot be issued unless the required medical standards are met.

1.2.8. Some seafarers may be able to operate using an ML5 medical certificate. This is a different system although it adheres to the same medical standards. Please refer to MGN 640 (M+F). If you have any queries, contact medical@mcga.gov.uk.

1.3 Purpose of the medical assessment

1.3.1. The fundamental purpose of the medical assessment is to ensure that the individual is fit for the work for which they are to be employed, taking into account the particular risks associated with working at sea. The medical examination is a key element in this process and 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, other crew members or the safety of the ship.

1.3.2. 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.

1.3.3. 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 to perform all routine and emergency duties safely and effectively;

(c) fitness in both physical and psychological terms to deal with emergencies at sea;

(d) freedom from foreseeable risk of illness or disease while at sea, especially where this might either spread to others on board, require emergency treatment or lead to evacuation or diversion;

(e) recognition that careers at sea can be terminated prematurely by conditions which can be prevented, such as ischaemic vascular disease and lung cancer;

(f) absence of discrimination based on disability or medical condition, except where this can be justified by requirements (a) to (e).

1.4 Maritime working conditions

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

- the potentially hazardous nature of working at sea, which calls for a high standard of health and continuing fitness;
- the restricted medical facilities likely to be available on board. First aid and medical training of crew is limited and few vessels carry doctors. Even then, the medical care that can be provided is limited;

- the likelihood of an appropriate level of medical care being available in the required time scale. Helicopter range is limited to a maximum of 150 – 200 nautical miles offshore, and even if available, may take many hours to reach the vessel. Search and rescue and medical care in other countries may not be equivalent to that available in the UK;
- the possible difficulty of providing/replacing required medication; as a general rule a seafarer or fisher should not be accepted if the loss of a necessary medicine e.g. treatments for high blood pressure, diabetes or asthma, could precipitate the rapid deterioration of a medical condition;
- the difficulty in accessing required investigations, screening and preventative healthcare;
- 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 vessel;
- 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 and the need to be able to live and work in a closed community;
- the likelihood that a seafarer or fisher may need to join and leave vessels by air, which means that they should be free from any condition which precludes air travel or could be seriously affected by it (note: the AD's role does not include determining whether a seafarer is fit to fly, however if there are any doubts appropriate medical assessment should be sought);
- the especially high levels of physical fitness required for work on some vessels, such as standby vessels in the oil industry and fishing vessels;
- 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. Seafaring operations and onboard duties vary considerably. The person'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 area of operation may not be known, and an unrestricted medical certificate will enable the individual 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 but this is not exhaustive.

1.4.4. Vessel types

The maritime industry is a worldwide industry with a wide variety of vessels. Common examples include:

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
Passenger ships with large crews. The crew will include many support staff and include hairdressers/entertainers/gaming staff.

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 or evening charters.

Specialist ships
Examples include tugs, heavy lift vessels, support and standby vessels to the oil industry, and Royal Fleet Auxiliary (RFA) vessels which provide support to the Royal Navy and may be required to travel to war zones.

Scientific research and offshore survey vessels may travel to remote areas. Other inshore vessels such as pilot vessels have their own requirements.

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.

Static Fishing: fishing equipment is left to fish whilst the vessel is not attached or present. On this type of vessel, the tidal patterns often influence the routine onboard.

- Rod fishing;
- Pots, Creels and Traps;
- Line fishing;
- Drift netting;
- Gill and Trammel Netting.

Dynamic/Mobile Fishing: the vessel uses its momentum to move the fishing gear towards the intended catch.

- Boom Trawl, Beam Trawl (all gear beam mounted, open, chain matt, etc);
- Stern/Side Trawl, Demersal (bottom fishing) (single or multi rig);
- Dredges (bottom fishing for mussels, scallops, razor fish, etc);
- Beam Trawl (using outrigger for towing and lifts with Scotch Poles and Gilson Winch);

- Pair Trawling;
- Seine Net (including Purse Siene).

1.4.5. Seafarers' functions and levels of responsibility

1. 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 sea time 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 of the vessel
- 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

a) Deck department – Officers may serve in the following capacities:

Master (Captain)
The Master has overall command of the ship with responsibility for its safe navigation. The Master is ultimately responsible for the safety of all on board. The Master 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 Master 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 Master'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. They will organise the crew in cargo handling and stowage, to ensure 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. They usually keep 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. They usually keep 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 considered as a *support* level post.

b) 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 capacities:

Chief Engineering Officer
The Chief Engineer is the manager responsible for all technical matters on board ship, the upkeep of all machinery and 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 daytime 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 considered as a *support* level post.

c) 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 considered as *operational* level posts.

Cooks and Stewards
These posts provide the catering and housekeeping services on board ship. The role will vary considerably between ships.

May be considered as *support* level posts.

Cadets
Cadets are trainees who become involved in a wide range of duties as part of their training to gain practical experience.

May be considered as *operational* posts.

2. Fishing vessels

For some fishers, 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 vessels. This can add serious stresses to the body while performing a task such as stacking pots.

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

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.

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.

Fishers

Fishers work on board catching, sorting and sometimes further processing the fish. They have no deck or engineering duties and are therefore an ‘other’.

3. Miscellaneous roles

On board certain categories of vessels such as 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. They 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 will have other shipboard duties including emergency duties. Their fitness to perform these duties must also be considered.

Other vessels e.g. research vessels, cable laying may also carry additional crew who are not part of the deck, engineering or catering departments but are on board to perform specialist tasks. They may or may not have any emergency 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 background. These are more akin to the specialised police detachments deployed on board nuclear carriers, and they do not have navigational duties.

Marine pilots are not classified as seafarers and fitness standards for this role vary between ports. Many ports do require an ENG1 or ML5 medical certificate and the appropriate medical certificate is also necessary if the individual wishes to revalidate a Certificate of Competency. The role of a marine pilot

involves transferring from a small vessel to a large vessel, often in difficult conditions, and then climbing a ladder up the side of the ship. The individual must then be physically and mentally capable of advising the Captain and maintaining vigilance for what can be many hours.

4. Other vessels

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) and some fishing vessels. 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.

1.4.6. Areas of operation

- **Worldwide**

  The vessel may sail anywhere in the world including across the great oceans where a seafarer may be many days or even a week from medical care. Alternatively, the vessel may operate in coastal waters elsewhere in the world where access to search and rescue and the standard of medical care may be very different to the UK.

- **UK Near coastal waters**

  This is legally defined as 150 miles from a safe haven on the coast of the UK and 30 miles from Éire (Republic of Ireland).

- **Local operations**

The Marine and Coastal Access Act 2009 defines the UK territorial sea as up to 12 nautical miles from the baseline. From a practical perspective up to 20nm can be considered as local although other factors should be considered including the speed of the vessel and location in regards to medical care.

1.4.7. 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 assess 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 crew are not required to work such hours or under such conditions which may be injurious to their health and safety.

1.4.8. **Hours of work/fatigue**

Life on board most vessels 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 vessel and its operations. A schedule of hours of work for all those employed on board has to be agreed and must provide for a minimum of 77 hours rest in any 7-day period and 10 hours rest in any 24-hour period.

The Merchant Shipping (Maritime Labour Convention) (Hours of Work) Regulations 2018 oblige every operator of a ship and employer to ensure that the master, officers and crew do not work more hours than is safe in relation to the performance of their duties and the safety of the vessel. 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 take rest periods and achieve good quality rest.

The regulations recognise that situations may arise in which a seafarer may be required by the master to work during scheduled hours of rest. These include emergencies which threaten the safety of the ship, persons on board or the cargo or where another ship or person in distress requires assistance. In these circumstances, hours of rest schedules may be suspended until the normal situation is restored. The master shall ensure that any affected seafarer is then given an adequate rest period to avoid fatigue. MSN 1877 (M) gives guidance on the regulations and describes all requirements for safe manning, hours of work and watchkeeping.

The Fishing Vessels (Working Time: Sea-fishermen) Regulations 2004 set out similar requirements for those working on fishing vessels, including the minimum of 77 hours rest in any 7-day period and 10 hours rest in any 24-hour period, however, due to the nature of fishing operations exceptions are allowed that take account of more frequent or longer leave periods or compensatory rest. MSN 1884 (F) gives guidance on the regulations for fishing vessels.

1.5 Treatment and welfare on board ship

1.5.1. Under the Merchant Shipping (Ships' 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 on board.

1.6 Medical stores and the Advanced Treatment 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 1905 (M+F)). 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 flagged vessels, 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 an 'Advanced Treatment Bag'. This is intended for use in an emergency by a health care professional who happens to be on board as a passenger but offers to assist in the treatment of ill or injured passengers or crew. In this situation responsibility for care on board remains with the master.

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. Some 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 medical care and the medical stores on board is required to complete ***proficiency in medical care training***, covering provision of medical care to the sick 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 must be approved by the MCA and details of approved training providers can be obtained from the Seafarer Training and Certification Branch of the MCA at exams@mcga.gov.uk. Syllabuses can be obtained from the Merchant Navy Training Board. See Chapter 3.3.

1.8 Telemedical advice

1.8.1. To support the first aid training of the ship's crew, professional medical advice is available through the telemedical advice service (TMAS). Under international conventions, countries are required to provide telemedical 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 must be taken to deal with identified hazards.

1.9.2. Workers must 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 must carry out health and safety inspections of the ship at least once every three months. 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) and The International Safety Management (ISM) Code for the Safe Operation of Ships and for Pollution Prevention (available from The Stationery Office) both provide an international standard for the safe management and operation of ships.

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 and fishers through the medical services of 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 investigation of and treatment for a full range of medical conditions. The service aims to provide the required care 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 and fishers to return to work at sea as soon as possible. Further information is available here.

1.10.2. Active seafarers and fishers who are resident in the UK, including 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. Their dependents may also be eligible where the illness of a spouse or child is such as to cause the seafarer or fisher grave concern. Retired seafarers and fishers 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, and in addition to medical treatments, dental treatment can also be provided. As the service operates within the National Health Service, there is no charge for UK resident seafarers or fishers.

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. Completed forms should be returned to the Dreadnought Administrator, at the address given. If the seafarer is experiencing any issues in accessing this service please contact the MCA's Medical Administration Team.

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 medical care outside the United Kingdom including surgical, medical, 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). For fishing vessels this requirement is set out in the Merchant Shipping (Work in Fishing Convention) Regulations SI 2018/1106 Part 6.

Annex A Grandfather Rights - ILO 188 Work in Fishing Convention

ILO 188 SI 2018/1108 introduced statutory medical examinations for fishermen for the first time. Grandfather rights were applicable for an existing fisher who applied for their first medical certificate **before 30 April 2024**:

- Grandfather rights were not applied if a medical condition existed that would have seriously conflicted with maritime or navigational safety, or if the safety of others was reasonably foreseen to be at risk.

- Grandfather rights do not apply to any other roles within the maritime industry that the individual may also have and can no longer be issued for the first time.

The purpose of applying grandfather rights for existing fishermen was to try to ensure that, where they could do so without significant risk to their own or others' health and safety, fishermen were able to continue to carry out an occupation they had been engaged in safely prior to the introduction of the requirement for a medical fitness certificate. This recognized 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.

Once a medical certificate has been issued under grandfather rights, the fitness decision and any associated restriction will be carried forward when the medical certificate is renewed, unless and until there is a significant change in the condition, or the fisher seeks to change the work that they do, or their area of operation, or obtain a new certificate of competency etc.

Fishermen applying for an ENG1 certificate should be assessed using the statutory medical standards in MSN1886 (M+F), as all other applicants. If the standards are met, then an appropriate ENG 1 medical fitness certificate may be issued.

If Grandfather Rights are applied, GR should be written after the restriction on the ENG 1 certificate by the AD. The fisher 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.

A conditions letter should be issued to the fisher, 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 fisher that should their medical condition change, the decision may change, and they must contact the AD for advice.

The fisher still has the right to seek a medical review with a MCA medical referee. Please ask for CMA advice when required.

Chapter 2

Governance

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2.1 Introduction

2.1.1. Medical practitioners are approved by the MCA, acting on behalf of 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.

2.2 Procedures for appointment of Approved Doctors

2.2.1. There are at present around 175 ADs, the large majority of whom are in the UK. A 'live' list incorporating any changes as the year progresses can be found on the MCA's web page here.

2.2.2. Whilst the total number of ADs is not prescribed, appointments are kept under review and are restricted to areas where a UK need has been demonstrated. The identified need should be for UK seafarers and shipping companies and for UK flagged

vessels. This is 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 because of an existing AD retiring, reducing their availability, or moving away, or due to increased demand in an area, the normal practice is for the MCA to notify the British Medical Association, and all local clinics whether NHS or Private about the vacancy. 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 Medical Administration Manager in relation to their training, competence, facilities and location (described below in paragraphs 2.4 and 2.5) and the successful applicant is appointed. Appointment is initially on a probationary period, which will then be reviewed and, if appropriate, renewed 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 it is 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, considering an identifiable 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, as well as regular attendance at the MCA Maritime Health Seminar (see 2.4.6). Medical practitioners approved by the MCA to carry out seafarer medicals and based in the **United Kingdom** must be fully registered with the General Medical Council of Great Britain and hold a valid Licence to Practice. If based **outside the United Kingdom**, an AD must:

(a) be qualified from one of the medical schools listed in the World Directory of Medical Schools;

(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). See also 2.4.1 of this manual and MSN 1886.

2.2.6. MCA reserves the right to terminate an Approved Doctor's appointment where there are concerns regarding their application of the medical standards, or their ability to meet the requirements and expectations set out in this Manual.

Reasons for termination may include, but are not limited to:

- Failure to apply the statutory medical standards appropriately.

- Failure to comply with the policies, procedures or guidance relevant to the appointment.
- Failure to complete mandatory training, or attend the Maritime Health Seminar or other activities as required within specified timescales.
- Failure to complete audit actions, recommendations or remedial measures within agreed timescales, including where reminders and opportunities to address outstanding actions have been provided.
- Persistent failure to engage with the MCA, including failure to respond to correspondence, requests for information, audit requirements or other communications necessary for the effective administration and governance and quality assurance of the medical system.
- Conduct, performance or professional concerns that call into question the doctor's suitability to continue as an Approved Doctor.
- Any other circumstance where MCA reasonably considers that continuation of the appointment is not appropriate.

Where concerns arise, MCA will ordinarily seek to engage with the Approved Doctor and provide opportunities to address the issues identified. An appointment may be suspended during this time to allow full investigation and resolution if possible. However, where concerns are significant, persistent, or remain unresolved despite reasonable efforts to secure compliance and engagement, MCA may terminate the appointment with immediate effect.

2.2.7. An Approved Doctor whose appointment is terminated will be notified in writing of the decision and the reasons for it. If the individual considers any of the information relied upon in reaching the decision to be incorrect, they may make written representations to the Branch within 28 days of the date of termination. Any representations received will be reviewed and considered; however, the submission of representations will not suspend, delay or otherwise affect the termination of the appointment, which will take effect from the date specified in the notification.

Probationary Appointments

2.2.8. Newly appointed Approved Doctors who are subject to a probationary period are expected, from the outset of their appointment, to demonstrate satisfactory performance, engagement, compliance, and communication, and to complete all mandatory training requirements within the prescribed timescales.

2.2.9. MCA may terminate a probationary appointment at any time during the probationary period where concerns arise regarding performance, conduct, engagement, communication, responsiveness to correspondence, compliance with requirements, completion of audit actions or other required activities, or any other matter that raises concerns about the individual's suitability for the role. Given the probationary nature of the appointment, the Branch may terminate the appointment without allowing the probationary period to continue where it is not satisfied that the standards expected of the role are being met.

Overseas doctors

2.2.10. As a general rule, no new general list ADs (2.3) will be appointed overseas in countries whose medical certificates are now recognised by the UK as equivalent. Those countries are published in MSN 1815. Seafarers holding statutory medical certificates issued by those listed countries may serve on UK flag ships. Existing ADs in those countries who carry out less than 50 medicals p.a. will generally not be reappointed. It is unlikely that new appointments will be made in these countries, including if an existing AD resigns, unless there is a specific UK demand to do so.

2.2.11. 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. The 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.

2.2.12. Doctors approved for shipping companies (2.3.3– 2.3.6) 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. A "**general list AD**" is an AD generally approved to examine any seafarer. Contact details for general list doctors are published so that any seafarer can contact them to make an appointment.

2.3.2. In some cases doctors may be approved only to examine seafarers engaged by a single shipping company referred to as a "Company Approved Doctor" (CoAD).

2.3.3. Where a company or organisation with vessels registered with the UK flag and 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. 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 CoAD to be appointed, the company must first assess the suitability of the doctor to be appointed 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 to ensure that they are familiar with the statutory fitness standards, and compliant with the requirements of the AD Manual, see 2.3.6.

2.3.4. The role of a Liaison Officer is to cover the following responsibilities:

- liaison with MCA on appointment, checking of registration, retirement, resignation, and updating where necessary of all details relating to individual approved company doctors;
- responsibility for ordering and distributing ENG 1 security paper and ensuring unused security paper is 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.

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

2.3.6. 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.

2.3.7. The CoAD will also be subject to the MCA Quality Assurance programme. Companies are expected to bear the cost of MCA audit visits to Company ADs overseas. Agreement to this is a condition of obtaining and retaining approval.

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 immediately. 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 (M+F).

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 in a remote location.

2.4.4. There are 5 MCA AD Training modules in total. All newly approved ADs must pass modules 1 and 2 of the AD training in the online ADIS system, before they can conduct any ENG medical examinations. Modules 3, 4 and 5 should be passed within the first 6 months of appointment. The training modules are as follows:

- Module 1: Data Protection and Security. Continuous Professional Development (CPD) Points: 0.5
- Module 2: System Use. CPD Points: 3
- Module 3: Seafarer Health and Approved Doctor Governance. CPD Points: 6
- Module 4: Medical Decision Making. CPD Points: 6
- Module 5: Medical Outcomes. CPD Points: 12

2.4.5. ADs must participate in any audit activities initiated by the MCA to evaluate performance standards and adherence to data protection. ADs are encouraged to identify ways of improving service to seafarers and to make the Medical Administration Team aware of any suggestions.

2.4.6. In addition to the general training modules, an annual Maritime Health Seminar is arranged, usually in November each year, at which speakers are invited to talk on subjects relevant to the work of the AD. This is also 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 within 2 years of appointment, and all doctors must attend 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.

Preferred

2.4.7. In approving doctors, the MCA will give preference to those who are qualified in occupational medicine and/or have a background in maritime health.

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.

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 online ADIS system must only be accessed by the AD and **the username and password must never be shared with anyone else, including support staff.** The medical assessment of the seafarer must always be undertaken by the AD who must personally complete the ENG 2 within the ADIS system. The AD should issue and print the medical certificate (ENG 1), on security paper and/or the Notice of Failure/ Restriction (ENG 3) on plain paper from the system. The doctor may delegate aspects of the procedure e.g. checking of blood pressure, urinalysis etc. to other non-medical clinical staff, however only the AD can enter the results in ADIS. It is the AD's responsibility to ensure these other staff have an understanding of the purposes of the procedures which they undertake, the competencies needed to carry them out effectively and the knowledge 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 3.8.2.

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 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 include:

- ready accessibility by public transport and/or access to sufficient car parking
- 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
- a consulting room which enables confidential conversation to take place
- hand cleaning 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 openly 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). '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 fitness testing either on site or provided by a third party but readily accessible to seafarers. ADs should be aware of local providers who can offer immunisation, audiometry and City University or Farnsworth D15 testing.
- schedules for servicing and calibration of all equipment in accordance with the manufacturers' recommendations, with records to confirm compliance
- email, printing and IT facilities
- lockable facilities for storage of MCA security paper
- public liability insurance and appropriate professional indemnity that must include mention of the AD role.

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. The 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

General

2.6.1. ADs must ensure that they keep up to date with and make use of the documentation prescribed and supplied to them by the MCA (see section 2.16). 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. All ADs must comply with this legislation, regardless of whether they are in Europe or not.

Data Protection

2.6.2. 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) receive any other request, complaint or communication relating to either party's obligations under the Data Protection Legislation;

(d) receive any communication from the Information Commissioner or any other regulatory authority in connection with Personal Data Processed under the appointment of AD;

(e) receive 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) become aware that any of the personal information in their control has been compromised, lost or stolen (a Data Loss Event).

For paper-based records prior to ADIS

This section is only applicable if an AD used the old pad system prior to 1 January 2024

1. **Retention of records**

ADs who were appointed prior to the implementation of the online ADIS system, are required to retain all records relating to each medical examination securely and confidentially for a period of ten years after the medical has been carried out. At that time, they must be securely destroyed. Records include ENG 2 reports and copies of ENG 1s and/or ENG3s issued, in addition to any medical reports relevant to the fitness decision. **This applies and remains the responsibility of the AD, even if the AD retires or resigns and appropriate arrangements should be in place to ensure compliance.**

Records of occupational health surveillance data, e.g. audiometry done for this purpose on behalf of the employer, must as usual be kept for 40 years.

For ADs who have only ever used the online ADIS system, the retention rules are built into the system. You should upload all documents relating to the medical in ADIS, including medical reports and letters.

No documents relating to an ENG1 medical examination should be stored in hard copy or in another computer system unless there is a clinical need to do so.

2. **Maintenance of records**

The online ADIS system has record management rules already built into it. However, ADs who previously used the old paper system must ensure records are kept in lockable storage at their approved address. It is not acceptable for old paper 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.

Old paper 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. However, this is not required if an AD has only ever used the online ADIS system

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 Marine Accident Investigation Branch, Port State control inspectors, and MCA marine surveyors.

3. Scanned electronic records

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 by delegated staff, we need confirmation that you as the AD can use the system and access information as necessary, particularly in the case of unexpected staff absence.

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
- All previous ENG 1 certificates withdrawn from seafarers should be scanned into the system before being securely destroyed.
- 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.

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

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

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 and they are 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 audits – practical arrangements

2.8.1. The aim of the quality assurance 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, and 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. **Quality assurance objectives:**

- to monitor the validity of medical standards and their application
- to assess the quality and performance of ADs in line with the standards and the guidance in the AD Manual
- to monitor consistency and identify best practice
- to make use of the information gained with a view to continuous improvement of all ADs
- to ensure that the administrative functions prescribed by the MCA are carried out according to laid down procedures in this manual.

2.8.3. **Planned quality assurance programme**

- Teams call with MCA CMA after approximately 10 ENG medicals Audit visit within 1 year of starting to perform ENG medicals.
- Audit at least every five years or more frequently if required.
- Ad hoc records audits as appropriate.

- The following will be taken into account in planning the programme of audit visits or records audits:
    - complaints or concerns about the performance of an Approved Doctor
    - number of medicals completed
    - geographical location
    - opportunistic visits because of other commitments in the area
    - random visits to determine performance of a representative sample of ADs
    - 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.

2.8.5. Remote audits using online video calling applications such as Teams or Zoom may be used, should a visit be impracticable, in addition to checks on qualifications, facilities statistical data and online records review of decision making. Information on participation in local clinical and administrative audit activities will be requested and reviewed.

2.9 Areas subject to administrative audit

2.9.1. During an audit, 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
- 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
- attendance at the Maritime Health Seminar on a regular basis for existing ADs (refer to 2.4 Training and competence).

Newly-approved ADs

- evidence that the AD is completing or has completed the training modules in ADIS, within six months of approval

- evidence that the AD has or will attend the MCA Maritime Health Seminar within the first two years of appointment.

Other staff

- delegated clinical tasks are only performed by registered members of a relevant healthcare profession
- 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 paragraph 2.5. All ADs are asked to confirm that they comply before they are approved.

2.9.4. **Procedures/record-keeping**

- correct recording of seafarer medical examinations in ADIS
- correct issue and completion of seafarer medical certificates (ENG 1s)
- maintenance, access to and confidentiality of records (if appointed prior to 1 January 2024)
- security arrangements
- the MCA expects ADs (and those handling or with 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 is 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
- 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.

2.11 Outcome: results from audits

2.11.1. The findings will be discussed with the AD at the time of the audit and will be followed up in writing. The audit letter will be sent through ADIS and detail any recommendations and required actions which need to be followed up, and a time scale for these to be completed. Necessary actions should be documented in ADIS as directed in the letter.

2.11.2. **Continued approval will depend on corrective action being taken as required and appropriate practice maintained.**

Actions must be completed within one month of the date of the audit letter in ADIS. If this cannot be achieved an explanation must be given to the MCA. If audit actions are not then completed within three months, further action will be taken unless an extension has been agreed. Further action may include a formal warning that remains on an ADs record for 1 year, or an AD's appointment may be suspended.

2.11.3. 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.

2.11.4. Any changes of procedure or guidance arising from a visit will be detailed in the CMA's regular updates to ADs or as individual notifications in ADIS.

2.11.5. The data and results from audits will be used:

- to analyse statistical returns to establish if there are any variations in the range of findings
- to ensure that all ADs are performing ENG examinations and applying the medical fitness standards appropriately.
- to help prevent fraud
- to improve the medical examination system
- to monitor individual ADs' performances

2.11.6. 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.

2.12 Complaints

2.12.1. As part of the MCA's monitoring of ADs and measurement of customer satisfaction, any complaints regarding an AD will normally be investigated by the MCA. The complainant may be asked to complete a Seafarer Medical Examinations Feedback Report (MSF 4115 / REV 1106) (sample at Annex B to this Chapter).

2.12.2. In most cases, with the complainant's consent, any written complaint will be sent to the AD concerned who will be asked to comment accordingly. The 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.

2.12.3. The MCA will pass the AD's response to the Chief Medical Adviser who may contact the AD to discuss further. A response will be composed and sent to the AD for comment before being sent to the complainant.

2.12.4. Any necessary actions will be confirmed in writing to the AD and recorded on the AD's ADIS record, for follow-up the next time that the AD is audited.

2.12.5. In rare cases, a seafarer will raise concerns about the conduct of an examination directly with the General Medical Council (GMC) 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 the MCA immediately on becoming aware of it and must keep the MCA informed of the progress of the GMC's inquiries.

2.12.6. Where the 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 the MCA until the complaint has been dealt with.

2.12.7. If a serious complaint is found to be justified, the MCA may terminate the AD's appointment forthwith.

2.13 Customer service

2.13.1. 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.

2.13.2. Where possible, seafarers should be offered an appointment within one week. If ADs find that they are regularly unable to meet the demand for ENG examinations within the required timescale, they should notify MCA, so that provision in the area can be reviewed.

2.13.3. MCA aims to update the list of ADs on our website at least monthly. It is important that ADs notify MCA via the 'Administration' section of ADIS 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.

2.13.4. 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 examinations.

2.13.5. 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, and confirm that this has been explained to the seafarer. The seafarer should also be informed, ideally in writing, of any information required for the decision to be reviewed. It may be useful to also direct the seafarer towards the relevant standards in MSN 1886 and associated guidance in the AD Manual.

2.14 Social media guidance

2.14.1. The use of social media is a part of everyday life for many, and the GMC has guidance on its use as a medical professional.

2.14.2. As an Approved Doctor you may wish to use social media to advertise your position as an Approved Doctor and to share feedback about the service provided. The Maritime and Coastguard Agency (MCA) has its own guidance that is summarised below but if you have any questions, please contact the Medical Administration Team.

The MCA encourages the responsible use of social media. It's a great opportunity to raise awareness of what the agency does and to be an ambassador for its work. But anyone who has a personal social media presence, with a profile that makes it clear who they work for, is also an ambassador.

When posting please consider:

- **Content.** Do not post pictures or video clips containing the MCA logo or property in a way that suggests the agency officially endorses your posting. Likewise, information about the outcome of any examinations etc should not be included in any post. Be careful when commenting on public posts to ensure that you are not providing personal, confidential or sensitive data about an individual or MCA.

- **Who is watching.** Journalists regularly search for stories and photographs. Your local community may know of you and want to be 'friends' or 'follow' or 'subscribe to' your profile via Facebook.

- **Keep an eye on comments made on your own posts.** If someone says something defamatory or criminally offensive about either the MCA or someone working in it, it could cause reputational damage to MCA.

2.14.3. You can use your personal account to post about official MCA business that has already been announced publicly through corporate MCA channels. Share what you see through official channels, such as the MCA Facebook, Instagram or LinkedIn.

2.14.4. If your profile says that you work or volunteer for the MCA, you're instantly aligning yourself with the agency and you will become an ambassador.

2.14.5. Do not publicly criticise other organisations, particularly our partners, on social media however you might feel about their actions personally.

2.14.6. Be sensitive when commenting on topical news stories online. Posting offensive content will damage the reputation of the MCA and will not be tolerated.

2.14.7. On social media, the boundaries between professional and personal are easily blurred. Even if your profile does not say that you are an Approved Doctor people may well know who you are.

2.14.8. The same guidance that applies to personal account usage also applies to activity in private social media groups.

2.14.9. The endorsement of commercial organisations and fundraising for charities is strictly prohibited on all social media pages. Government departments, including the MCA, must remain impartial between companies and organisations and not provide endorsement of one over another. This ensures we avoid giving improper advantage to specific entities.

2.15 Relationships with MCA and Chief Medical Adviser

2.15.1. MCA issues Merchant Shipping notices covering the statutory requirements for seafarer health assessments 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.

2.15.2. MCA staff, the CMA and other advisers are available to discuss problems which arise during medicals.

2.15.3. For administrative issues, please contact the MCA's Medical Administration Team in Southampton (see Annex A to this chapter for contact details).

2.15.4. For clinical questions, ADs can request CMA Advice through the ADIS system, at any point during an ENG 1 medical examination. The system will pre-fill some fields, but please do provide as much information as possible so the CMA can assist you. We aim to respond to CMA Advice requests in ADIS within 5 working days wherever possible. If your query is urgent, please do also contact the Medical Administration Team by email or phone and they will inform the CMA of your request.

2.15.5. MCA will usually send information to ADs via the 'Notifications' tab in ADIS regarding their work as ADs. Clinical and administrative information will be provided in a regular CMA update, normally issued twice a year.

2.15.6. We do occasionally need to contact an AD urgently e.g. in the case of an urgent clinical query, complaint or possible fraud and it is important that the AD responds to **all communication** in a timely manner. Such communication will be by email or phone, so it is important that this information is correct on ADIS.

2.15.7. ADs should notify MCA in the 'Administration' tab of ADIS 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.

2.15.8. ADs should notify MCA, three months prior to any intention to resign or retire, in order for appropriate action to replace them to be considered and carried out.

Management review

2.15.9. The MCA is continually looking to improve the ENG medical 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. We welcome feedback and this should be directed to the Medical Administration Team.

2.16 Security paper

2.16.1. All MCA ENG 1 security paper is issued with an auditable security number, indicating the paper number, and you must ensure you enter the correct security paper number in ADIS when printing an ENG 1 certificate.

2.16.2. If when printing the ENG 1 certificate onto the security paper, something goes wrong and you can no longer use that piece of security paper, you must record that piece of paper as spoilt in the ADIS system, so MCA can keep track of all security paper issued to you. This will be checked at audit.

2.16.3. An ENG 1 certificate must always be printed on MCA security paper, whilst ENG 3 Notification of Temporary unfit or Failure, should always be printed on plain paper.

Ordering arrangements

2.16.4. Requests for replacement stocks of security paper should be emailed or telephoned to the MCA's Medical Administration Team (address at Annex A to this chapter). Normally, security paper will be issued in an amount to last 6 months, however large orders can be restricted.

Storage

2.16.5. It is the AD's responsibility to ensure that MCA Security paper is 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.

Annex A

Medical Administration Team contact details

Dr Sue Stannard
Chief Medical Adviser to the MCA

Kathryn Jay
Clinical Advisor to the MCA

Email: medical@mcga.gov.uk
Enquiries: 0203 81 72835

Medical Administration Team:

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Medical Administration Manager

Nicola Perritt
Deputy Medical Administration Manager

Maritime and Coastguard Agency
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105 Commercial Road
Southampton
SO15 1EG
Email: medical@mcga.gov.uk
Phone: 0203 81 72502
Web: http://www.gov.uk/seafarers-medical-certification-guidance

Chapter 3

The medical examination

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3.1 Introduction

3.1.1. The primary aims of the medical examination are:

- to determine whether the seafarer meets the statutory medical standards as per MSN 1886 (M+F) and is fit for work at sea
- to identify any medical condition(s) 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.

3.1.2. Secondary aims include:

- referral of anyone in whom a health problem is found to an appropriate health care professional for investigation and treatment
- the assessment of risk factors which may increase the likelihood of disease in the 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 and referral to the appropriate services 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.

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 their job opportunities. A seafarer with a pre-existing medical condition may be looking for advice on treatment 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 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 judgement 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.

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 or restrictions 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..

3.2.4. The MCA consent form should be used for all examinations. This form explains what is involved in the examination and how the applicant’s data is stored and is sent to all ADs as part of the onboarding procedure. If you do not have a copy please contact the Medical Administration Team. The signed form

should be uploaded to the seafarer's record on ADIS and then securely destroyed.

3.2.5. If you require additional medical information, please use the MCA Release of Medical information form in addition to the basic consent form used for all seafarers. Again, please upload a signed copy of this to the notes on ADIS. It is also best practice to ensure that the seafarer fully understands what information you are seeking, whom you are seeking it from and for what reason.

3.2.6. 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.

3.2.7. The AD should NOT be the seafarer's usual general practitioner, unless this is unavoidable, to ensure there is no (potential) conflict of interest for the doctor or the seafarer. There may be issues in disclosure of medical information although there may be some benefits in terms of full background knowledge about medical history. 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. If this is unavoidable then the separation of roles needs to be understood and explained to the seafarer, ideally in writing, and it is good practice to indicate that the seafarer may go to another AD should they so wish.

3.2.8. An AD should always remember that the purpose of the ENG medical examination is to review the fitness of a seafarer on that day in line with the statutory standards in MSN 1886. All certificates must be issued in accordance with MSN 1886 and company specific restrictions or occupational health requirements should not be included. If you have any questions or concerns please contact the Medical Administration Team.

3.3 Relationship with employers and insurance companies

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 for the seafarer they are examining. 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).

3.3.2. Payment of fee – Where the examination is paid for by the seafarer's 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 responsibilities. This is in essence a straightforward contract

to undertake a medical examination and issue an appropriate outcome. 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 session (rather than per medical) they must not exceed the published statutory maximum for an ENG examination. 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 confirming the appropriate certificate has been issued, providing advice on future case handling and ensuring that the doctor is suitable to remain as an Approved Doctor.

3.3.5. ADs may also be asked to complete additional pre-employment medical examinations on behalf of companies or P&I clubs, with or without a formal agreement between themselves and the company. Completion of these forms, including any supplementary examination or investigation(s) are at the discretion of the AD but the guidelines outlined in 3.3.2 (b) above should be followed.

3.4 Relationship with professional colleagues

3.4.1. If further medical information is required from the seafarer's GP or treating health care professional, the MCA Release of Medical Information form should be used, see section 3.2.6 above. In requesting this 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.

3.4.2. When seeking the likelihood of a complication or medical event occurring it is useful to ask for this to be expressed as <2%, 2 – 5%, 5 – 10% or more. Term such as 'unlikely', 'low' or 'relatively low' mean different things to different people and are difficult to interpret within a risk assessment. Please also remember that it is the likelihood over the next 12 months that is key to decision making, not a lifetime risk.

3.4.3. All additional information should be taken into consideration when making a decision, and should be uploaded to the 'Supporting Notes' tab in ADIS before being returned to the seafarer or securely destroyed. It remains the responsibility of the AD, with advice from the CMA where necessary, to decide upon the fitness of a seafarer to work at sea in line with the standards in MSN 1886 (M+F). This is not a decision that can be made by a GP or specialist.

3.4.4. 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 this should be covered by the seafarer or 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.

3.4.5. 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 paragraph 1.10.

3.4.6. 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 and the Confidentiality guidance. Confidential information should be neither obtained from nor given to other clinicians without the seafarer's consent.

- The ENG 1 is printed from the online ADIS system onto ENG 1 security paper. It 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. It is 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 by a seafarer, the AD 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.

  At times details of past medical examinations that were completed prior to the implementation of the online ADIS system, may be requested by other ADs or the MCA 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. Please contact MCA should this be the case.

  The old paper style 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 email subject as OFFICIAL SENSITIVE and password protect the document.

- The ENG 3 is printed on plain paper and issued to the seafarer if they are found temporary or permanently unfit, and also when a seafarer is given a restriction on their ENG 1. The reverse of the ENG 3 has a consent statement for the seafarer to request a Medical Review (appeal) by an MCA Referee.

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 (Ethics Guidance for Occupational Health Practice – 8th Edition 2018) but because of the need to ensure that old statutory medical examination records can be accessed, no such transfers of ENG examination records 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. All such documents should be uploaded to the seafarer's record in ADIS. However there may be a small number of occasions when confidential clinical documents need to be transmitted by email and 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 https://theprsb.org/projects/safe_email/.

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 1887 paragraph 10 - please read this carefully).

If the information comes from an employer, they 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).

Please discuss with the CMA or Medical Admin Team if necessary.

3.6 Booking an 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 two weeks**. Ideally, an alternative time should be offered if the seafarer raises any problems with the original appointment proposed. Throughout normal working hours, access for making appointments should be available whether that be by telephone, email or an instant online booking system. If it is not possible to give an appointment within two weeks, for instance because of holidays, it would be good practice to suggest alternative ADs in the vicinity. This may not be possible where the AD is engaged as a company doctor and seafarers should check with their employer.

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 and responsibilities for payment, including the consequences of failing to attend.

They should also be informed that they cannot be seen unless they bring the following items to their appointment:

- a discharge book, passport, photo driving licence or other certified photographic proof of identity. Scans and photographs are not acceptable, the original document must be produced.
- the last ENG 1 or equivalent overseas certificate (unless it is a first appointment)
- spectacles or contact lenses, if worn, plus spares. Contact lenses will need to be removed for assessment of visual acuity (see ADG 14)
- any medications, recent letters, discharge notes etc. which relate to medical treatment since the last medical examination.

3.6.3. 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.

3.6.4. Seafarers should also be warned of the need to avoid exposure to loud noise for 16 hours prior to the examination. This includes the use of personal headphones at loud volume.

3.6.5. 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.

3.6.6. Seafarers requesting a medical examination should not be refused without good reason. However if they disclose, at booking, a medical condition that may mean they are temporarily or permanently unfit it may be appropriate for the AD to speak to them outside of an examination or ask the seafarer to contact the MCA.

3.6.7. Occasionally a seafarer who has recently been seen by another AD and the medical abandoned, left in progress or resulted in issue of an ENG3 notice of temporary unfitness, may attempt to make an appointment with another AD. In this situation, please determine why the seafarer wishes to see another AD and ensure it is appropriate to continue with the appointment e.g. all information acquired but issues with AD availability, or a change in location due to personal circumstances. If not, please advise the seafarer to contact the previous AD and discuss any issues with them. Alternatively, the seafarer can contact the Medical Administration Team and discuss the options. If you are unsure as to the best course of action or have strong concerns

regarding the behaviour of the seafarer, please contact the Medical Administration Team.

3.6.8. All seafarers should be given a copy of the MCA consent form to read before their examination. This can be emailed to the seafarer in advance of their appointment or presented on arrival. This explains not only what the seafarer should expect during their examination but also the storage of their personal data within ADIS. Once the consent form is signed it should be uploaded to the seafarer's record and the hard copy destroyed. See section 3.2.

3.7 Registration

3.7.1. On attending for examination, the AD should search for the seafarer in the online ADIS system using their date of birth or SM ID if available, to determine if they already have a record in the system. The following details of the seafarer should be recorded and/or checked:

- full name, address and telephone/e-mail and contact details
- date of birth
- gender (as per ID document)https://www.gov.uk/apply-gender-recognition-certificate
- 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 (sections 1.4.4 and 1.4.7).

The seafarer should present the original last ENG 1 as evidence. If this was issued before ADIS it should be scanned into the seafarer's record, then securely destroyed once upload has been confirmed.

An ENG1 issued from the ADIS system should be withdrawn and securely destroyed but does not need to be uploaded.

If the seafarer has a medical certificate issued by another flag state this should also be withdrawn and uploaded to the system.

No medical certificate should be returned to the seafarer, even if the expiry date has not yet been reached.

The reason for medical examination – new entrant, expiry of normal certificate, expiry of short-term certificate, change in medical condition/illness/absence from work or discharge from vessel following illness or injury, can be included in the supporting notes section of the medical if there are any concerns or gaps in certification. Any gap between expiry date of previous certificate and the date of the current medical examination should be queried.

With the consent of the seafarer, any health records for the seafarer that can be accessed by the AD may be referred to and the contents included as a supporting note. Any letters

from employers, trade unions, etc. concerning the seafarer's fitness should be reviewed and all documents relating to the certification decision must be uploaded into ADIS.

3.7.2. 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 medical should be abandoned by the doctor in ADIS and a clear explanation of the circumstances recorded, as they may form the basis of subsequent decisions on fitness.

3.7.3. Should the seafarer elect to leave before the medical is completed, especially if this is because they are aware that restriction is likely this should be documented clearly in the case notes. It may appropriate to issue an outcome in the seafarers absence, please seek CMA Advice if required. If no decision is possible the medical should be abandoned by the doctor in ADIS and a clear explanation of the circumstances recorded

3.8 Conducting the examination

3.8.1. **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 must 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 to offer the seafarer a chaperone for the examination. This should be explained to the seafarer and an appropriate person requested to be present. A trained chaperone is always preferable, although a relative or friend of the seafarer may be a suitable substitute if agreed by both the AD and the seafarer. Some useful guidance provided by the GMC can be found at https://www.gmc-uk.org/professional-standards/the-professional-standards/intimate-examinations-and-chaperones and we expect this to be followed by all ADs.

Delegation

3.8.2. The AD carries responsibility for the overall examination and is required to complete and sign the certificate of fitness. **Only the AD has the authority to log in and access the online ADIS system and log in details should never be shared.** However, there is freedom to delegate tasks, such as clinical measurements, to appropriately trained health care professionals. 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 answer any questions which the seafarer may raise about that part of the procedure. In addition they must 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 written policy referred to where necessary.
Also see 2.4.10 & 2.4.11.

3.8.3. **Please note that the physical examination in all seafarers and colour vision testing in new applicants should ALWAYS be done by the AD and not delegated to another health care professional.**

Depth of assessment

3.8.4. **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. This may include time with another health care professional but the seafarer should spend at least 20 minutes with the AD.

3.8.5. Where a seafarer is being seen for the **first time** and no past records are available, the AD should pay particular attention to the medical history and completion of the ENG2 form. 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.

3.8.6. Where a condition is identified requiring regular review a certificate of limited duration may be issued valid to the date of the next appointment. If a follow up is conducted by the same AD, it may be limited to the condition of concern provided there are no other changes in the seafarer's health. However, a full medical should be done at not less than the prescribed two-yearly frequency in such cases.

History

3.8.7. The ENG 2 must be completed by the AD or a trained health care professional. It is not designed to be a self-completed questionnaire by the seafarer. If completion of this form is delegated to a suitably trained healthcare professional, the AD should check the seafarer's responses to all the questions before the form is signed by the seafarer and uploaded to ADIS.

3.8.8. 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, particularly with respect to mental health. Any responses which suggest health problems should be explored, keeping the relevance of the condition to the medical standards in mind.

3.8.9. 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

3.8.10. Screens to undress behind and a cover for the person when on the couch should be available. It is expected that the seafarer will be examined unclothed, down to their underwear, although it is recommended and acceptable to ask the seafarer to undress one area at a time for examination, rather than expecting all the clothes to be removed at once.

3.8.11. For females, bra and underpants should not be removed and for males, underpants should not be removed. These garments should be moved as needed to enable chest and hernial orifices to be examined following a clear explanation and with the person's permission. This approach is the required standard for good practice during seafarer medicals, even if this does not form part of your normal practice for other groups of examinees.

3.8.12. 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 examination should include:

- observation of posture, movement and gait
- observation of all areas of skin not covered by underwear, especially hands, including for scars from past surgery or injury and suspicious skin lesions.
- examination of external ear and drum
- 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 and or further assessment, if not convinced
- 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

Routine tests

3.8.13. 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 centimetres or metres.
Weight	Wearing light clothes, no jackets or shoes; using scales which are regularly calibrated – record in kg.
BMI	Calculate body mass index from height and weight.
Pulse rate	Note rate and any irregularities.
Blood pressure	See ADG 8
Urine	Test with dipsticks for protein, glucose, blood. Record each result. See ADG 12
Distant vision	Test both eyes individually, unaided before aided. It is good practice for the seafarer to

cover the other eye with a piece of card or ideally a vision occluder. They should not be asked to cover the eye with their hand as this allows cheating and can affect vision if the pressure was too great. See ADG 14

Near vision Test both eyes together aided or unaided using reading **test card in the N notation**. The card should be held by the AD or the seafarer at the correct distance of 40cm.

Colour vision Test at every medical examination using Ishihara plates in a room with good light, preferably day light. The relevant supplementary tests tab 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 CAD test examiner (deck). See ADG 14

3.8.14. **Tests as indicated**

Hearing: Hearing must be tested at the seafarer's first ENG examination and then every 10 years or sooner if there is any clinical concern. It can be tested using a speech recognition test or audiometry. See ADG 13

Spirometry or peak flow: if the seafarer has a respiratory problem.

Chest X-ray if the seafarer is at risk of having TB (see ADG 1).

Step test: To be performed for all of those with a BMI over 35 and considered for those with a BMI of between 30 and 35, (see ADG 5)

An additional charge may be made for a step test or CXR, and it is possible that the seafarer may have to return at a different time or day depending on the availability of appropriate staff. Alternatively, this test can be performed by an external provider and the result provided to the AD.

If any of the tests cannot be done at the time of the initial examination, please issue an ENG3 making the seafarer temporarily unfit for three months pending the additional information.

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

Standards specific to food handlers

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

Condition	Reference in MSN 1886
Gastrointestinal infection	Section 1.1

Throat infections	Section 8.2
Skin infections	Section 12.1
Otitis – media and externa	Section 14.2

3.9 Decision making

3.9.1. Please ensure that all areas of the online system are completed accurately, including the candidate's department and duties. This is particularly important if there are any issues with vision or colour vision as the standards and restrictions are different for deck, engine, other etc. It is also important that the ENG2 is completed with all relevant information including important 'negatives' such as the requirement for oral steroids in asthma.

3.9.2. The ENG2 should be signed and dated at the time of the examination by both the seafarer and the AD as an accurate record of the history and clinical findings.

Results of the medical examination

3.9.3. 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 or reports from a GP or specialist, will have to be available before a decision on fitness in line with the statutory standards can be reached. Additional investigations may be done at the time of the statutory medical and be considered in making a decision on fitness where there are specific clinical indications for them. If any additional investigations cannot be performed at the time of the medical examination, or if a medical report is required, the seafarer should be issued with an ENG3 making them temporarily unfit for three months pending the additional information.

3.9.4. If a medical report is required this should be clearly explained to the seafarer who must be made aware of the specific information that is required to assess their fitness to work at sea. Ideally this will be provided in writing and or a copy of the relevant standard or guidance provided.

3.9.5. A supporting note should be added outlining any medical condition identified by the history and clinical examination and explaining the rationale for the decision made at the end of the appointment. **This is particularly important where more than one medical condition is present.**

3.9.6. **Certificate number:** the unique serial number of the ENG 1 certificate issued should be chosen from the dropdown list of available security paper issued to the AD. If you make an error when printing the certificate and spoil a piece of security paper, it is important that you mark this as spoilt in ADIS so it is removed from the dropdown list and cannot be incorrectly selected.

3.9.7. **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 issued in line with the standards to a maximum of two years, so that if the seafarer changes employer during that period they are not disadvantaged.

3.9.8. **Restrictions** should be chosen from the dropdown list of standard restrictions. If an AD believes a non-standard restriction is appropriate you should seek advice via the CMA Advice tab first. NB: A time limitation is not a restriction.

3.9.9. **Estimated period of unfitness:** a period of temporary unfitness cannot exceed 2 years. When additional information or a period of stabilisation is required the period of temporary unfitness should be for three months. Please note that if a seafarer is made temporarily unfit for less than 3 months they cannot appeal **against the decision.**

3.9.10. **Medical condition(s) leading to the decision** for any restriction, failure or time limitation as per MSN 1886 **should be indicated by using the mandatory dropdown**. A clear statement, should be included in the 'Summary of clinical findings leading to decision' field, which should also be explained to the seafarer.

Please see Chapter 4 'Decision making' for additional information.

3.10 Completing a medical examination

3.10.1. Every medical examination should be completed in full unless it is abandoned by the seafarer or the doctor. This includes vision, colour vision and hearing (if required) as well as a through history and examination with further assessment of identified medical conditions as necessary. If additional time is required to gain more information an ENG 3 should be issued for three months to allow time for the reports etc to be provided. If all information is available before the three months passes the seafarer can return sooner.

3.10.2. When all information is available and a decision is made, if the seafarer is permanently or temporarily unfit (for more than three months), or if a restriction is issued, the seafarer has the right to request a review of their case by a Medical Referee. The seafarer must be informed of this right.

3.10.3. A referee will only review the part of a medical that is contested by the seafarer and will not seek additional information regarding other issues, or test vision etc. Therefore, it is vital that the AD should ensure that a full medical examination has been completed so no areas of concern are missed.

3.10.4. If a full medical examination has not been completed the medical should be abandoned and no decision made. Please request CMA advice if you are unsure.

3.11 Additional requirements and screening at the time of the medical examination

3.11.1. On occasion an additional investigation specified by the employer which does not form part of the statutory medical examination may reveal findings which could affect a fitness decision addressed by MSN 1886. In this instance, the AD should treat the finding as a change in medical condition (see section 3.5.5).

3.11.2. Maritime employers or their insurers may also specify drug and alcohol testing. The general principles to be applied, if such requests are made, are given in the section on drug and alcohol screening (see Chapter 5).

3.11.3. In addition, as part of their approach to risk management, a number of maritime employers do require such tests for seafarers periodically, at random or after an incident and seafarers should be made aware of this and of the likely consequences should they have a positive test.

3.11.4. 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.

3.11.5. 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 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.

3.11.6. Statutory medical standards for seafarers restrict those with established drug and alcohol problems but do not require screening tests to be used, in line with the international medical guidelines 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. However if there are clinical indications of a drug or alcohol problem it could be legitimately used to clarify the situation.

3.11.7. 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.

3.11.8. In summary, the AD must make sure that there is informed consent from the seafarer for any non-statutory procedures. In obtaining consent, 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 dependence or persistent abuse from the seafarer's medical history, from examination or from other information available to the AD, a statutory certificate of fitness should not be withheld even if a positive test result is obtained.

3.12 Additional advice

3.12.1. For many seafarers and fishers, their statutory medical examination may be their only contact with medical care. While the prime function of the examination is to determine current fitness in line with the statutory standards, it also provides an opportunity to provide health promotion and general advice about lifestyle risks.

3.12.2. As part of the ENG1 medical examination, seafarers should be advised to ensure they have the appropriate immunisations. See MGN 652 (M+F).

Occupational health risks

3.12.3. 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 MCA Medical Administration Team.

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

3.12.4. In some circumstances, especially at a new entrant medical examination, a condition may be found (such as type 1 diabetes, the risk of anaphylaxis, visual acuity issues or colour vision defects) which precludes or severely restricts 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 applicant reconcile themselves to the loss of a career opportunity and recommend further sources of advice.

3.12.5. 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 applicant, especially if they are entering on a cadetship, of their own responsibility to do so.

3.13 Issue of certificate – ENG 1

Unrestricted (Fitness Category 1)

3.13.1 The issue of an unrestricted certificate (ENG 1) is straightforward: it is printed from the online ADIS system based on the information entered by the AD. Once printed the certificate should be signed in black ink by both the seafarer and the AD in the respective boxes, and contact details for the AD should be 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 is the same as the stamp accepted on ADIS. It should include their name, address and contact details (usually a telephone number although on occasions an email address may also be accepted).

3.13.2 To prevent fraud, **handwritten alterations should not be made on an ENG 1 certificate.** Corrections made on a certificate may appear to a Port State Control Inspector to indicate that the certificate has been tampered with. If a change is needed AD's will either need to make a subsequent decision, or undertake a new medical in the system, depending on the correction.

3.13.3 As a check against fraud, MCA retains records of the security paper numbers issued to ADs.

3.13.4 The ENG 1 certificate remains the property of the seafarer but may be withdrawn (suspended or cancelled) by the AD if appropriate e.g. if they become aware of a health issue (see MSN 1886 (M+F) paragraph 4). 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. 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 photograph or scan of the signed certificate to the AD to upload to the seafarer's medical record on ADIS.

3.13.5 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. It may be useful to have a laminated copy of the text available for the seafarer to read at the end of the medical examination.

3.13.6 If a seafarer does not meet the standards for an unrestricted certificate, such a 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 and or restriction should therefore always be noted. 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.

3.13.7 **Time limitation** – a seafarer who has a medical condition which requires regular clinical follow up may be issued with an ENG 1 valid only until the next appointment is required. This may be as little as three months but up to a maximum of 2 years. A new ENG 1 should be issued following the check, although a full examination is not always required until the maximum 2 years have passed from the original examination. If a full examination is not completed the seafarer must confirm that there have been no changes in their health and the ENG1 certificate should be issued for no longer than two years validity from the date of the original medical examination. In some situations, it may be possible to issue a certificate for a longer time period than the next check but with the restriction, or a conditions letter stating the certificate is subject to medical treatment and surveillance. This decision should be based on many factors including the seafarer's sailing area, contracted periods on board, compliance with medical care and the impact if any checks are delayed. Please seek CMA advice if you are unsure. Please note that a time limitation itself does not count as a 'restriction' and the seafarer has no right of appeal.

3.13.8 **Conditions** – The 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 for the seafarer's medical fitness to be maintained. Such conditions should not be written on the ENG 1 certificate since it should be confidential between the doctor and the seafarer. A copy of the conditions letter should be uploaded to the seafarer's medical record on ADIS.

A conditions letter can be very useful in explaining to the seafarer what is expected of them before their next ENG 1 medical examination. Examples include a weight loss target, regular blood tests for monitoring of a specific condition or treatment, or to bring specific medical information to the

examination. This helps to ensure everyone is aware of what is required.

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.

On occasions it may 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 stored securely on board; avoid certain food types; carry a spare pair of glasses or hearing aids and batteries; or where the seafarer requires regular treatment and/or surveillance in certain circumstances. In this situation the letter should be carefully written to only contain medical information that it is necessary to share with the employer to guarantee the condition can be met.

Conditions letters should be issued on the AD's own headed paper and uploaded to the case within the decision tree.

Restricted (Fitness Category 2) – Issue of ENG 3 form in addition to ENG 1

3.13.9 Restrictions should be issued in line with MSN 1886 and supported by the AD Manual. Standard restrictions selected from the dropdown box should be used wherever possible. Non-standard restrictions should be agreed with the CMA via the CMA advice tab prior to issue as they are a constant source of difficulty for maritime employers and seafarers. 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";
- or alternatively, the restriction may specify **special needs** e.g. diet or cabin privacy.

Please see Chapter 4 for standard restrictions.

3.13.10 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. The ENG 3 is automatically generated in the online ADIS system when a restriction is applied to the ENG 1. It should be printed on plain paper whereas the ENG 1 is printed on MCA security issued paper. Care should be taken to ensure the correct paper is added to the printer in the right order to avoid misprints and spoilt security paper.**

3.13.11 The ENG 3 form contains medical information and is issued to the seafarer in medical confidence. It 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 must be discussed and ideally provided in writing.

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

3.13.12 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, new or change in medication (including reducing or stopping treatment) or requirement for recuperation following illness. It also applies when additional information such as a step test, laboratory investigations or a medical report is required in order to assess a seafarer's fitness to work at sea. In such cases, the AD should complete an ENG 3 form giving an estimate of the expected period of unfitness that should usually be three months. This allows time for the seafarer to complete all relevant tests, ensure stability of a medical condition or treatment and/or gain all required information. If this is achieved before the three months the seafarer can be reviewed earlier, by the same AD wherever possible. If this period is for more than three months, the seafarer has a right of appeal but this is often not appropriate as the referee will also require the additional information requested.

3.13.13 If a seafarer returns at the end of the three-month period but has been unable to obtain the required information, one further certificate for three months may be issued after discussion with the CMA.

3.13.14 If an ENG1 is subsequently issued after a period of temporary unfitness a full medical examination is not always required as long as there have been no other changes in the seafarer's health and a significant period of time has not passed. If a further certificate is issued without a full examination, the two-year validity period must start from the date of the original medical examination.

Specific advice on fitness pending results of further investigations is given in section 3.19 and it may be possible to issue a short time limited certificate restricted to UK Near Coastal waters whilst the information is gathered. Please ask for CMA advice if you are unsure.

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

3.13.15 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.

3.13.16 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 unless new information is provided.

3.13.17 An exception to the above may be that a seafarer applies for one role for which they are permanently unfit but then later applies for another role for which they are fit. An example would be a seafarer with a colour vision deficit or who does not need the required deck VA standards and later applies for a different role such as a steward. In this situation the 'new' role must be documented and an explanation included as a supporting note.

3.14 Payment of fees

3.14.1 The maximum fee for the ENG 1 medical examination is laid down in statute, and the current fee is published here on the MCA website. 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.

3.14.2 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.

3.14.3 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 charge a fee, which 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 from the GP directly.

3.14.4 Where a seafarer returns for review, but not a full medical examination, within the two-year maximum validity period of a certificate, the medical may be limited in depth or focussed on a specific condition. In this situation the fee charged should reflect this. This should be proportionate to the cost and time taken for a full examination.

3.14.5 If, following the initial full examination, a significant amount of time is required to review medical reports, correspond with the seafarer or specialist etc, an administrative fee may be charged by the AD. This should be proportionate to the cost and time taken for a full examination.

3.14.6 If the seafarer breaks a definite appointment without giving reasonable notice and without a good reason, such as unforeseeable transport disruption or sickness, 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.

3.14.7 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.

3.14.8 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 or disputes regarding payment.

3.14.9 To avoid dispute over the payment of fees should an examination not result in the issue of an unrestricted ENG1, MCA recommends that payment is taken before the examination, either at booking or upon arrival.

3.15 Lost or stolen ENG 1 certificates

3.15.1 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:

(a) re-examine the seafarer and issue a new certificate valid from the date of examination;

or

(b) issue a new certificate bearing the exact details of the missing certificate.

3.15.2 ADs may charge an administrative fee for re-issue of a duplicate certificate, without examination.

3.15.3 The written report from the seafarer should be uploaded into the 'Supporting Notes' section of the medical record on ADIS.

3.16 Change in medical condition

3.16.1 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).

3.16.2 If an employer or master or owner of a ship has reason to believe that a seafarer may no longer meet the medical fitness standards, they may request the seafarer be reassessed according to the requirements of MSN 1887 (M).

3.16.3 In this situation the Approved Doctor, should take an appropriate history and decide if the change affects the validity of the ENG1. If the answer is no (for example a self-limiting illness or injury with full recovery) they should document the conversation in the seafarer's medical records and advise the seafarer that no further action is required, or, in some situations that they remain fit to work at sea but that a time limited certificate will be issued as a review is required earlier than the end date of the current certificate. This decision can be provided in writing if required.

3.16.4 However, if the AD has any concerns that the change affects the seafarer's fitness to work at sea, or they require additional information that cannot be provided in an appropriate time frame, the seafarer should be advised that they are temporarily unfit. If the AD issued the original certificate, they should issue an ENG3, otherwise the seafarer should be advised to contact the original AD.. The seafarer will then need a repeat ENG

examination to determine their fitness in line with MSN 1886, and the appropriate certificate can be issued. The previous certificate should always be withdrawn and uploaded to the seafarer's medical record on ADIS before conducting any medical examination; this applies whether or not the certificate would have expired during the period of sickness.

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

3.17.1 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 Transport. We have appointed referees around the UK, all of whom are senior health specialists in their own field. There is no charge to the seafarer for this review, although the seafarer is expected to cover any travel expenses incurred.

3.17.2 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 ENG 3 is issued. The MCA will then arrange for the appeal to be considered by a Medical Referee and will notify the AD concerned.

3.17.3 The ENG 3 includes an authority to the AD for the Medical Referee to view the seafarer's case notes on ADIS. Therefore, it is important that all medical reports or other information used to make the fitness decision is uploaded to the seafarer's record. 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.

3.17.4 Medical Referees work to the same medical and eyesight standards in MSN 1886 (M+F) and are empowered:

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.

3.17.5 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.

3.17.6 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.

3.17.7 If Referees exercise discretion in relation to stable medical conditions where case by case assessment is required as per

MSN 1886 (M+F), they should issue the seafarer with a letter to this effect, which can be produced at future medicals to inform the AD.

3.17.8 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 the case notes on ADIS.). 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.

3.17.9 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.

3.17.10 The decision on fitness made by a referee should not be repeated automatically at the next medical examination as the medical condition or the seafarer's employment may have changed. Before repeating restrictions made by a referee, please make your own risk assessment and seek CMA advice.

3.17.11 To maintain the independence of the referees it is not appropriate that an AD contacts a referee directly to discuss a case at any stage. If you have queries relating to a referee's decision please contact the Medical Administration Team or CMA.

3.18 Guidance on fitness pending the results of investigation or treatment

3.18.1 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 either of these at the time of the medical.

3.18.2 The medical standards indicate that temporary unfitness (Cat 3) is appropriate for certain conditions, where there is either current incapacity, where the risk of a recurrence or exacerbation with serious consequences for the individual or for vessel safety is likely or if investigations are required within MSN 1886 (M+F).

3.18.3 There are, however, some circumstances where discretion can be applied to enable the seafarer to continue working, while ensuring that investigation and treatment recommendations are complied with. Please refer to the appropriate standard in MSN 1886 (M+F) and the relevant ADG. If in doubt, please ask for CMA advice.

3.18.4 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.

3.18.5 Factors to consider include:

(a) Is any deterioration or complication of the condition likely to lead to a severe consequences whilst at sea?

(b) Is evacuation to shore possible in an appropriate time frame should a deterioration or complication occur?

(c) Can any deterioration or complication be handled on board given the limited skills, medicine and equipment available?

(d) Does the seafarer have sufficient insight and motivation to ensure that the relevant investigations and treatment are obtained in the time period?

3.18.6 If the risks are deemed to be small then a short term ENG 1 certificate (maximum of six months) with a geographical restriction to UK local or near coastal waters can be issued. The ENG 1 certificate may also be restricted to certain duties such that certain safety critical tasks are avoided e.g. no lone watchkeeping.

3.18.7 In all these cases, it is essential that the requirements for re-certification are clearly spelled out in a conditions letter and that there is clear 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.

3.18.8 It should also be made clear that the results of investigations etc must be made available and/or treatment completed before a further ENG1 can be issued. The seafarer will need to be made aware that ideally, they should return to the same AD.

3.18.9 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.

3.18.10 A second certificate should not be issued unless there are extenuating circumstances and after discussion with CMA.

Once the required treatment or investigations are completed the seafarer may not need a full medical examination if there has been no change in their medical condition. This is at the discretion of the AD. In this situation a new certificate may be issued after a paperwork review or targeted medical with a proportionate cost.

Chapter 4

Medical standards and AD guidance

See Merchant Shipping Notice (MSN 1886) for current medical standards inc. fitness table.

Decision making

Standard restrictions

ADG 1 Pulmonary Tuberculosis

ADG 2 Infections transmitted in body fluids: HIV, hepatitis (non A)

ADG 3 Cancer, including sarcoma, leukaemia etc

ADG 4 Diabetes and its treatment

ADG 5 Obesity

ADG 6 Mental disorders, including cognitive and behavioural impairment, alcohol and substance misuse

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, speech and communication disorders

ADG 14 Vision, colour 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

Annex A: Templates for the request of additional medical information

Decision making

All ENG1 certificates should be issued in line with the UK's statutory standards as stated in MSN 1886 (M+F) and supported by the guidance in the ADGs that follow.

Not all conditions can be included in either the standards or this manual and in this situation ADs should consider the general principle as per MSN 1886 (M+F) that states 'the Approved Doctor should be satisfied in each case that no disease or defect is present which could either be aggravated by working at sea or represent an unacceptable risk to the health of the candidate, the health or safety of other crew members or the safety of the ship'.

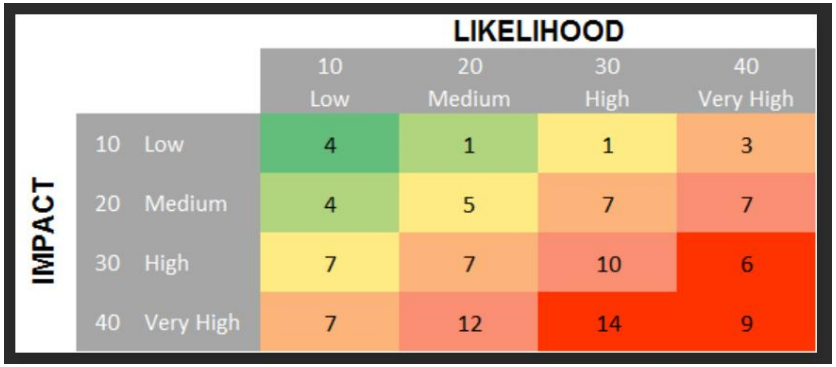
Seafarers should also be established on a stable dose of medication with good clinical effect and no side effects before a medical certificate is issued.

In some cases a restricted certificate may be considered in line with the relevant standard and ADG.

Please request CMA advice if you are uncertain.

Risk assessment

Fitness decisions may be clear as per the standards or may involve an assessment of risk. Risk can be defined as the likelihood of an event occurring x the impact of that event and a risk matrix/heat chart is often referred to.



IMPACT		LIKELIHOOD 10 Low	20 Medium	30 High	40 Very High
10	Low	4	1	1	3
20	Medium	4	5	7	7
30	High	7	7	10	6
40	Very High	7	12	14	9

Within the seafarer medical examination, the assessment of risk should consider many factors that include:

1. What possible medical incidents can occur given the known medical condition or risk factor?
2. What is the likelihood of each of these occurring over the next 2 years?
3. What are the potential consequences of these incidents given the job of the worker?
4. What is the risk calculation?
5. Are there any possible mitigating measures that can be taken?
6. What is the final risk evaluation?
7. Conclusion and justification

ADs should remember that this is not an occupational health assessment but an assessment of the fitness of an individual in line with statutory standards. Therefore, the mitigating measures suggested are limited to the **standard restrictions** listed below. If non-standard restrictions are considered, please seek CMA advice.

When assessing the possible incidents that may occur a full history of the condition, treatments, current status, and follow up are required. As relevant to the individual's circumstance, the AD should understand:

- the onset of condition and severity of symptoms
- the course of the illness
- treatment given and its effect
- current symptoms or date symptoms ceased
- current treatment and confirmation that it is stable without side effects
- the potential side effects of medication e.g. immunosuppression
- the need for monitoring, blood tests etc
- planned clinical follow up
- any current effect on physical or mental capability to perform routine and emergency duties.

Standard restrictions

All restrictions should be issued in line with the statutory standards in MSN 1886. If an AD feels there is a need for restrictions outside of these then you should seek CMA advice.

4.1.1. **Standard wording (in bold)** should be used for restrictions and can be selected from the drop-down list in ADIS.

4.1.2. In some cases, wording can be adapted to suit specific situations such as defining miles from shore, or a named company/employer.

4.1.3. If no standard restriction is available please contact the CMA through the CMA advice function to discuss appropriate wording of a non-standard restriction.

4.1.4. 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 but may be provided to the seafarer verbally and in a conditions letter.

4.1.5. Please note that the term "**watchkeeping**" is a nautical term for shift working and navigation of the vessel (for Deck Officers) or being in charge of the engine room (for Engineers). Watchkeeping is carried out by most deck and engine crew members and 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 relevant standards in MSN 1886 should be issued with a restriction appropriate for the role that they have on board.

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 permanently unfit.

- This is in addition to ticking 'No' for the question "fit for lookout duties" and 'yes' in the "Colour Vision: Defective" box on the decision tree in ADIS.

- On successful completion of a CAD test the restriction may be removed or a deck cadet issued an ENG1 certificate depending on any other medical conditions.

Not fit for lookout duties at night

- This should be used alone if the seafarer has already obtained the relevant qualifications

Not fit for work with colour coded cables etc

- For use in colour vision defective engine department applicants.

- 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.

- On successful completion of a City University or Farnsworth D15 test with no errors this restriction may be removed although the seafarer remains not fit for lookout duties.

No navigational lookout duties

- This should be written as a restriction on an ENG 1 only for security officers with defective colour vision. 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.

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

Visual Acuity

Deck applicants who do not meet the required basic and/or higher vision standards should be made permanently unfit for work in the deck department. Applicants may wish to consider work in another department if they meet the standards required for that role. A restricted ENG1 (for example, "No lookout duties") should not be used to circumvent these mandatory standards, as lookout duties are an integral part of safe deck operations.

The only exceptions to this may be:

- 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,

and fishermen with no deck duties. 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. Please seek CMA advice.

Eye protection to be worn for all work

- For seafarers with (functional) monocular vision.

Location/vessel

UK Near Coastal waters only

- Health problem which may recur but no immediate risk to life or safety of ship or those on board.

- 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. There is no need to state a distance when this restriction is used.

UK Coastal waters only, up to 60 nautical miles from shore

- When restriction needs to be stricter than “UK near-coastal”. Please seek CMA advice.

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 60 nautical miles of definitive medical facilities in [specify geographical area] waters**

- These restrictions should be used for seafarers working outside UK coastal waters in the waters of other countries where search and rescue and medical care can be considered equivalent to that in the UK and UK waters.

- The specific geographical area must be specified, and the AD should seek CMA advice before using this wider geographical restriction.

- Options may include Northern European waters, Western Mediterranean waters, US/Canadian waters and Australian/New Zealand waters**.** Western Mediterranean waters are defined as per the European Maritime Spatial Planning (MSP) Platform.

- The restriction “within helicopter range of definitive medical facilities” is intended to ensure that the individual remains within evacuation distance of a medical facility capable of appropriately managing their condition. In practical terms, most rescue helicopters have an operational range of approximately 300 miles. Allowing for a safe return journey, this effectively limits operations to within about 150 miles of the identified medical facility.

- A “definitive medical facility” is not defined by the MCA and in this context would typically mean a fully equipped hospital rather than a limited-capability setting such as a small doctor’s surgery, which may not be able to provide the required level of care. It is the responsibility of the company to assess and determine which facilities are suitable, based on the individual’s medical needs, and to ensure that the vessel’s operating area remains within evacuation range of those facilities.

Local coastal waters within 20nm of the UK coast

- Where the condition requires urgent access to medical care. Other geographical areas may be considered but please discuss with CMA

Not fit for service on stand-by vessels

- Limited physical capability for emergency rescue duties. The seafarer has a physical limitation that prevents them from safely performing the strenuous emergency rescue duties expected of crew on stand-by vessels, while remaining fit for duties on vessels where these requirements do not apply.

Fit for service only on vessels with ship's doctor

- Condition amenable to treatment by ship's doctor or requiring medical surveillance. This should only be used when indicated within the standards in MSN 1886.

UK near coastal waters only, unless on a vessel with a ship's Doctor

- Where a geographical restriction is not required if the ship has a doctor on board. Please refer to the relevant standard in MSN 1886.

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, consider requesting confirmation from the employer when using for the first time. 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.

Only to work on vessels which return to home port each night

- Health problem which may recur but no immediate risk.

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

- Health problem which may recur but no immediate risk.

Non-tropical waters only

- For asplenic seafarers as per NaTHNaC guidance or where there is excess risk from heat, e.g. kidney or skin problem.

Restricted to vessel where there is demonstrated ability to hear alarms, or where reliable alternative arrangements for arousal have been made

- For seafarers who require hearing aids to meet the required standards but do not wear them for sleep and sleep on board the vessel

Duties

No solo watchkeeping

- Refers to navigation of vessel for Deck Officers or being in charge of the engine room for Engineers.
- Risk of sudden collapse/incapacity. There should be somebody else present capable of calling for help and taking over the watch until additional personnel arrive.

No watchkeeping

- For seafarers with epilepsy on medication.

No lone working

- For seafarers who are not watchkeepers but have a risk of sudden collapse/incapacity. There should be somebody else present capable of calling for help and taking over the watch until additional personnel arrive.

No lone working or working at heights

- For seafarers with insulin treated diabetes

Not to work as master in charge

- For seafarers with a history of mental health issues within the stated time frame

Not fit for emergency duties

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

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

- Skin problem with known cause.

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

- Back or other musculoskeletal problem after assessment by physiotherapist or orthopaedic specialist.

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

- Skin problem with known cause.

Eye protection to be worn for all work

- Monocular vision.

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.

Fit for work with low liability of injury in UK near coastal waters

- For seafarers who are anticoagulated. An extended geographical restriction can be considered as above.

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.

Must avoid [specify]

- Where a seafarer suffers non-debilitating symptoms on exposure to a foodstuff or other substance.

Employer to guarantee a [specify allergen] free diet

- When foodstuffs must be excluded from a diet in order to avoid significant symptoms

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 Tuberculosis by country: rates per 100,000 people - GOV.UK).
- 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. Additional information can be found here.
- 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 or may affect vision. 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.

An AD should ensure that they are familiar with local policies on case identification, contact tracing and treatment protocols (www.gov.uk/tuberculosis-screening) and where to access international incidence data.

Clinical assessment and decision taking

Note: Sometimes additional medical information is required from a specialist.

For assistance, refer to the question guide in Annex A: Templates for the request of additional medical information.

1. Does the seafarer come from or has recently spent over 6 months in a country with an incidence of pulmonary tuberculosis >50/100,000 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)?



Fit category 1

Temporarily unfit category 3 for 3 months

Go to 2 ►

2. Arrange for screening with advice, from local microbiology services.

Do they have any positive screening tests such as chest x-ray, 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

Go to 3 ►

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



Temporarily unfit category 3 – pending investigation and any alternative diagnosis and base fitness decision on findings

Temporarily unfit category 3. For initiation of appropriate treatment –

Go to 4 ▶

If treatment completed –

Go to 5 ▶

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



Temporarily unfit category 3

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

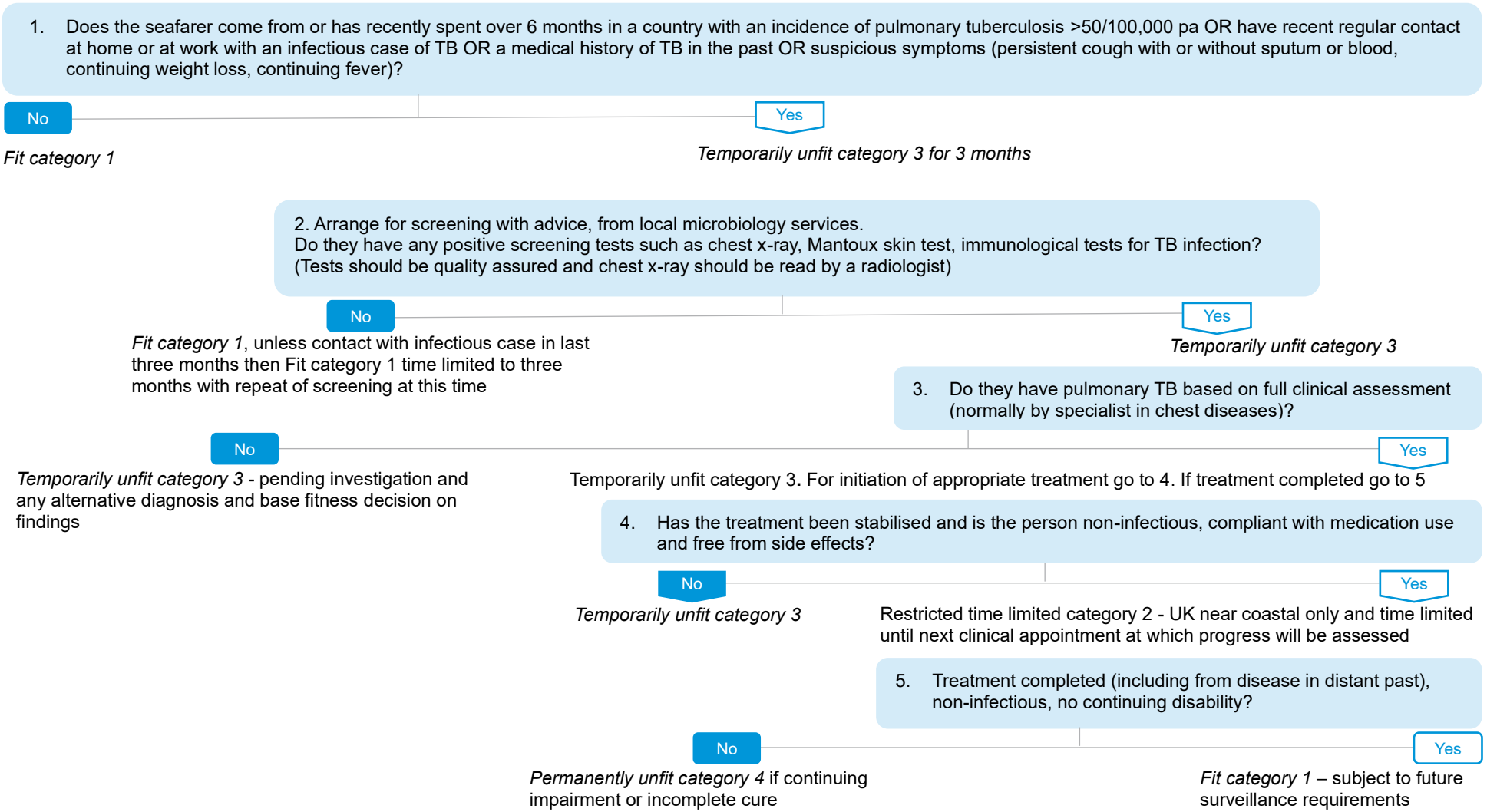
5. Treatment completed (including from disease in distant past), non-infectious, no continuing disability?



Permanently unfit category 4 if continuing impairment or incomplete cure

Fit category 1 – subject to future surveillance requirements

Summary of clinical assessment and decision-taking



ADG 2
Infections transmitted in body fluids: HIV, hepatitis (non A)

Impairment and risks

- Several viral infections may be transmitted through blood and other body fluids, including Human Immunodeficiency Virus (HIV), Hepatitis B Virus (HBV), Hepatitis C Virus (HCV) and Hepatitis D Virus (HDV). Transmission most commonly occurs through sexual contact, exposure to infected blood, sharing injecting equipment, occupational exposure to contaminated sharps, and from mother to child during pregnancy or birth.

- The risks of transmission of infection through body fluids while at sea with respect to normal living and working conditions are the same as onshore.

- Aspects of lifestyle such as 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 must take account 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 bodily fluids have been spilt. Universal infection control precautions in handling of body fluids help 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 infections transmitted in body fluids. However, some of the treatments used may cause problems in some individuals and 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.

Rationale and justification

- Many viral infections transmitted through body fluids have prolonged asymptomatic phases and may remain clinically stable for many years. During this time the virus can be detected in the blood, and especially for HIV its effects can be seen in the progressive loss of CD4 lymphocytes. However, some infections may progressively impair organ function, particularly the liver or immune system, resulting in complications that may affect fitness for sea service.

- Effective antiviral therapies are available for many of these infections and can substantially reduce disease progression, complications and transmission risk. Ongoing specialist monitoring is often required to assess disease activity, treatment response and adverse effects.

- 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.

- 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, North 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 to other types of viral hepatitis 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.

Clinical Assessment and decision taking

Unless the diagnosis is disclosed to the examiner, it is usually impossible to detect a virus transmitted via bodily fluids in an asymptomatic seafarer.

Undeclared infectious status

Routine pre-employment screening for viral infections transmitted via bodily fluids is not recommended. Testing should only be undertaken where clinically indicated and not as a condition of employment. If signs or symptoms identified during a medical examination raise concern for a potentially significant underlying infection, the seafarer should be referred to their usual healthcare provider or an appropriate specialist for investigation, diagnosis and management.

Testing should be undertaken with appropriate consent and in accordance with applicable legal and ethical requirements. A diagnosis of a viral infection transmissible through bodily fluids may have significant personal, social and occupational implications. Healthcare professionals arranging testing should ensure that appropriate counselling, referral, investigation and treatment pathways are available where required.

Where appropriate, seafarers may be advised of the benefits of voluntary testing and early diagnosis, particularly if they have recognised risk factors for infection. Early identification allows timely treatment, monitoring and informed decision-making regarding ongoing health and fitness for work at sea.

Declared infection

Individuals with a diagnosed viral infection transmitted via bodily fluids may remain asymptomatic for prolonged periods, either because the infection is at an early stage or because it is well controlled with treatment. In such cases, fitness for work at sea will depend on the clinical stability of the condition, the risk of progression, any associated organ impairment, any side effects of the medication and the requirements for ongoing monitoring.

Seafarers receiving treatment should declare all medications to the Approved Doctor so that potential adverse effects, operational implications and relevant drug interactions can be considered during the fitness assessment. Specialist advice should normally be obtained where long-term antiviral therapy or regular clinical surveillance is required as 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.

Because these conditions may carry social stigma, decisions regarding fitness for work at sea should take account of legal, ethical and confidentiality considerations in addition to clinical evidence.

HIV

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.

As per MSN 1886 1.5 to be able to correctly issue the correct certification you will need to gather the following information from the specialist clinician:

- What is the CD4 count?
- What WHO stage is the HIV (1,2 or 3)?
- What is the likelihood of disease progression? Ideally shown in percentage form.
- Treatment and associated side effects.

Seafarers may also declare their use of Pre-Exposure prophylaxis (PrEP) and as for all medications they should be established on a regular dose, or have taken the medication several times before, and report no side effects before an ENG1 certificate is issued. Further history should be taken as they may be at risk of other sexually transmitted diseases, and it is worthwhile offering health promotion advice regarding safe sex. Further information is available at www.nhs.uk and if you are unsure, please ask for CMA advice.

Hepatitis B

The clinical assessment of Hepatitis B involves several key components to diagnose and manage the infection effectively. This information should be provided by the treating clinician and include:

- **Serological Testing**: This includes testing for hepatitis B specific antigens and antibodies to identify the phase of HBV infection, determine if a patient is immune to HBV, or if they are susceptible to infection.
- **Viral Load Measurement**: Quantification of HBV DNA, often referred to as HBV viral load, is performed to assess the level of HBV replication in the body.
- **Liver Function Tests**: Abnormal liver function tests are used to confirm the diagnosis of acute Hepatitis B and to monitor the progression of chronic HBV infection.
- **Additional Tests**: These may include HBV core avidity testing to differentiate between acute and chronic infections, and surveillance testing to assess the risk of Hepatitis B transmission.

These assessments are crucial for timely diagnosis and management of Hepatitis B, ensuring that patients receive the appropriate treatment and care to prevent complications and improve their quality of life.

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.

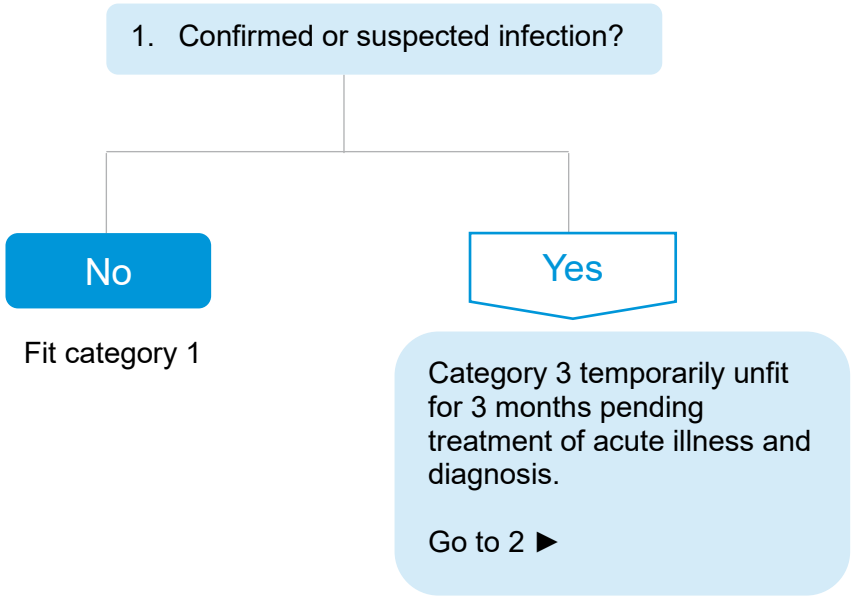
There is a reliable immunisation to protect against Hepatitis B. This is recommended for all seafarers working outside UK near coastal waters. See MGN 652.

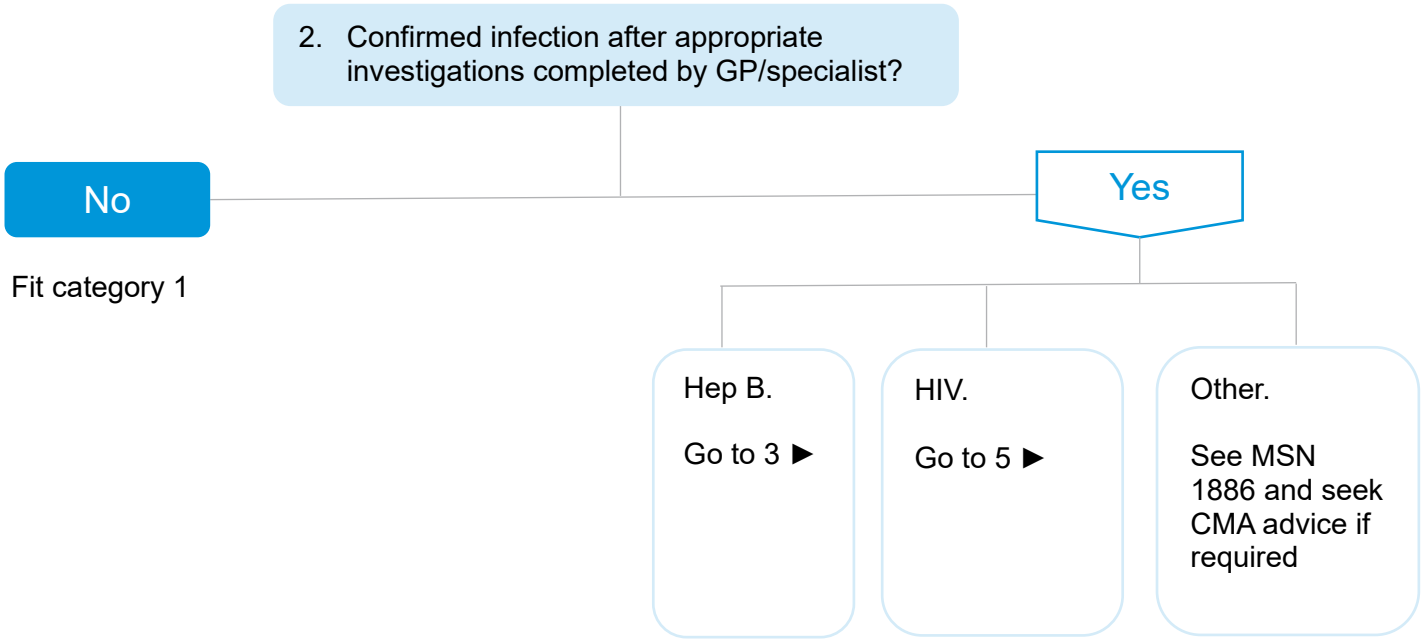
Seafarers should be made aware of the risks of infection from sexual contact, needle sharing during drug misuse, and inadequate sterilisation – including in tattooing and in sub-standard medical treatment facilities.

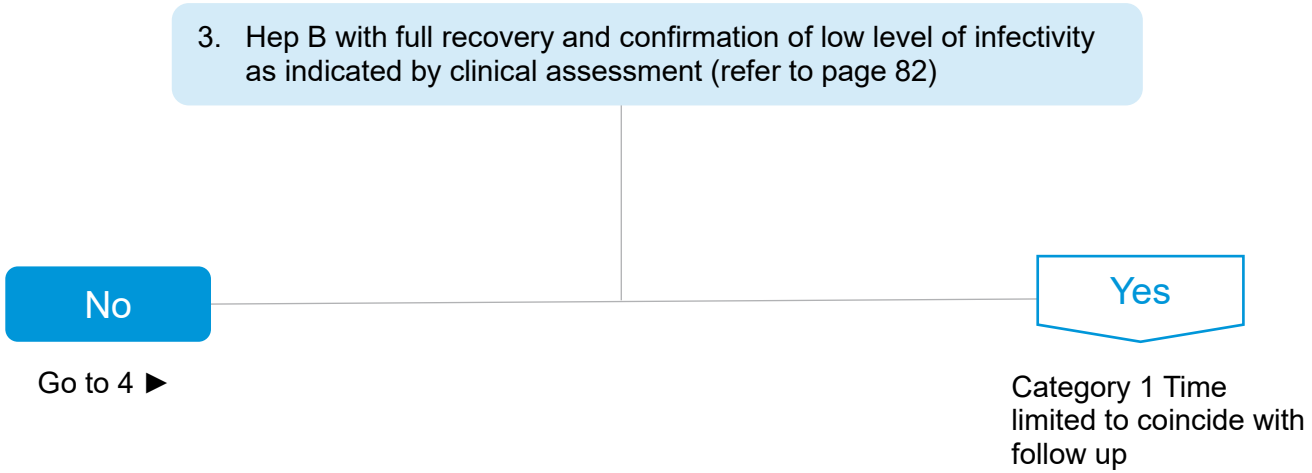
Clinical assessment and decision taking (all forms of viral hepatitis except hepatitis A)

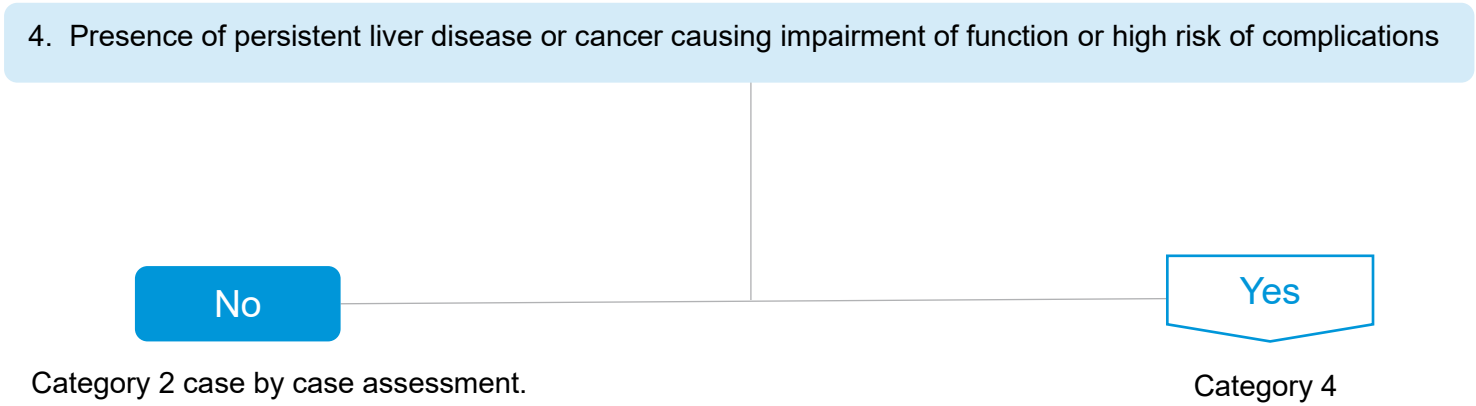
Note: Blood tests for hepatitis antibodies or antigens and liver function tests only form part of the statutory medical examination within the UK if there are clinical indications for doing them. For seafarers resident elsewhere they may be considered if there is a high incidence of non-A hepatitis.

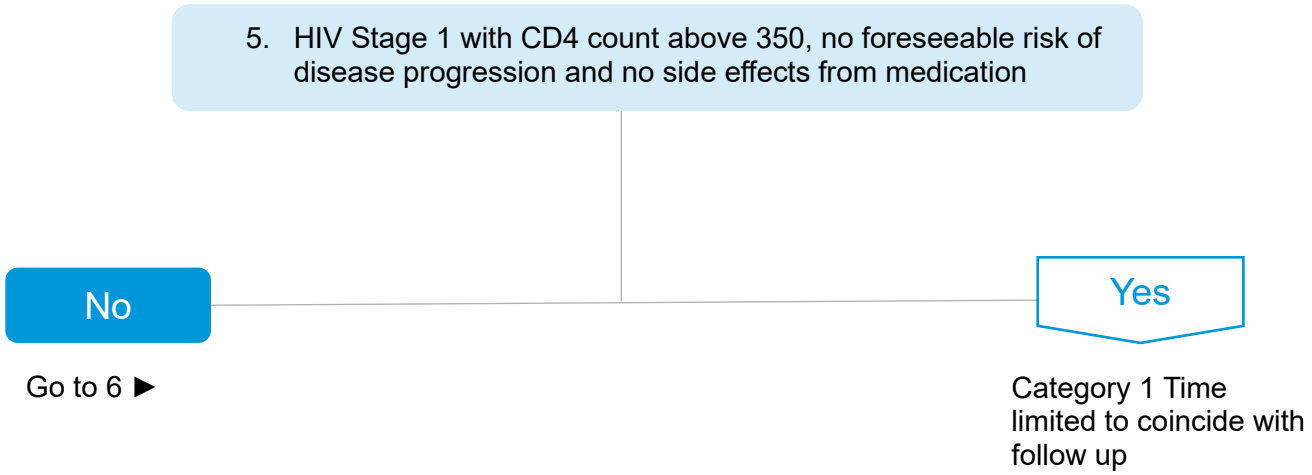
Note: Sometimes additional medical information is required from a specialist. For assistance, refer to the question guide in Annex A: Templates for the request of additional medical information.

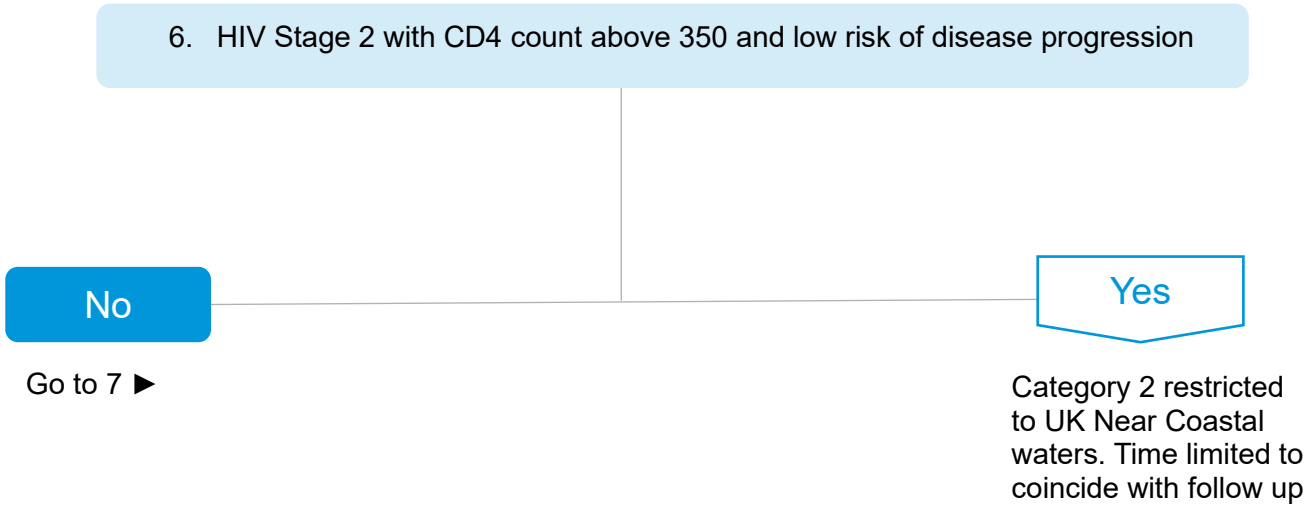


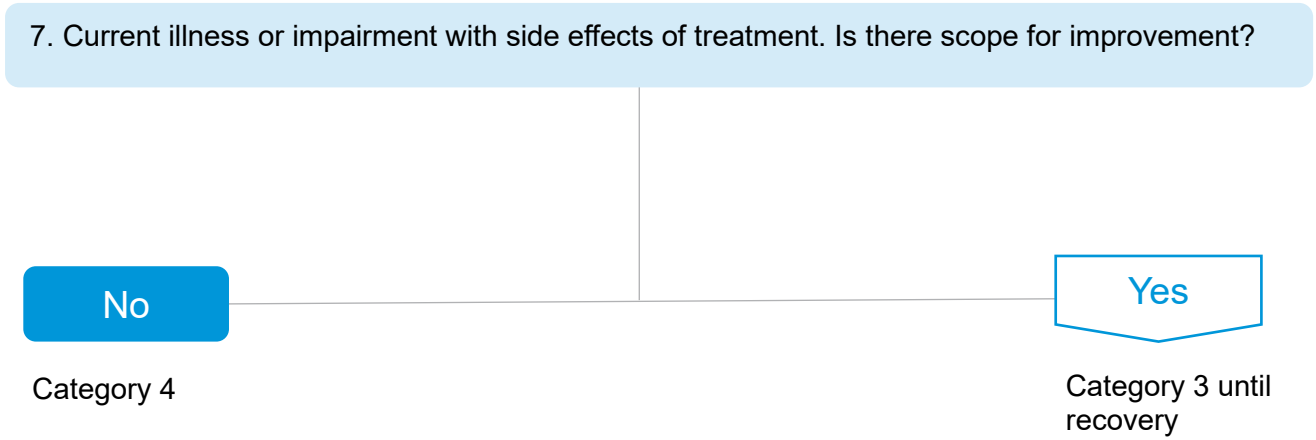

2. Confirmed infection after appropriate investigations completed by GP/specialist?
No
Fit category 1
Yes
Hep B.
Go to 3 ▶
HIV.
Go to 5 ▶
Other.
See MSN 1886 and seek CMA advice if required


3. Hep B with full recovery and confirmation of low level of infectivity as indicated by clinical assessment (refer to page 82)
No
Go to 4 ►
Yes
Category 1 Time limited to coincide with follow up

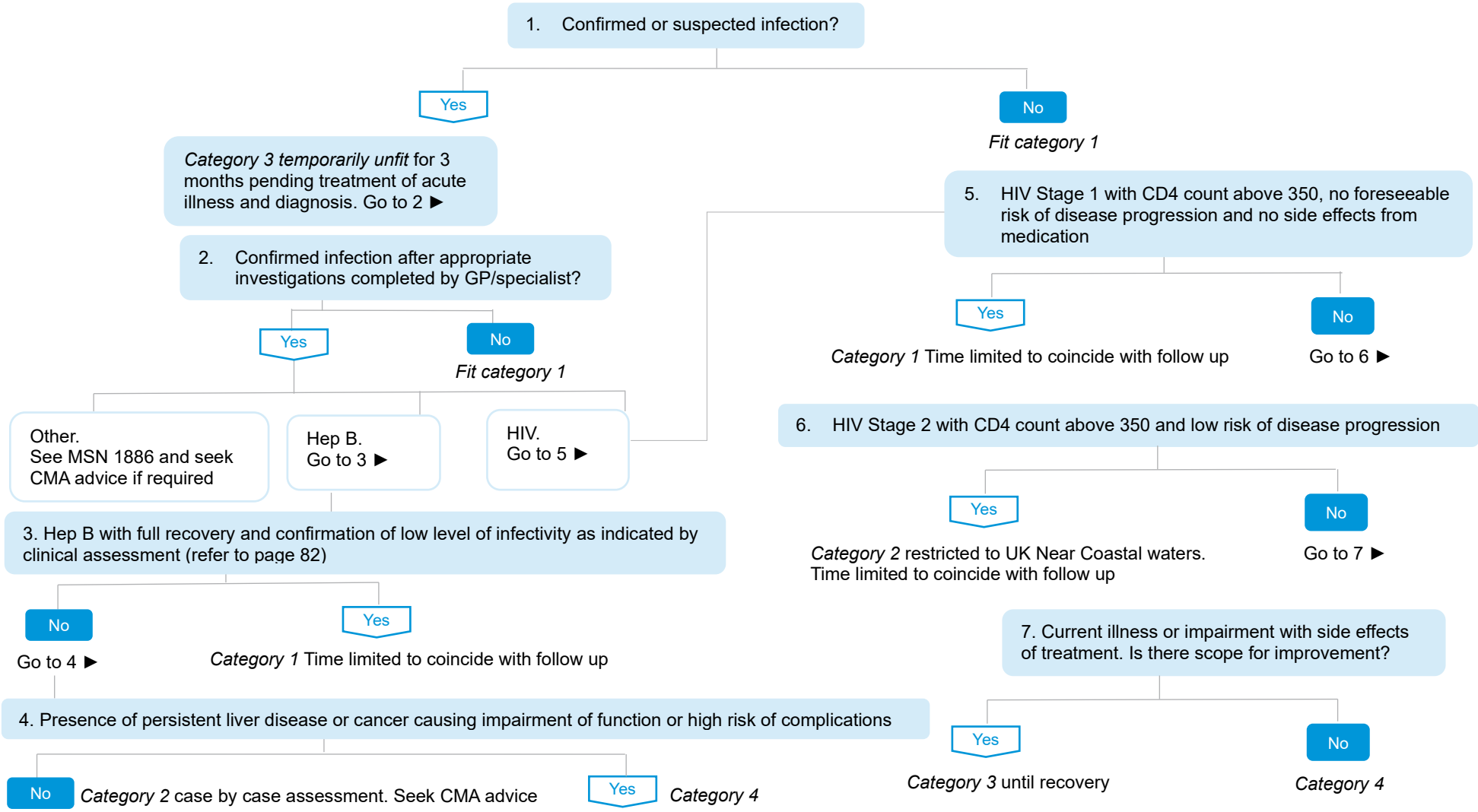

4. Presence of persistent liver disease or cancer causing impairment of function or high risk of complications
No
Yes
Category 2 case by case assessment.
Seek CMA advice
Category 4


5. HIV Stage 1 with CD4 count above 350, no foreseeable risk of disease progression and no side effects from medication
No
Go to 6 ▶
Yes
Category 1 Time limited to coincide with follow up


6. HIV Stage 2 with CD4 count above 350 and low risk of disease progression
No
Go to 7 ▶
Yes
Category 2 restricted to UK Near Coastal waters. Time limited to coincide with follow up


7. Current illness or impairment with side effects of treatment. Is there scope for improvement?
No
Category 4
Yes
Category 3 until recovery

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



ADG 3
Cancer, including sarcoma, leukaemia etc.

Impairment and risks

There are 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; an increased risk to the individual from the risk of recurrence or complication that needs urgent shore-based treatment; and in some cases a risk to others when doing safety-critical tasks, for example from seizure risks because of growths located in the brain. Examples include:

(a) direct effects from tumour

(b) effects from spread or recurrence. 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. See ADG 15.

(d) general debilitation. Consideration must be given as to the individual's capability to perform their routine and emergency duties.

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 cerebral metastases presenting as seizures and hence likely to interfere with safety critical duties.

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 and the need for follow up. This will help to assist with a fitness decision and ensure that care is not compromised and that duties can be undertaken effectively and without risk. The questions asked in the decision tree below should be included in any request for information.

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.

Clinical assessment and decision taking

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:

Note: Sometimes additional medical information is required from a specialist. For assistance, refer to the question guide in Annex A: Templates for the request of additional medical information.

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?

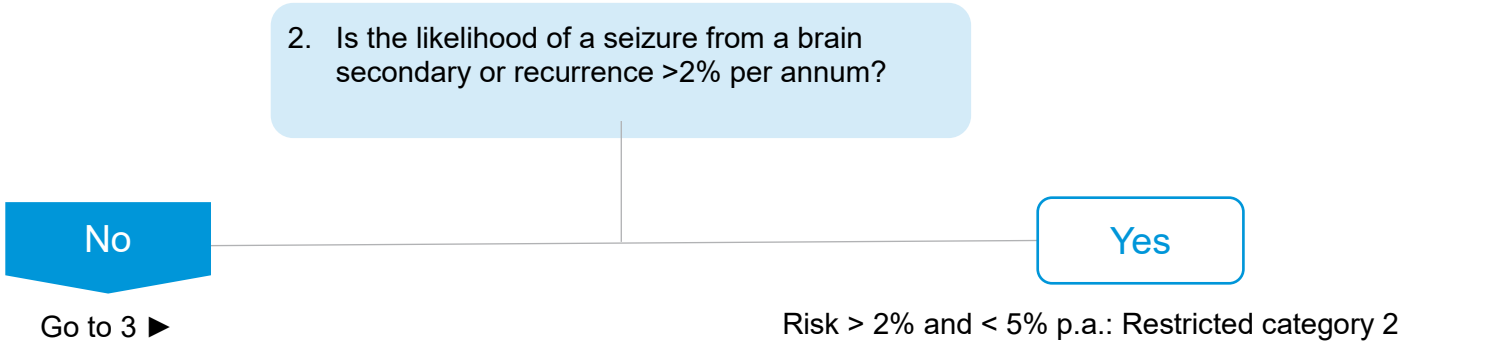
No

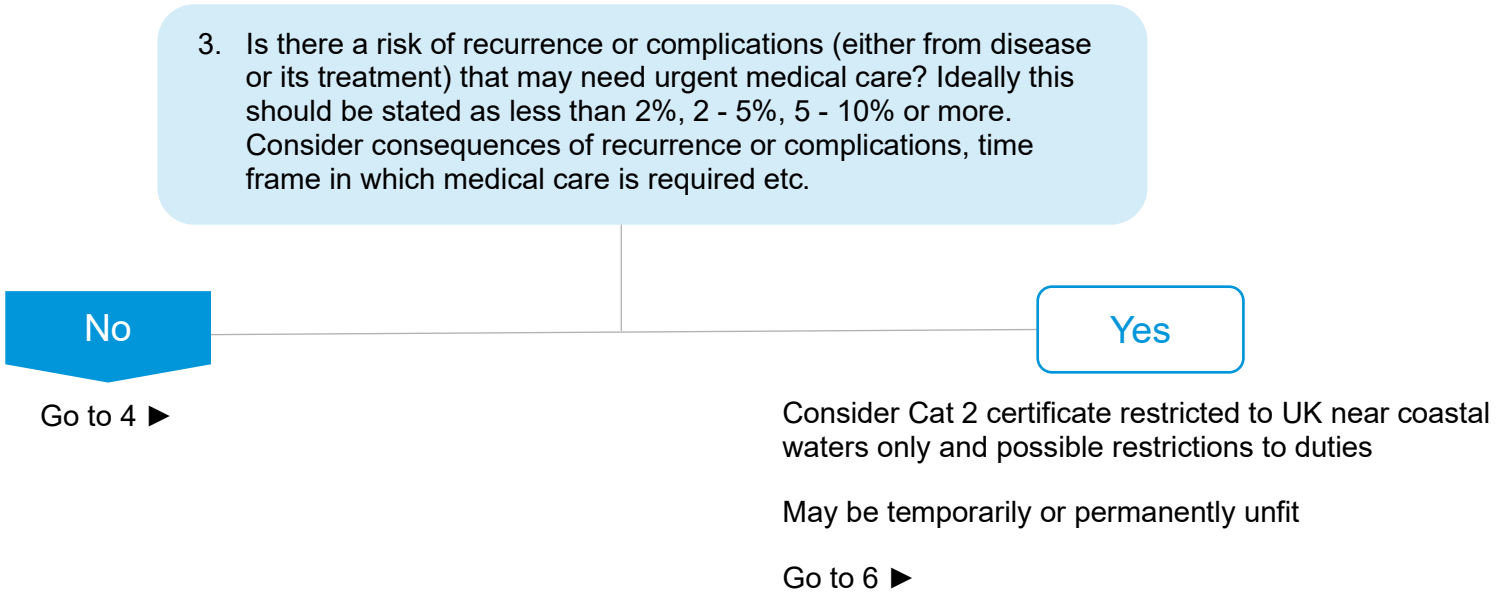
Go to 2 ►

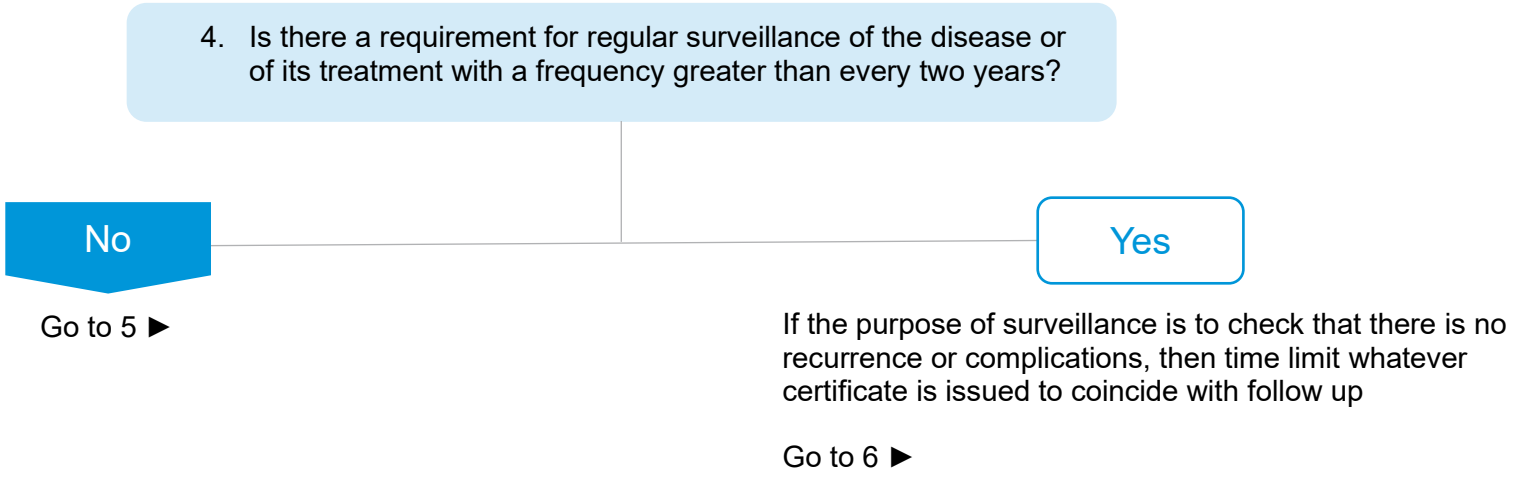
Yes

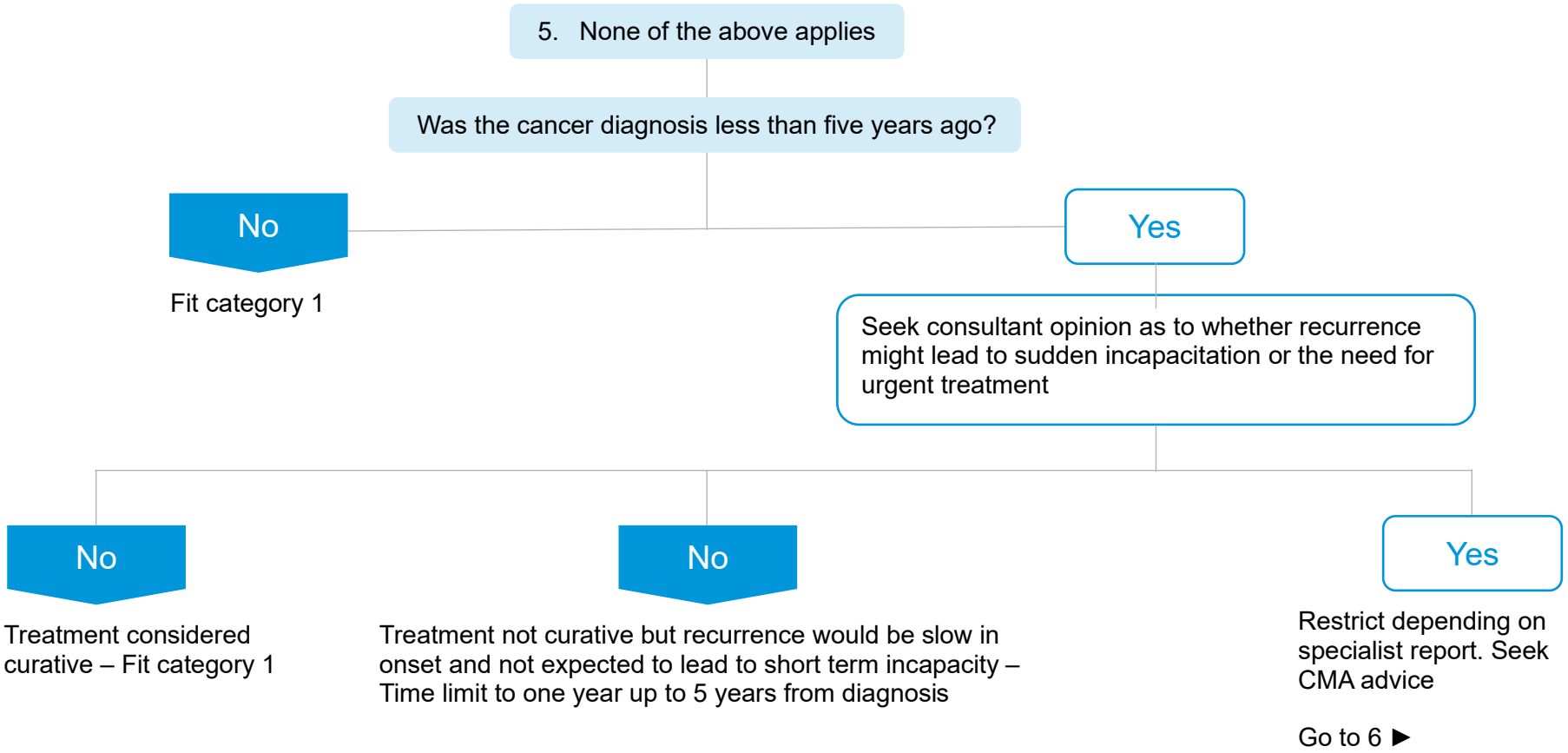
Temporarily unfit unless duties can be modified to minimise limitations in which case a restricted certificate may be appropriate.

Permanently unfit if impairment is not likely to improve


2. Is the likelihood of a seizure from a brain secondary or recurrence >2% per annum?
No
Go to 3 ►
Yes
Risk > 2% and < 5% p.a.: Restricted category 2
UK near coastal waters only and no lone watchkeeping
Risk > 5% p.a.: Permanently unfit category 4


3. Is there a risk of recurrence or complications (either from disease or its treatment) that may need urgent medical care? Ideally this should be stated as less than 2%, 2 - 5%, 5 - 10% or more. Consider consequences of recurrence or complications, time frame in which medical care is required etc.
No
Go to 4 ►
Yes
Consider Cat 2 certificate restricted to UK near coastal waters only and possible restrictions to duties
May be temporarily or permanently unfit
Go to 6 ►


4. Is there a requirement for regular surveillance of the disease or of its treatment with a frequency greater than every two years?
No
Go to 5 ►
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 follow up
Go to 6 ►


5. None of the above applies
Was the cancer diagnosis less than five years ago?
No
Fit category 1
Yes
Seek consultant opinion as to whether recurrence might lead to sudden incapacitation or the need for urgent treatment
No
Treatment considered curative – Fit category 1
No
Treatment not curative but recurrence would be slow in onset and not expected to lead to short term incapacity – Time limit to one year up to 5 years from diagnosis
Yes
Restrict depending on specialist report. Seek CMA advice
Go to 6 ►

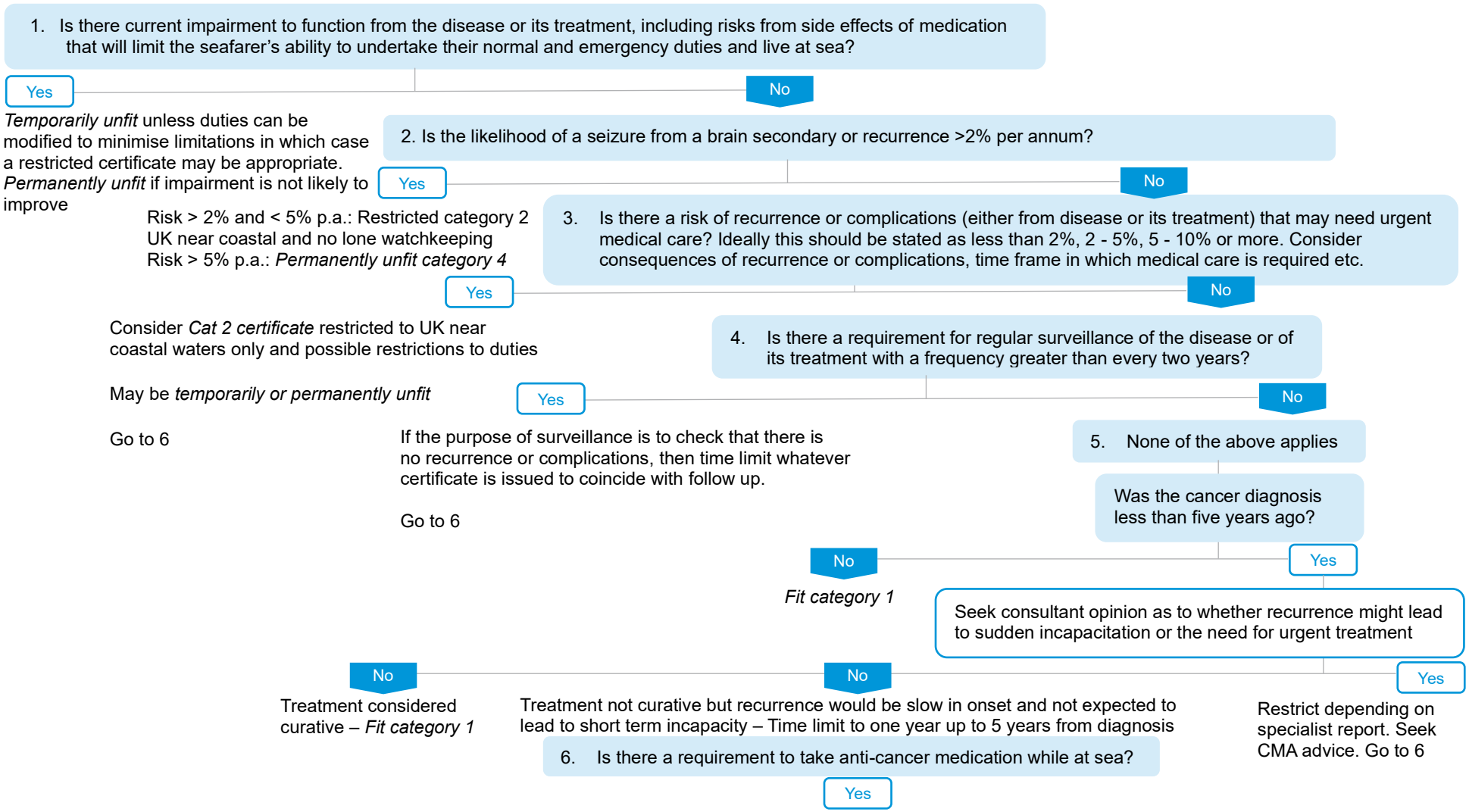
6. Is there a requirement to take anti-cancer medication while at sea?

Yes

Consider side effects of medication e.g. immunosuppression, 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

Summary of clinical assessment and decision taking



Consider side effects of medication e.g. immunosuppression, 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.

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 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, 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 cognitive impairment and 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 or by hyperglycaemia.

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

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 gastrointestinal 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.

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 situation. 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 increase the risk of hypoglycaemia, unless the insulin dose is carefully adjusted
- Increased levels of exercise such as physically demanding tasks on board 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.

- 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. It may be useful to issue a conditions letter stating this.

Rationale and justification – other medications

- The management of diabetes has evolved significantly in recent years and drugs such as gliflozins (SGLT2 inhibitors) and GLP-1 agonists are increasingly used in the management of diabetes as well as cardiac disease, kidney disease and obesity. Both types of medication can have side effects that may be very difficult to manage at sea eg ketoacidosis (even with normal glucose levels) and pancreatitis although studies are ongoing to assess the absolute risk.

- As for all medications, seafarers should be established on a stable dose with good clinical effectiveness and no side effects before an ENG1 certificate is issued. This may take up to three months and should usually be confirmed by a medical report from the prescribing physician.

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. The use of Continuous Glucose Monitoring (CGM) may reduce the risk further but at present does not change the restrictions that should be included on the ENG1. Further research is required.

- 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.

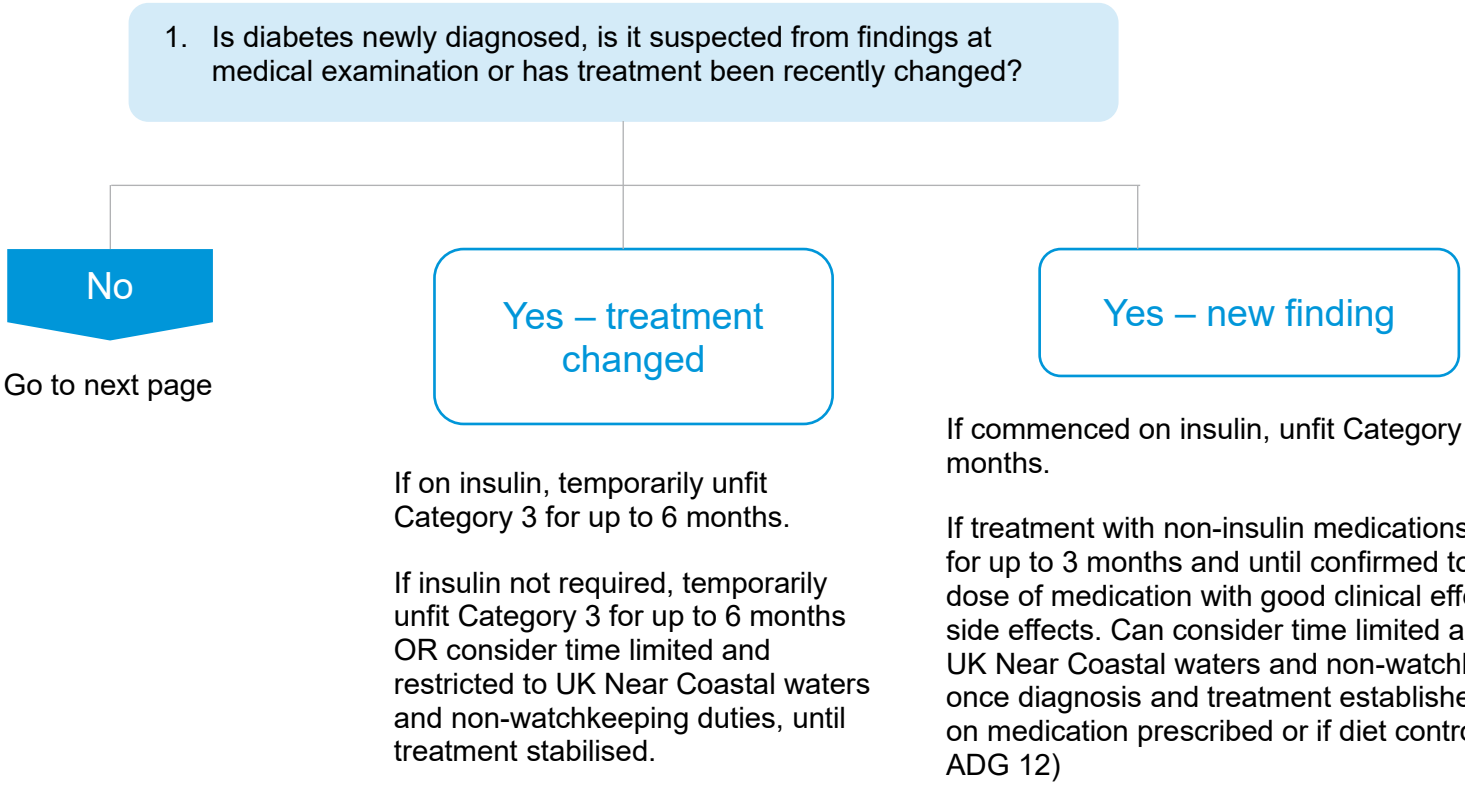
Clinical assessment and decision taking

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.

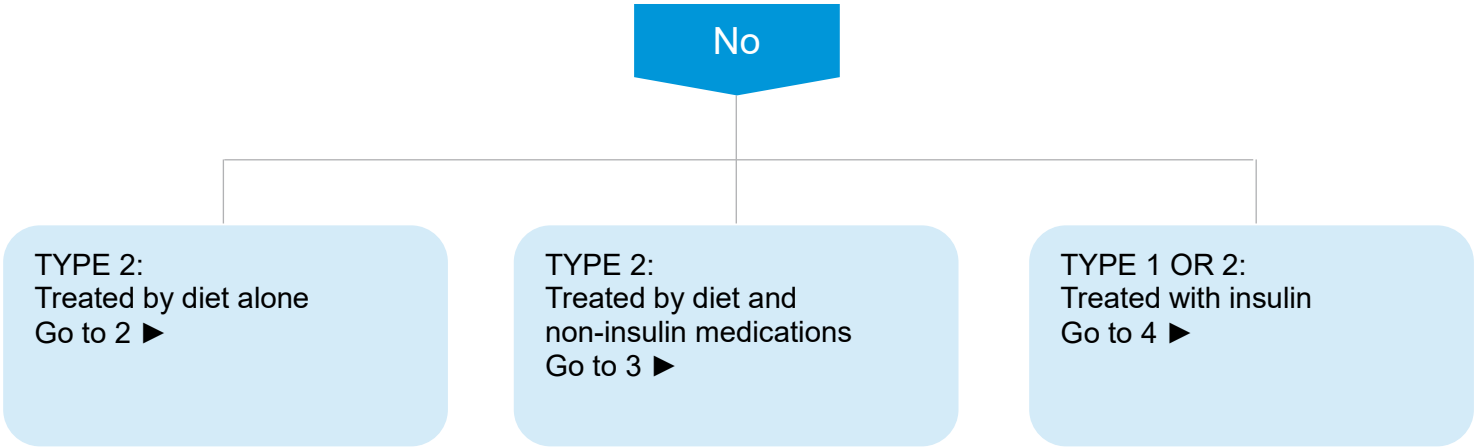
Complications such as loss of sensation (neuropathy), visual damage (retinopathy) or kidney impairment (nephropathy) should be assessed using the standards for these conditions.

Note: Sometimes additional medical information is required from a specialist. For assistance, refer to the question guide in Annex A: Templates for the request of additional medical information.

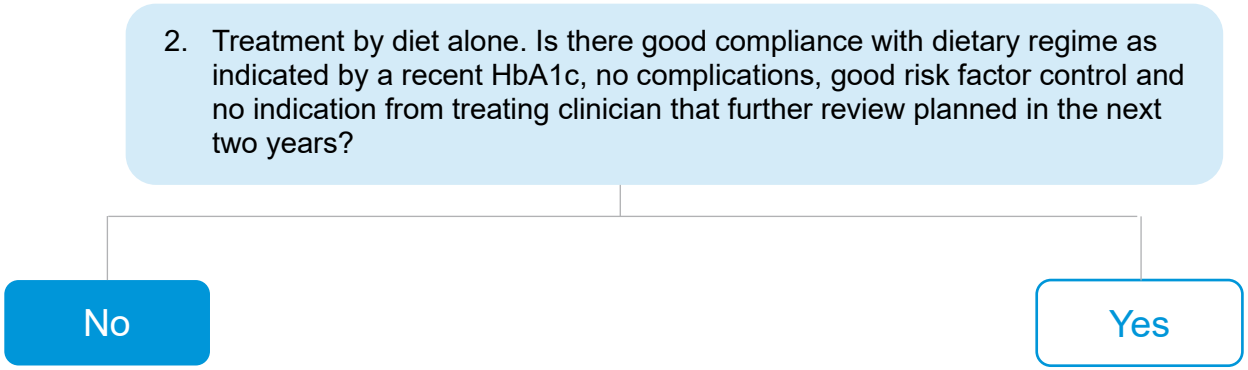
Type 1 and 2


1. Is diabetes newly diagnosed, is it suspected from findings at medical examination or has treatment been recently changed?
No
Go to next page
Yes – treatment changed
If on insulin, temporarily unfit Category 3 for up to 6 months.
If insulin not required, temporarily unfit Category 3 for up to 6 months OR consider time limited and restricted to UK Near Coastal waters and non-watchkeeping duties, until treatment stabilised.
Yes – new finding
If commenced on insulin, unfit Category 3 for up to 6 months.
If treatment with non-insulin medications Category 3 for up to 3 months and until confirmed to be on stable dose of medication with good clinical effect and no side effects. Can consider time limited and restricted to UK Near Coastal waters and non-watchkeeping duties once diagnosis and treatment established depending on medication prescribed or if diet controlled (See ADG 12)

Type 1 and 2


No
TYPE 2:
Treated by diet alone
Go to 2 ▶
TYPE 2:
Treated by diet and
non-insulin medications
Go to 3 ▶
TYPE 1 OR 2:
Treated with insulin
Go to 4 ▶

Type 2



Fit time limited category 1, with target weight etc and time-limited until next appointment with treating doctor. Advise on vascular risk factor control

Fit category 1 and advise on vascular risk factor control.

Type 2

3. Treatment by diet and medication but not including insulin. Is there good compliance with dietary regime and medication as indicated by a recent HbA1c, no side effects from medication, no complications, good risk factor control and no indication from treating clinician that additional treatment may be needed in the next two years? Consider obtaining a medical report to confirm the above.

No

Fit category 1 or Restricted category 2, with geographical restriction and restricted duties if medication side effects, poor compliance or other concerns.

For both consider time limited until next appointment with treating doctor or for one year for monitoring. Issue conditions letter with target weight etc and advise on vascular risk factor control

Yes

Fit category 1 and advise on vascular risk factor control

Type 1 or 2

4. Treatment includes insulin. Has the insulin regime been stable with good blood glucose control for the last three months, as judged by blood glucose level and a recent HbA1c result. Is there full awareness of impending hypos, with no reported or observed significant hypoglycaemic episodes in the last year? Has the individual required medical care for complications of diabetes including ketoacidosis or recurrent hypoglycaemia?

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.

Otherwise Category 3, temporarily unfit pending further assessment and possible change of treatment. If no improvement, permanently unfit category 4.

Advise on vascular risk control.

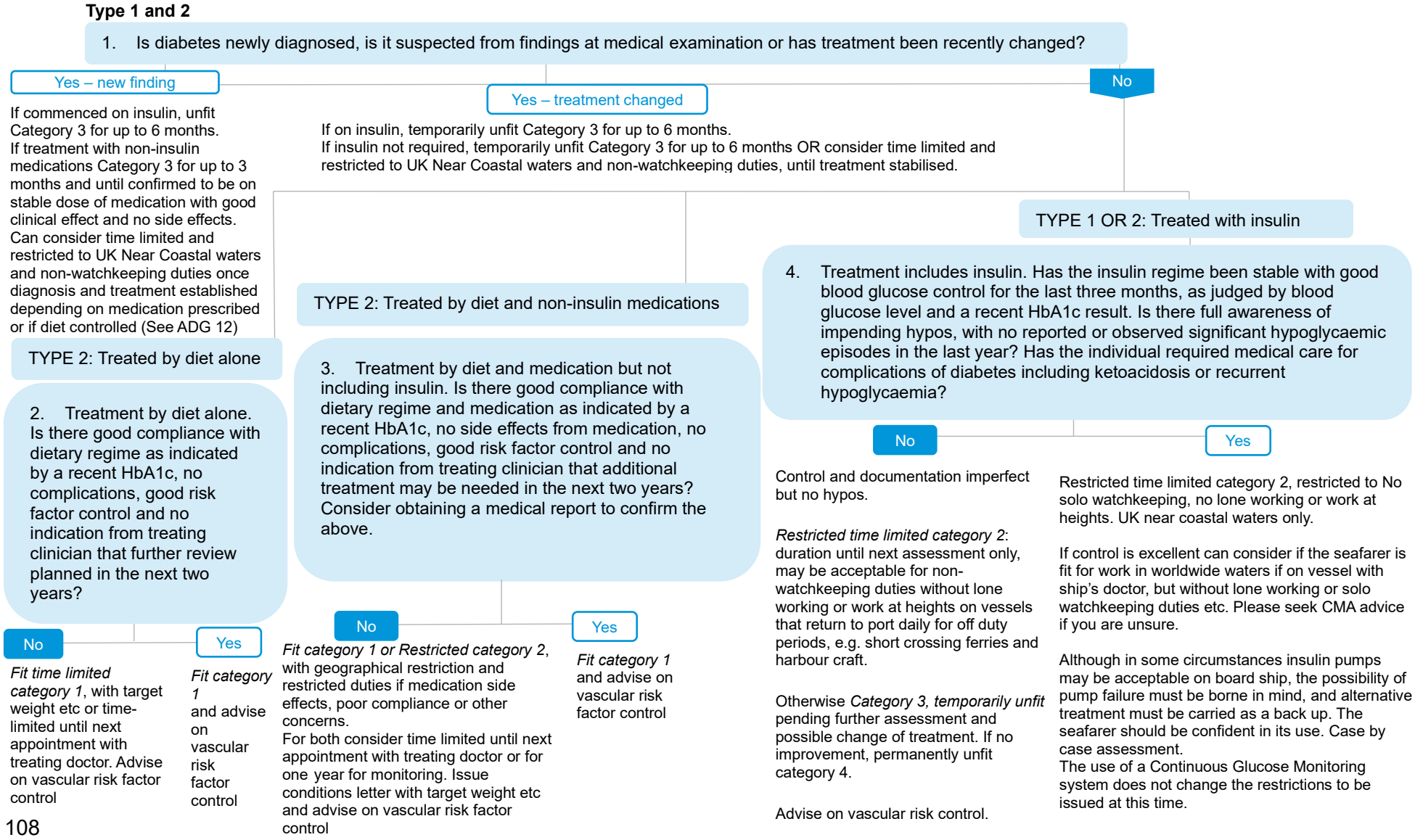
Yes

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

If control is excellent can consider if the seafarer is fit for work in worldwide waters if on vessel with ship's doctor, but without lone working or solo watchkeeping duties etc. Please seek CMA advice if you are unsure.

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. The use of a Continuous Glucose Monitoring system does not change the restrictions to be issued at this time.

Summary of clinical assessment and decision taking – Diabetes and its treatment



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 increases the risk of future musculoskeletal damage and heart disease.

Immediate risks from obesity include:

- Inability to undertake arduous emergency tasks such as firefighting, evacuation from the vessel and recovery of people from the water in small vessels such as yachts or fishing vessels.
- 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 lifesaving 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.
- Difficulties in rescue including onboard, overboard and with weight limits for helicopter winches etc.

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
- malignancy.

All 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.

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 kilograms / (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 –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. However, this measurement can be prone to human error and further review is needed regarding its use in seafarer examinations.

- 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. The risk may be significantly increased by the presence of other comorbidities.

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.

The assessment of risk of incapacitation from a complication of obesity is an actuarial judgement based on medical evidence from similar cases. However, 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 and include the following:

- Advice on diet and weight reduction, with realistic targets set (e.g. 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 as 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 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 healthy foods.

In **new entrants without experience of emergency duties**, it is particularly important to consider 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 health promotion programmes** that include weight management and physical fitness. These are linked to dietary provisions and exercise facilities on board their vessels. In a few cases these programmes include regular physical capability 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.

Assessment of physical capability

Limitations in physical capability may be due to a decrease in cardiorespiratory function or musculoskeletal issues. Please see ADG 17 for additional information.

Weight loss Medication

See ADG 15 for additional information.

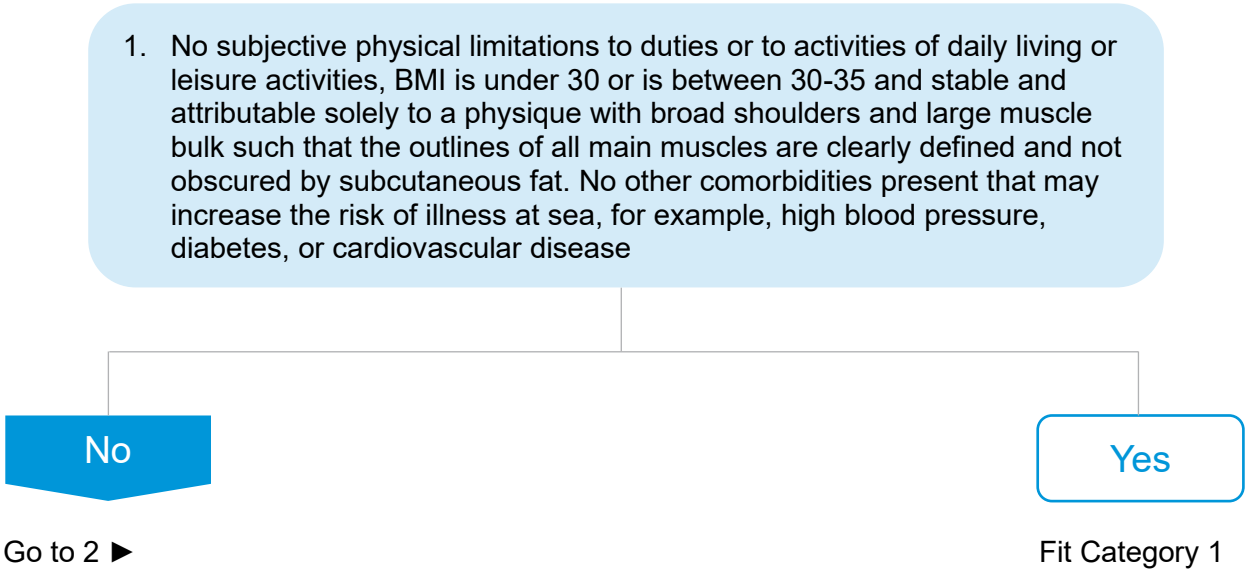
Bariatric Surgery (this includes a Sleeve gastrectomy, Roux-en-Y gastric bypass, One-anastomosis gastric bypass, and Adjustable gastric band)

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 surgery was indicated. The risk of long-term complications and treatment, for example Vitamin B12 supplementation, should be considered.

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.

(b) Decision taking

Note: Sometimes additional medical information is required from a specialist. For assistance, refer to the question guide in Annex A: Templates for the request of additional medical information.



2. If the BMI is over 35 an assessment of physical capability should be performed. If BMI is between 30 – 35 particularly in the presence of other comorbidities an assessment of physical capability is strongly recommended. See ADG 17.
   Compare BMI and exercise test results with any previous records.

   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. These recommendations may need to be backed by the threat of sanctions to be effective.

Go to 3 ►

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

No

Got to 4 ▶

Yes

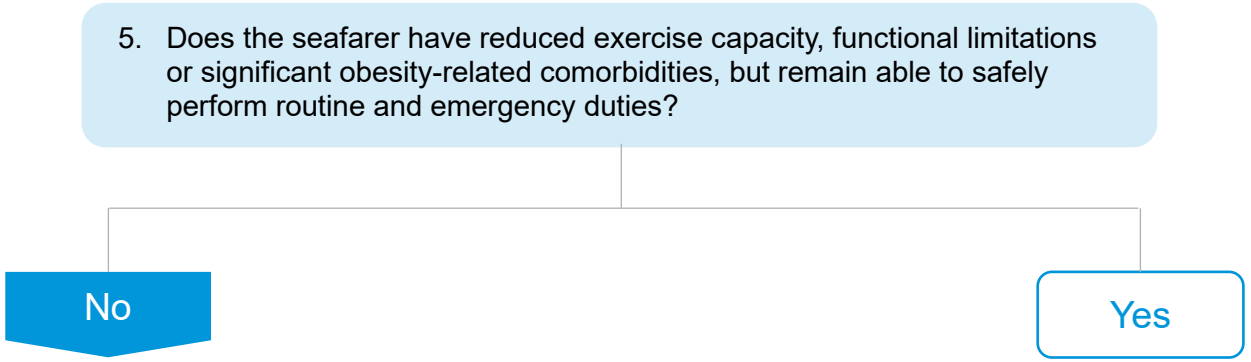
Fit category 1. Weight control and exercise recommendations only. Indicate that limitations to fitness certification category may be indicated if weight has not been reduced or exercise test result has worsened at next 2 yearly medical. Set an achievable target for weight control (e.g. 0.5 - 1kg/ week,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

4. Do any of the following apply:
   - Below average but better than poor capability on exercise test, or
   - BMI >35 or increasing, or
   - Failure to comply with previous weight management recommendations.



Got to 5 ▶

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


5. Does the seafarer have reduced exercise capacity, functional limitations or significant obesity-related comorbidities, but remain able to safely perform routine and emergency duties?
No
Got to 6 ►
Yes
Restricted category 2. Set an achievable target for weight control (e.g. 0.5 - 1kg/ week, as per NICE guidance) and issue a conditions letter stating such. Certification restricted to UK near coastal waters only 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 or cannot be completed, other investigations are in progress or there is demonstrable failure to meet and maintain previous targets.

No

Got to 7 ►

Yes

Temporarily unfit category 3 – Requirement for period of intensive dietary control and improved physical capability with detailed supervision. Criteria for return to work need to be specified at the start of the period and stated in a conditions letter. 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 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

Summary of decision taking

1. No subjective physical limitations to duties or to activities of daily living or leisure activities, BMI is under 30 or is between 30-35 and stable 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 other comorbidities present that may increase the risk of illness at sea, for example, high blood pressure, diabetes, or cardiovascular disease

Yes

Fit category 1

No

2. If the BMI is over 35 an assessment of physical capability should be performed. If BMI is between 30 – 35 particularly in the presence of other comorbidities an assessment of physical capability is strongly recommended. See ADG 17.

   Compare BMI and exercise test results with any previous records.

   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. 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-morbidities.

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 (e.g. 0.5 - 1kg/ week, as per NICE guidance) and issue a conditions letter stating such.

No

4. Do any of the following apply:
   - Below average but better than poor capability on exercise test, or
   - BMI >35 or increasing, or
   - Failure to comply with previous weight management recommendations.

Yes

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

No

5. Does the seafarer have reduced exercise capacity, functional limitations or significant obesity-related comorbidities, but remain able to safely perform routine and emergency duties?

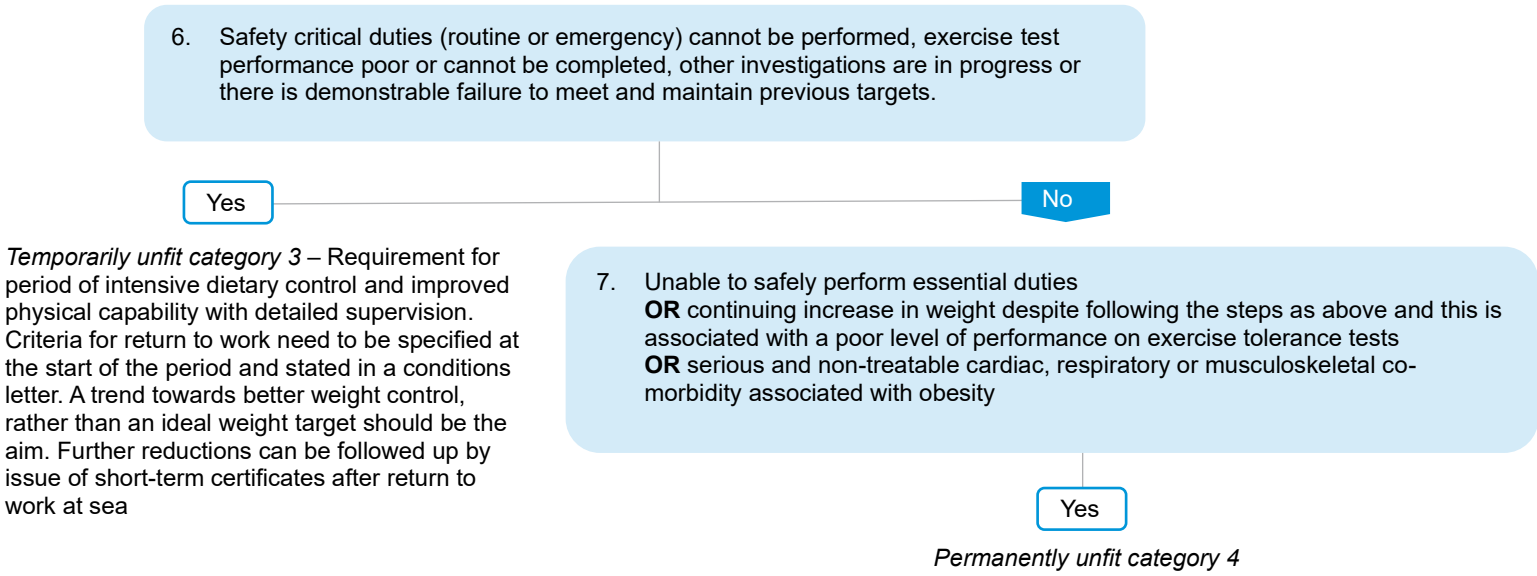
Yes

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

No

Go to 6

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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, mood, risk-taking and thought processes. In some cases, there is also impairment of movement and co-ordination.

- Where such impairments are constant and 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 is more common and may interfere with safety-critical tasks. Recurrences may be part of the natural history of the disease or may be attributed to specific factors. These include 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. Management of mental health issues on board is difficult and requires significant resources. Removal to onshore care may be needed for assessment and treatment and this itself is not without risk.

- Both the 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. It is often worth asking for a medical report from the treating physician, especially in new applicants who are not familiar with the maritime environment and therefore not aware how working and living on board may affect their condition.

- 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.

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 such as dementia, the hypomanic phase of bipolar disorder, alcohol and drug misuse, and 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, and the 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.

- 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 and this can be difficult to facilitate at sea.

- 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 abstention 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.

- Working and living at sea may also mean that the individual cannot access their usual support network of family and friends and or their usual coping strategies, for example time alone or regular exercise. Without these the risk and severity of recurrence and symptoms may increase.

- 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.

- 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.

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 are a wide range of questionnaires available for determining current mental state and mood. None are validated within the maritime environment or 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.

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.

It is recommended that an AD has a low threshold for asking for a medical report to corroborate the history given at examination and confirm treatment, dates of relapse etc. This is particularly important in new to sea applicants.

Information about behaviour, diagnosis and any past patterns of mental health impairment should 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.

Additional information is particularly useful in new applicants who are often unaware of the working and living environment at sea and how it may affect their underlying condition.

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, or 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 it is likely that the seafarer should be made temporarily unfit.

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 three months has elapsed to confirm that the episode was one-off, normal duties can be started or resumed.

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.

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 onboard. 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, or lack

of insight into the effects of actions on others then they are unlikely to be compatible with work at sea.

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.

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. ~~H~~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 and they should be advised to discuss this with their employer or training institution. If seen prior to starting a career in seafaring, the individual should 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.

Neurodiverse conditions
Whilst considered by many not to be a mental health disorder these conditions are classified as such within ICD 10 and are therefore considered here.

The number of individuals, including seafarers, diagnosed with a neurodiverse condition is increasing and many have a very successful career at sea. In assessing a seafarer with such a diagnosis, the most important factor is how they currently function and this can often, most easily, be established by asking a current employer, education establishment, sports leader etc questions to include:

1. How does the individual interact with peers and superiors? Consider that they may have to share a cabin with somebody they have not met before and take instructions from officers without explanation.
2. How does the individual manage the learning of new tasks? Can they complete a task from written and/or verbal instructions? There will be routine and emergency duties that they must do that may be unfamiliar to them.
3. How does the individual react to change and a lack of routine? Time on board may or may not have a routine and

this may be interrupted at any time due to weather, cargo handling, emergency situations etc.

4. How does the individual manage in stressful situations that they may not have encountered before? How do they work under pressure? They may need to react to an emergency situation for which they have not been specifically trained.
5. Has the individual shown signs of any impulsive behaviour?
6. Does the individual require any adaptations to participate in routine activities/perform expected tasks?

This information will help assess the risk of an adverse event occurring at sea in the context of the planned role on board and sailing area. It is often worth asking for a report from the Master or company following the seafarer's first contracts at sea to ensure they have adapted to the working and living conditions. A specialist report can also be useful but many may not have access to this service.

If a seafarer has been prescribed medication for a neurodiverse condition they must be established on a regular dose of medication, with good clinical effect and no side effects before a certificate is issued. The seafarer should not stop medication in order to work at sea as this may significantly worsen their condition.

As the commonly used medications may also be used as a drug of abuse, safe custody on board may be a problem as may crossing international borders for some countries. See Foreign Office advice on country by country basis https://www.gov.uk/foreign-travel-advice.

All medication should be accompanied by a conditions letter stating the need to declare the medication on board and ensure that it is stored safely (see ADG 15).

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. However the examining doctor should not use the medical certificate of fitness to provide an easy solution for the employer.

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 when at sea. 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.

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 or 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).

The AD must decide if the seafarer's alcohol intake and habits is use/misuse/abuse/dependency. This can be difficult to ascertain and information from the GP regarding any consultations or issues with alcohol related medical conditions may be useful.

In addition. requesting liver function, MCV or other tests is justified to help evaluate suspicions of persistent misuse and have a baseline level for the future assessments. Other tests may include Carbohydrate-Deficient Transferrin (CDT) or hair Ethyl Glucuronide (EtG) and specialist advice should be considered.

Results can also be used to demonstrate the reality of harm to the individual. Such tests must always be done with the consent of the seafarer.

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 recertification dependent on stated compliance with and agreed pattern of alcohol use in a person with insight or with steady or improving liver function, MCV or other 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 at sea. 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 AD must decide if the seafarer's drug habit is use/misuse/abuse/dependency. This can be difficult to ascertain and information from the GP regarding any consultations or issues with alcohol related medical conditions may be useful.

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.

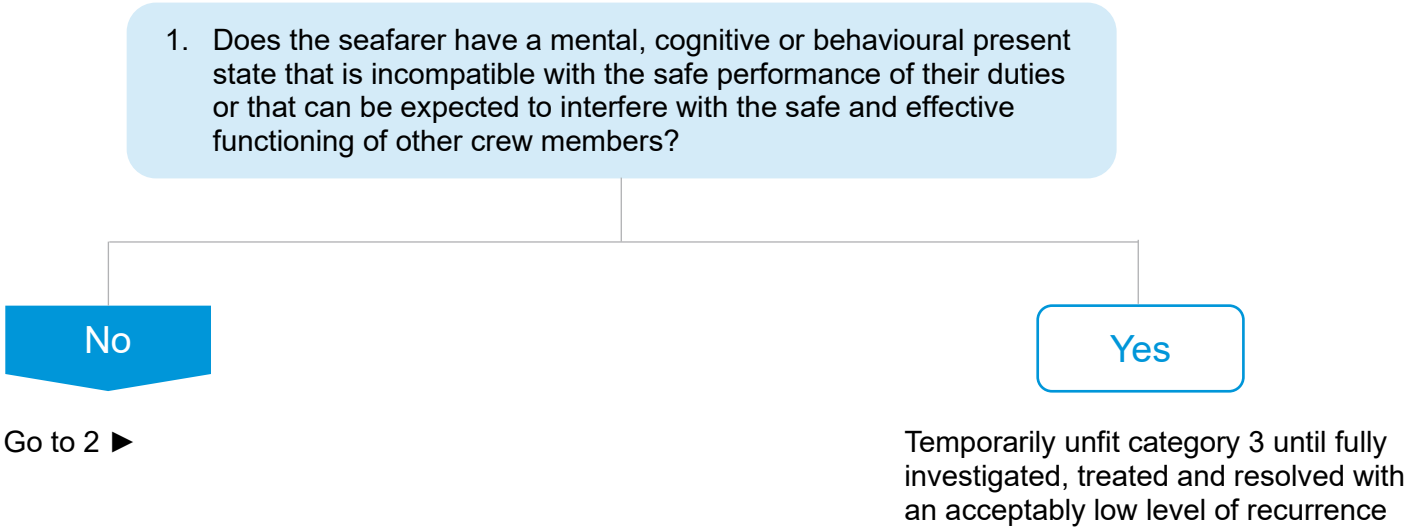
Opiate addicts are frequently maintained on either more easily controlled forms of opiate such as methadone or on antagonists such as naltrexone. Methadone has directly impairing effects and this means that use while at sea is not acceptable. Medications that are solo antagonists can be considered if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

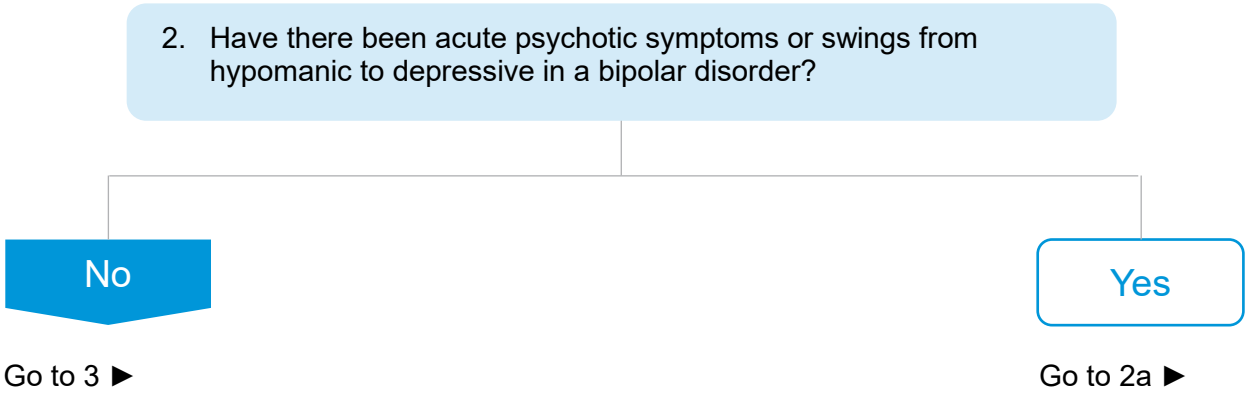
In many addicts, multiple drug use is the norm and abstinence from one substance may mean that others are substituted. Co-use of alcohol is also frequent and for substances such as cannabis this can cause far more severe impairment than either substance on its own.

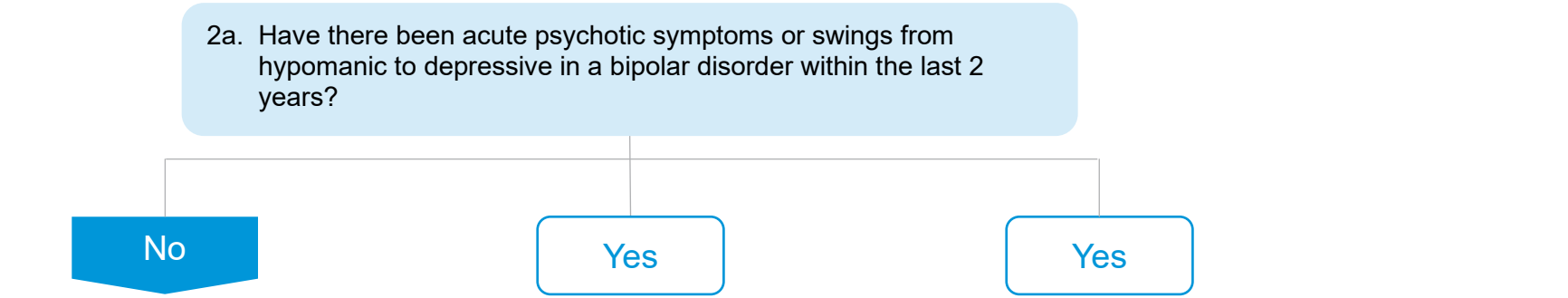
New psychoactive substances which include but are not limited to synthetic cannabinoids, stimulants, and opioids are often more potent and difficult to detect. Impairment may persist beyond the period of intoxication and workplace drug screens may not detect them.

Decision taking

Please ensure appropriate specialist input is requested. For assistance, refer to the question guide in Annex A: Templates for the request of additional medical information.




2. Have there been acute psychotic symptoms or swings from hypomanic to depressive in a bipolar disorder?
No
Yes
Go to 3 ►
Go to 2a ►



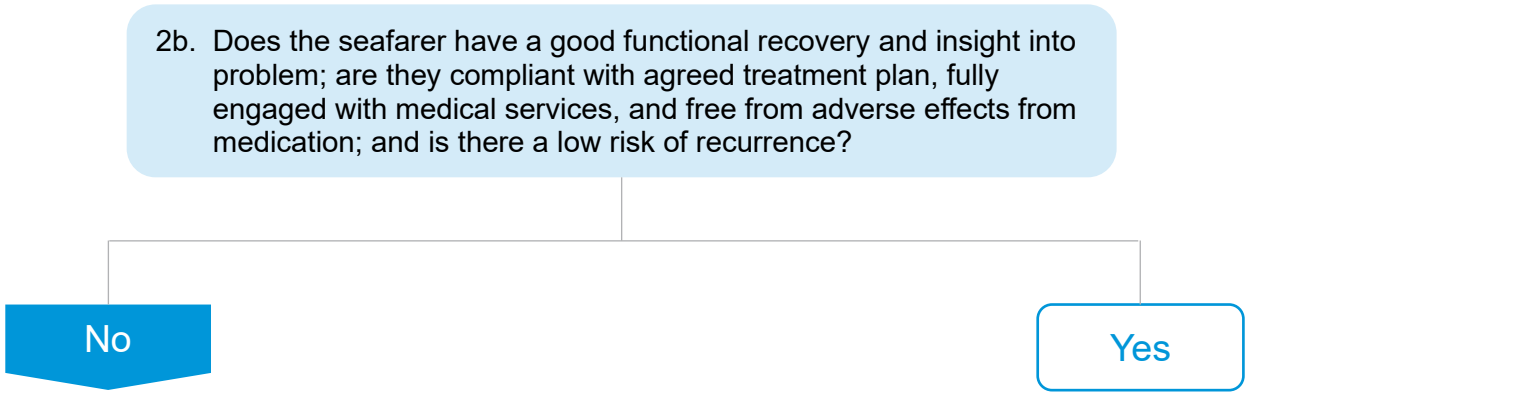
More than two years ago

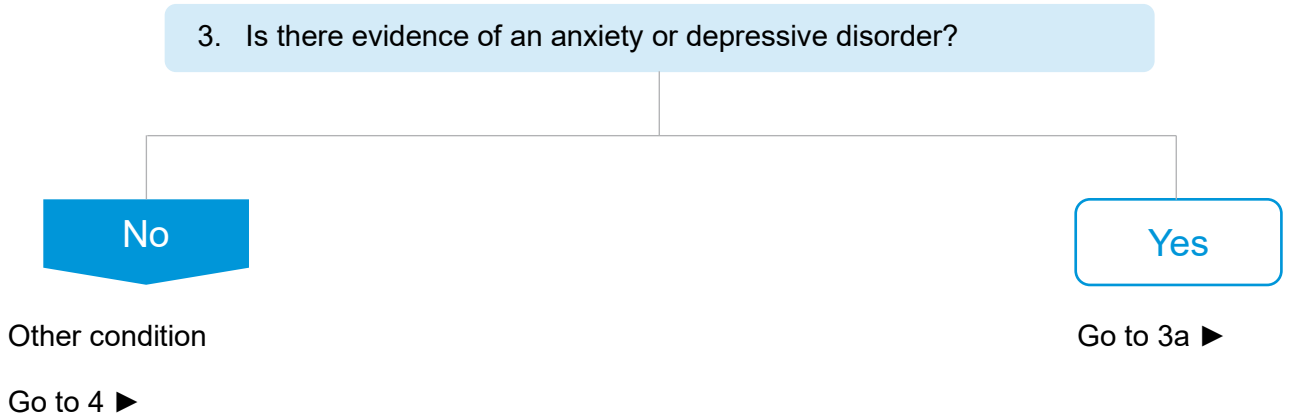
go to 2b ►

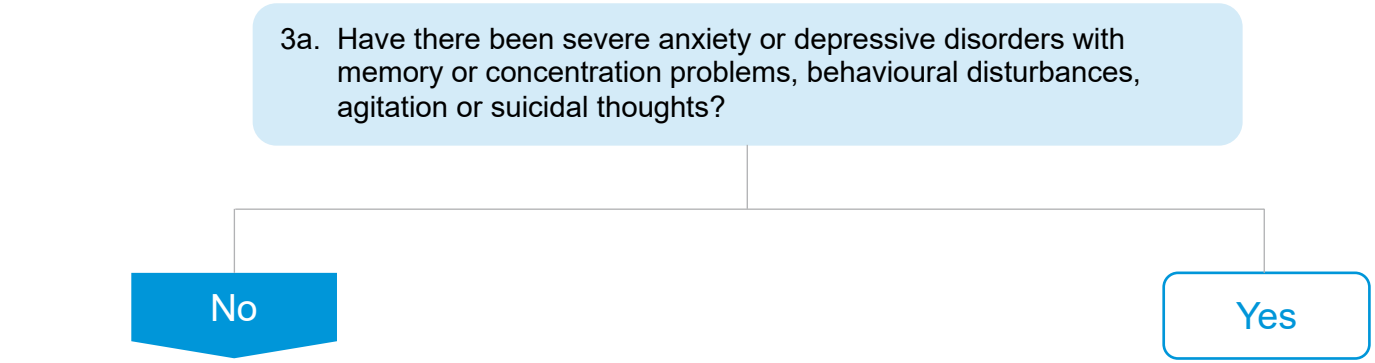
More than one episode without provoking factors or recurring and ongoing episodes with clear provoking factors. Permanently unfit category 4.

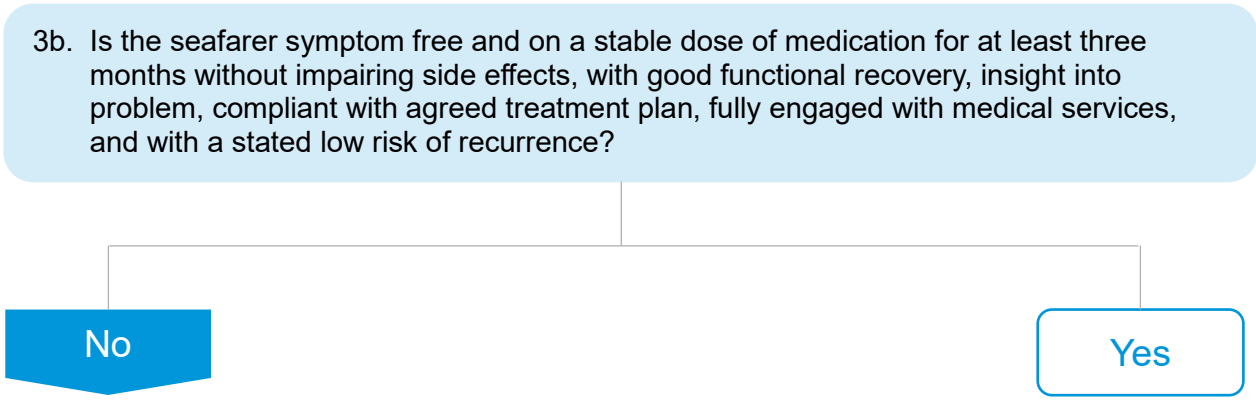
Single episode with provoking factors such as infection or transient metabolic disturbance e.g. hyperpyrexia.

Temporarily unfit category 3 until fully resolved and then for three months further. Then provided that seafarer
(a) has insight, AND
(b) is compliant with treatment, AND
(c) has no impairing effects from medication.
Restrict to UK near-coastal waters and not to work as master in charge of vessel. Time limited for six monthly surveillance for next year.


2b. Does the seafarer have a good functional recovery and insight into problem; are they compliant with agreed treatment plan, fully engaged with medical services, and free from adverse effects from medication; and is there a low risk of recurrence?
No
Yes
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, and no residual symptoms or medication use in last five years.
Restricted and time limited category 2. Six monthly re-assessment for next year, then annual. Restrict to UK near coastal waters only (other coastal waters advice from CMA required) and to 'Not to work as master in charge of vessel' for 5 years from last episode.


3. Is there evidence of an anxiety or depressive disorder?
No
Other condition
Go to 4 ▶
Yes
Go to 3a ▶


3a. Have there been severe anxiety or depressive disorders with memory or concentration problems, behavioural disturbances, agitation or suicidal thoughts?
No
Yes
Only minor or reactive symptoms of anxiety or depression, often associated with specific events.
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 for at least 1 year
Go to 3b ►



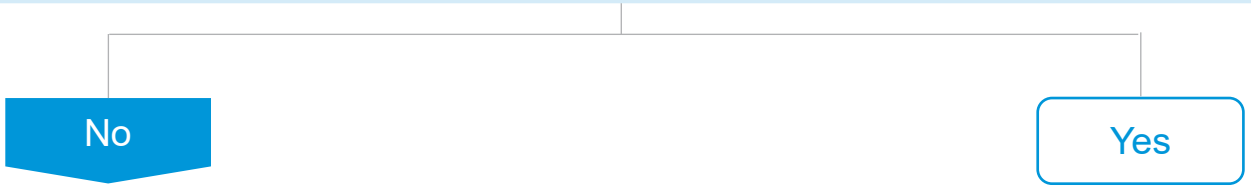
Unfit Category 3 while acute or under investigation. Then return to 3b.

Permanently unfit Category 4 if disabling, persistent or recurrent

Restricted time limited category 2. Six monthly re-assessment for next year, then annual.

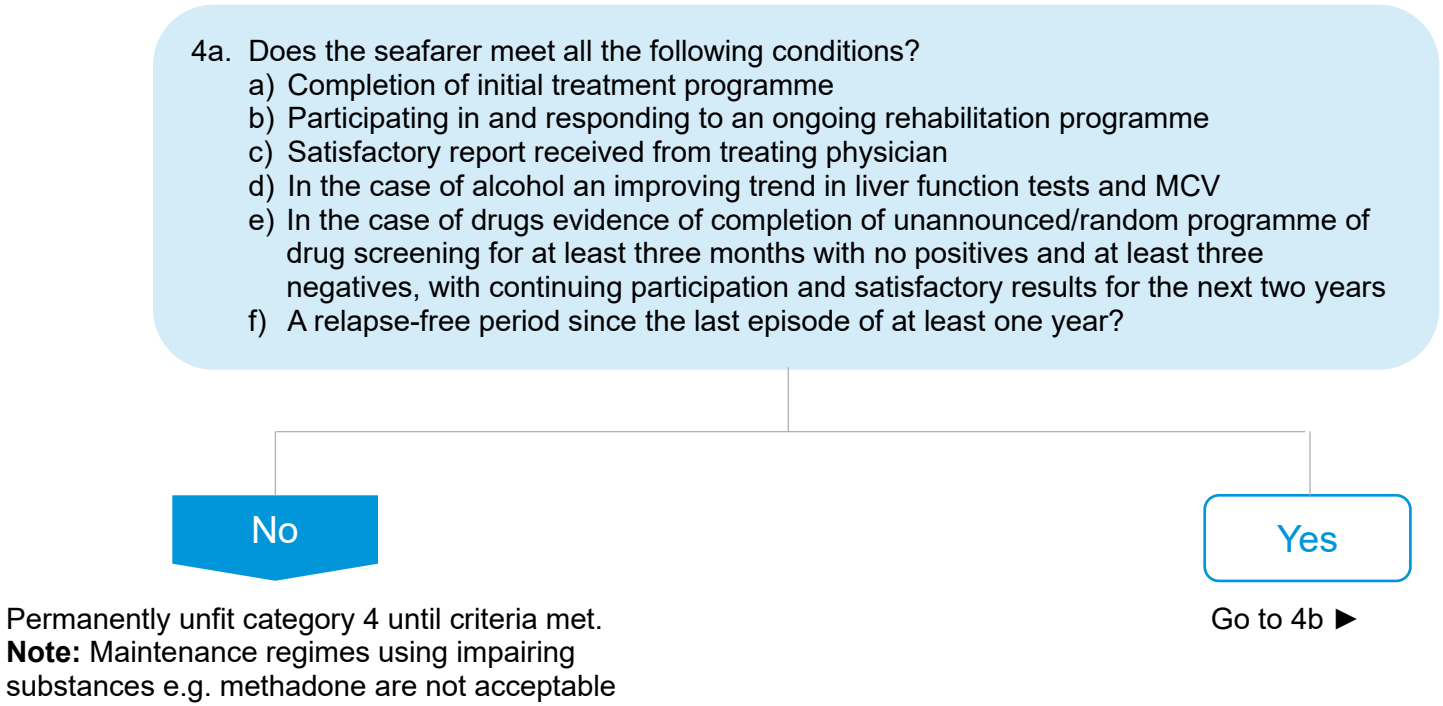
Consider restriction to UK near coastal waters only (other coastal waters advice from CMA required) and ‘Not to work as master in charge of vessel’ for 2 years from last episode

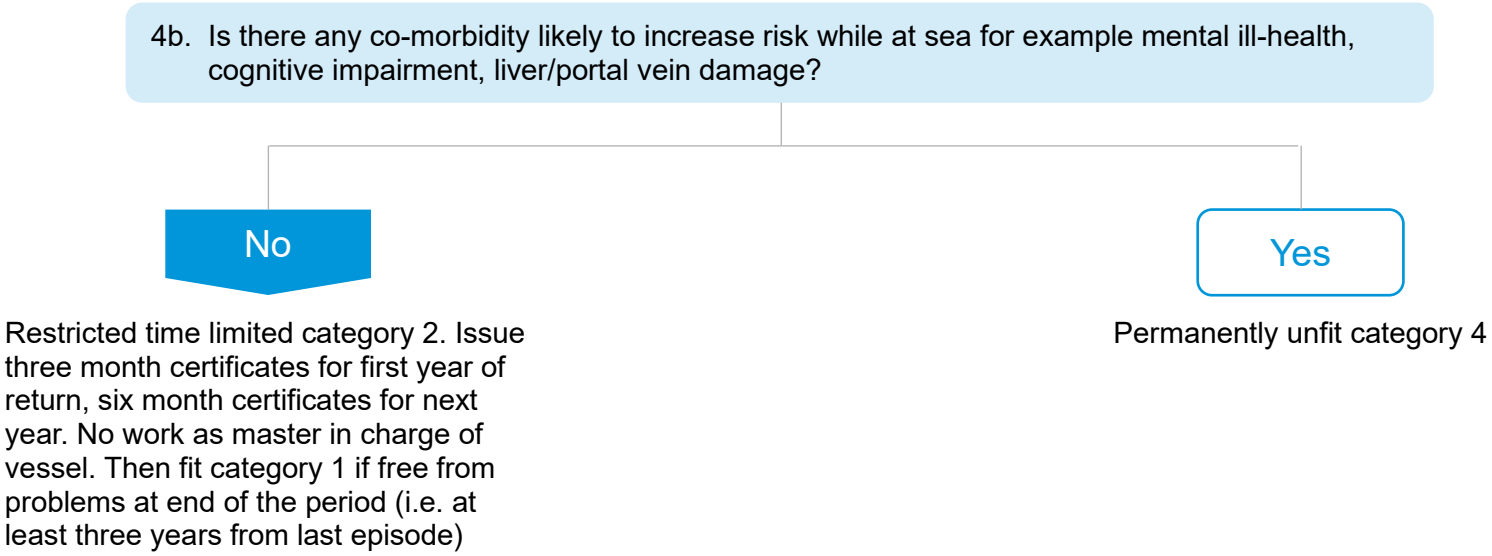
4. Is there a history or signs suggestive of alcohol or drug abuse or dependence? Includes both illicit drug use and dependence on prescribed medications.
   Note: legal aspects and company drug and alcohol policies may be relevant to case management. Routine testing for drugs and alcohol does not form part of the statutory assessment but should be done if there are clinical indications or suspicions.



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

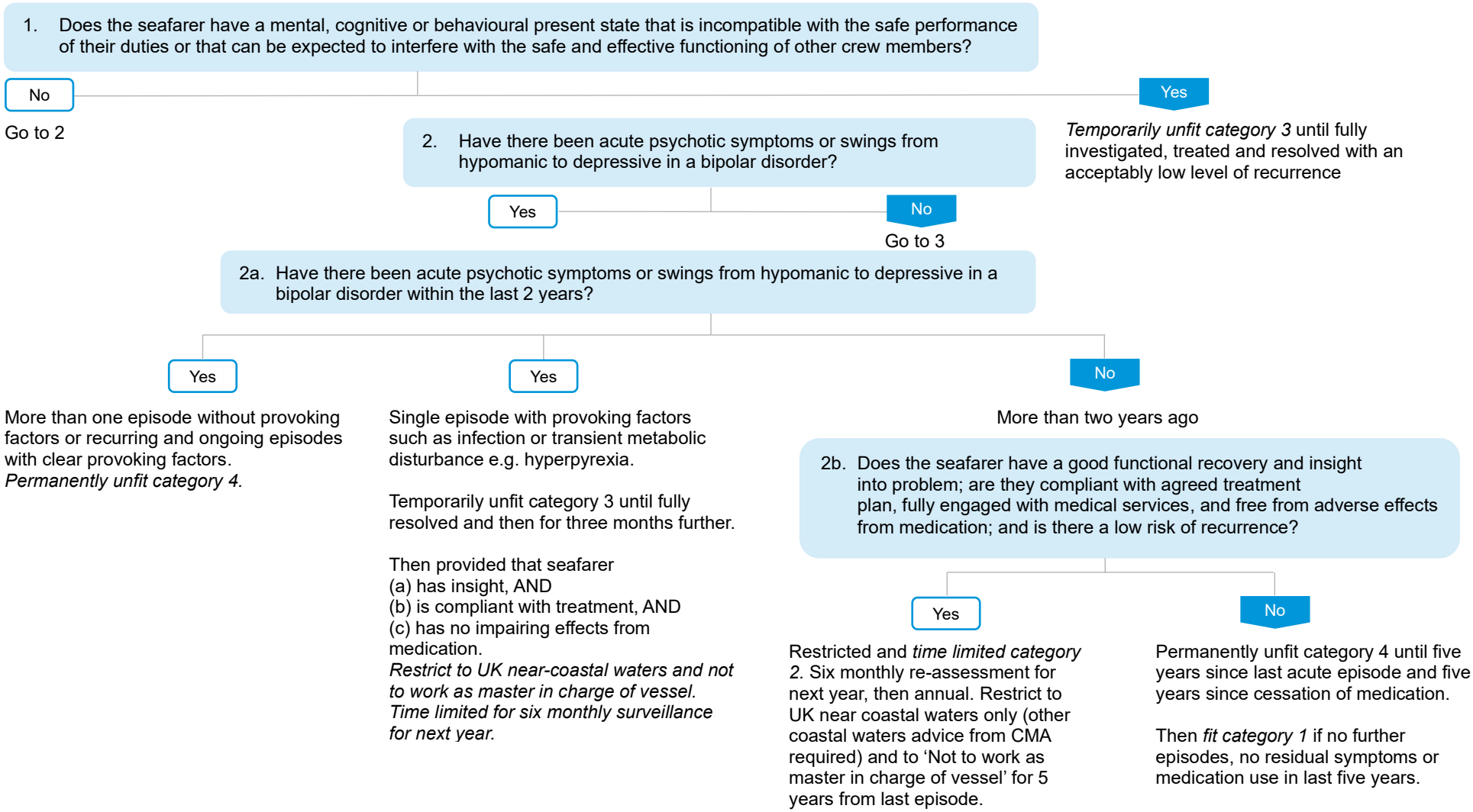
Go to 4a ►


4a. Does the seafarer meet all 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
Yes
Permanently unfit category 4 until criteria met.
Note: Maintenance regimes using impairing substances e.g. methadone are not acceptable
Go to 4b ▶


4b. Is there any co-morbidity likely to increase risk while at sea for example 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

Summary of decision taking

Please ensure appropriate specialist input is requested.



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

Yes

No

Other condition **go to 4**

Continues from previous page

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, often associated with specific events. *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 for at least 1 year.

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, and with a stated low risk of recurrence?

Yes

No

Restricted time limited category 2.
Six monthly re-assessment for next year, then annual.
Consider restriction to UK near coastal waters only (other coastal waters advice from CMA required) and '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 drug abuse or dependence? Includes both illicit drug use and dependence on prescribed medications.
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

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

4a. Does the seafarer meet all 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?

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 likely to increase risk while at sea for example 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)

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, or 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.

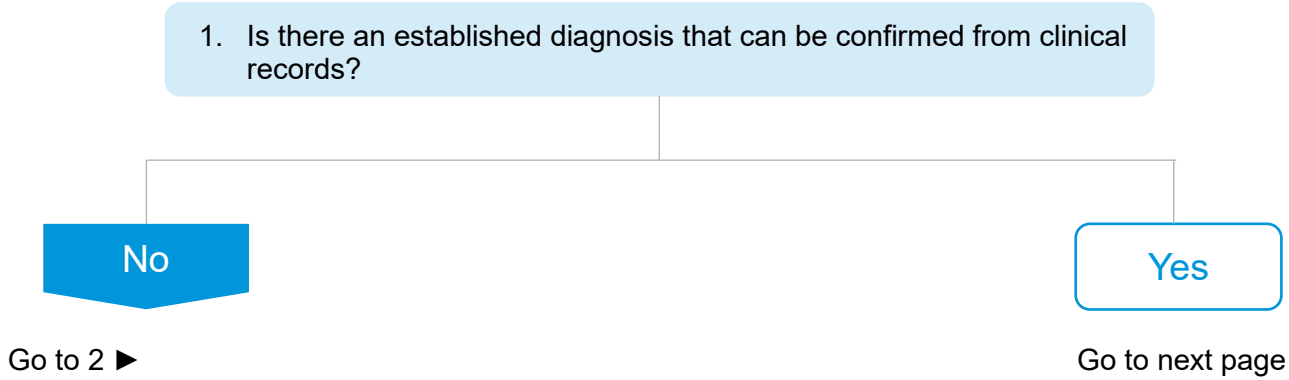
Diagnostic methods vary depending on the cause. Observation of an episode can be an important initial clue.

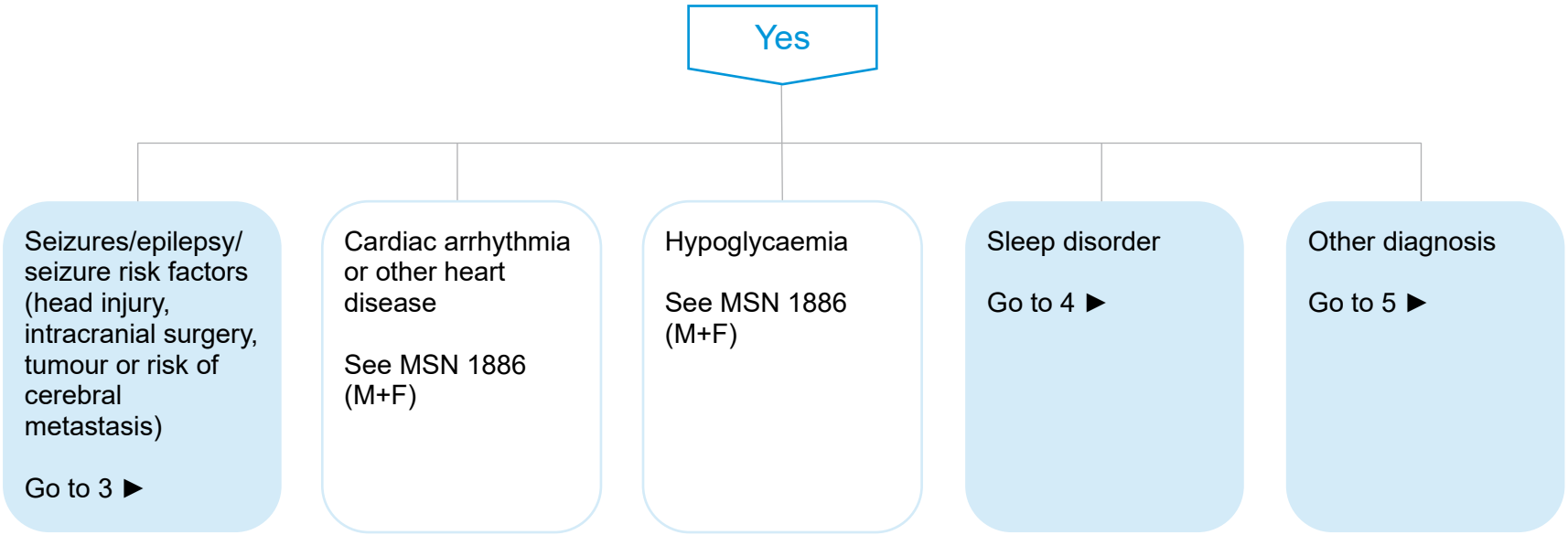
There is good prognostic data for recurrence rates in some conditions such as epilepsy and after a head injury.

Clinical assessment and decision taking

Note: Sometimes additional medical information is required from a specialist.

For assistance, refer to the question guide in Annex A: Templates for the request of additional medical information.




Yes
Seizures/epilepsy/ seizure risk factors (head injury, intracranial surgery, tumour or risk of cerebral metastasis)
Go to 3 ►
Cardiac arrhythmia or other heart disease
See MSN 1886 (M+F)
Hypoglycaemia
See MSN 1886 (M+F)
Sleep disorder
Go to 4 ►
Other diagnosis
Go to 5 ►

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

Go to next page

2a. Definite provocational 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 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 ►

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 significant 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 antiepileptic 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.
- 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 (EEG) 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. Intercurrent illness eg Norovirus and sea sickness can affect the efficacy of medication with a subsequent increase in the likelihood of a seizure.

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.

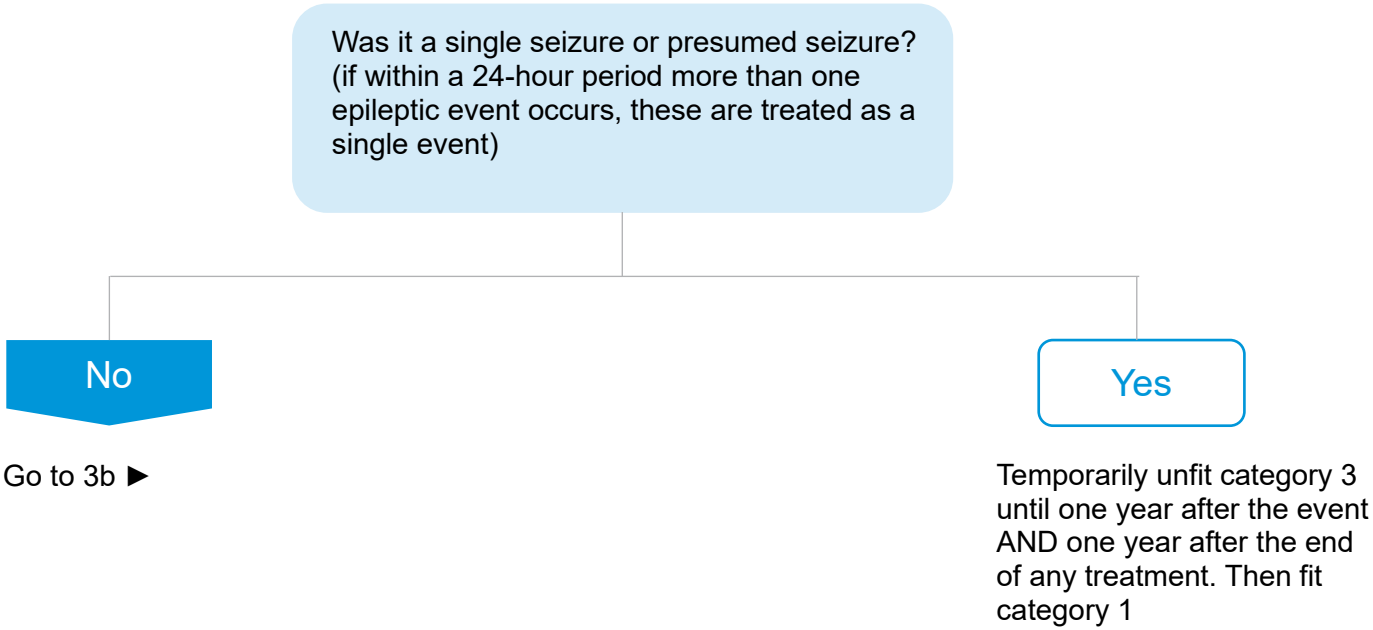
The <2% risk of seizure in the next year noted above is a level that fits well with current practice for safety critical work, that is used in other modes of transport and is not dissimilar to the levels used for risks of sudden incapacity from a cardiac event. The level used should be consistent for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

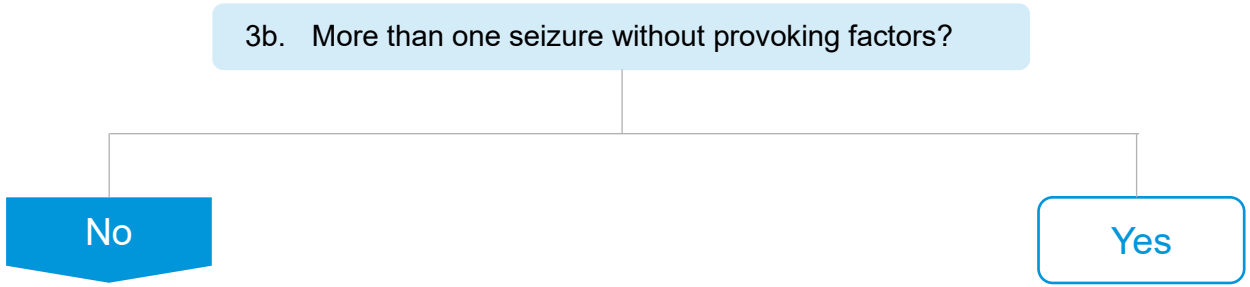
3. Seizures/epilepsy/seizure risk factors (head injury, intracranial surgery, tumour or risk of cerebral metastasis)

3a. For all seizures and suspect seizures on diagnosis

Temporarily unfit category 3 until investigated and treated

Go to next page

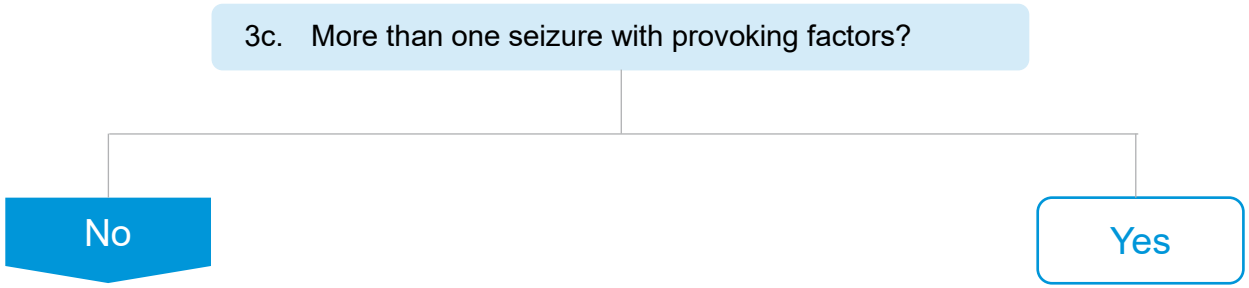

Was it a single seizure or presumed seizure? (if within a 24-hour period more than one epileptic event occurs, these are treated as a single event)
No
Go to 3b ►
Yes
Temporarily unfit category 3 until one year after the event AND one year after the end of any treatment. Then fit category 1



Go to 3c ►

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 and watchkeeping) if without seizures and not on any anti epilepsy medication for last ten years, provided there is no continuing liability to seizures



Risk factors only

Go to 3d ►

Temporarily unfit category 3 until at least one year of abstention 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.

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

Yes

Temporarily unfit category 3 for at least one year or more, until such time as seizure risk is less than 5% p.a based on advice from specialist.

Then restricted Category 2 UK near coastal waters and no lone watchkeeping provided the underlying condition does not restrict employment and no safety critical duties until seizure risk less than 2% p.a.

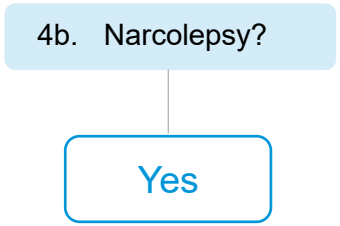
When less than 2% p.a. fit Category 1

4a. Obstructive sleep apnoea with daytime sleepiness (OSA syndrome) or if accompanied by another associated illness for which OSA is a risk factor?

Yes

Temporarily unfit category 3 until treatment initiated and demonstrably working effectively to prevent daytime sleepiness for three months. Confirmed compliance as demonstrated by CPAP download data and symptom control. Then fit time limited category 1 with six monthly assessments of compliance with CPAP use based on recording CPAP machine. Issue conditions letter stating that sufficient spares need to be carried to guarantee continuity of use in the event of a breakdown and that the Master is to be informed of requirements for continuing use at sea. Sleeping accommodation needs to be suitable for CPAP use without disturbance to other crew members and other crew members will need to be aware of the nature of the condition and the effectiveness of the treatment.

Please note that this standard should only be used for seafarers with Obstructive sleep apnoea syndrome, which is to say OSA with excessive sleepiness or those with other comorbidities for which OSA is considered a risk factor. Please be aware that it is possible to have non-sleepy OSA which does not require three months of treatment prior to granting a certificate of fitness. This should be discussed with the treating specialist to ensure that there are no other impairing problems. Please ask for CMA advice if necessary.



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.

Go to next page

4c. Somnambulism?

Yes

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

Go to next page

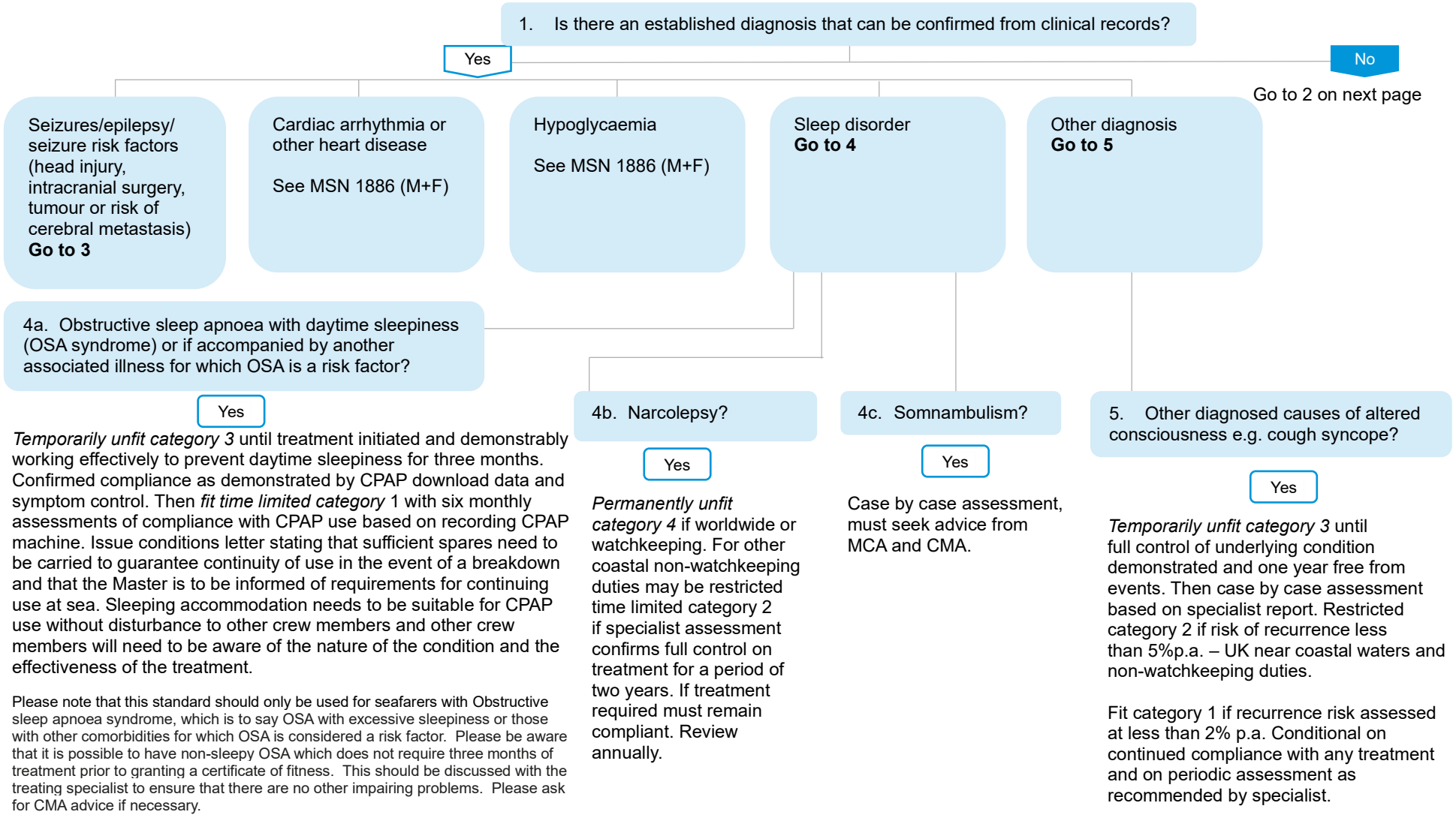
5. Other diagnosed causes of altered consciousness e.g. cough syncope?

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.

Summary of decision taking



Continues from previous page

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 provocational 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 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).

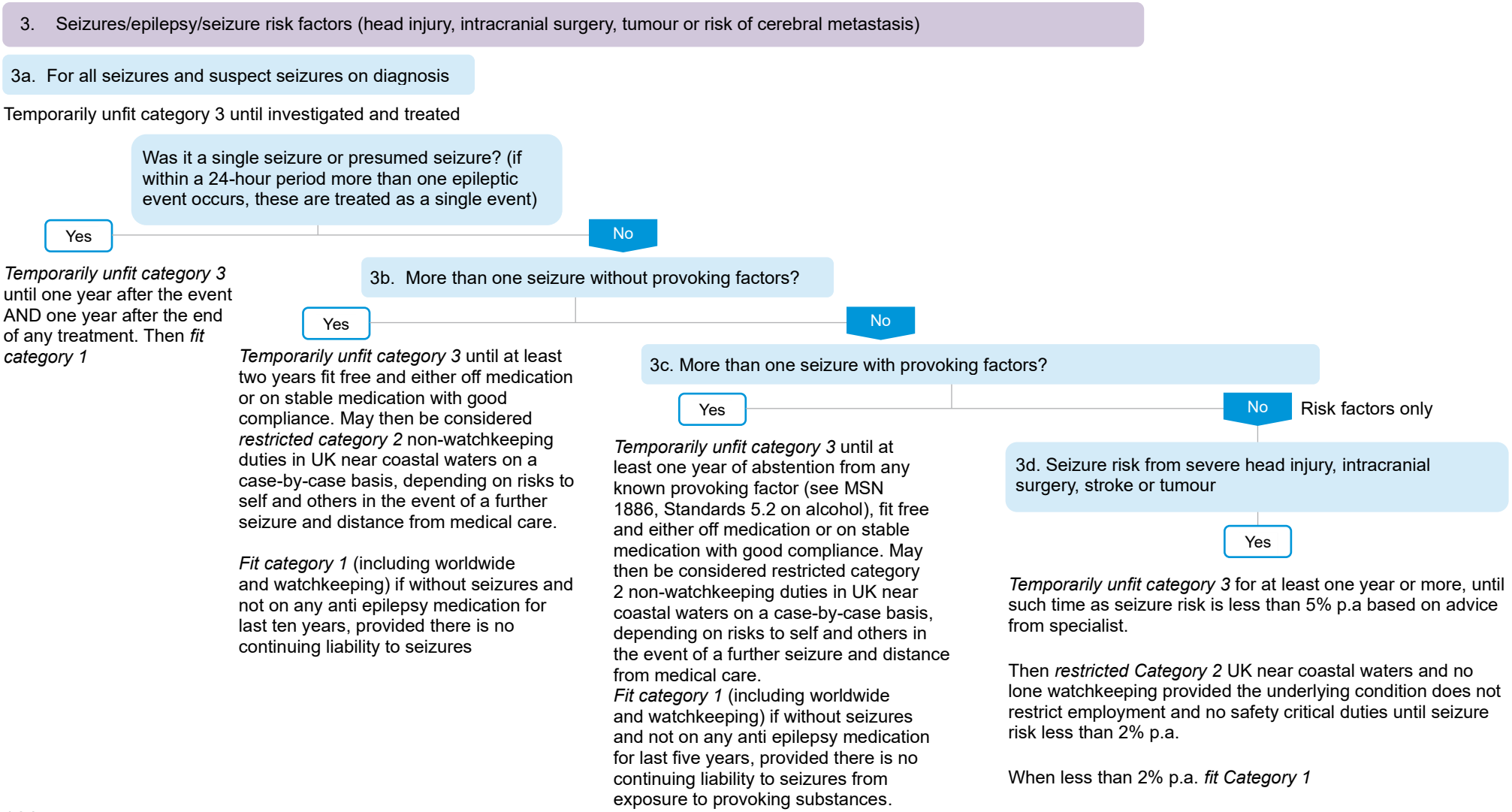
Markers: these are indicators and not absolutes

- 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

Continues from previous page



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 for example stroke, eye disease, or kidney damage, that may result 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 some 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. This may involve the seafarer being made temporarily unfit and asked to provide a series of home readings.

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 during the examination.

Note: Sometimes additional medical information is required from a specialist. For assistance, refer to the question guide in Annex A: Templates for the request of additional medical information.

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?

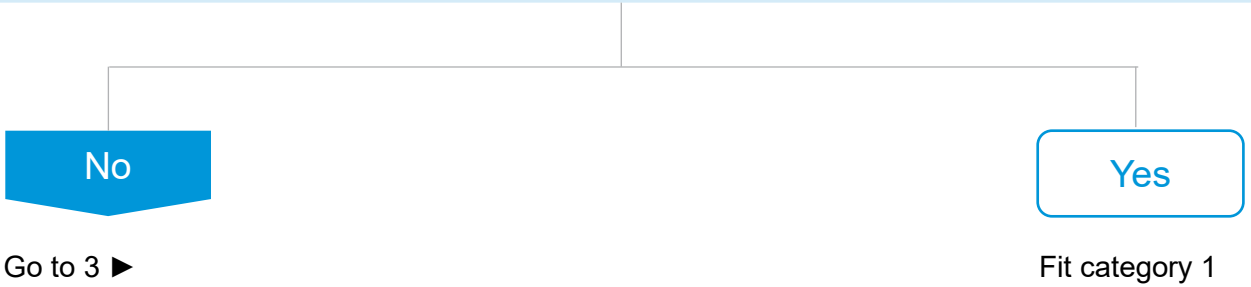


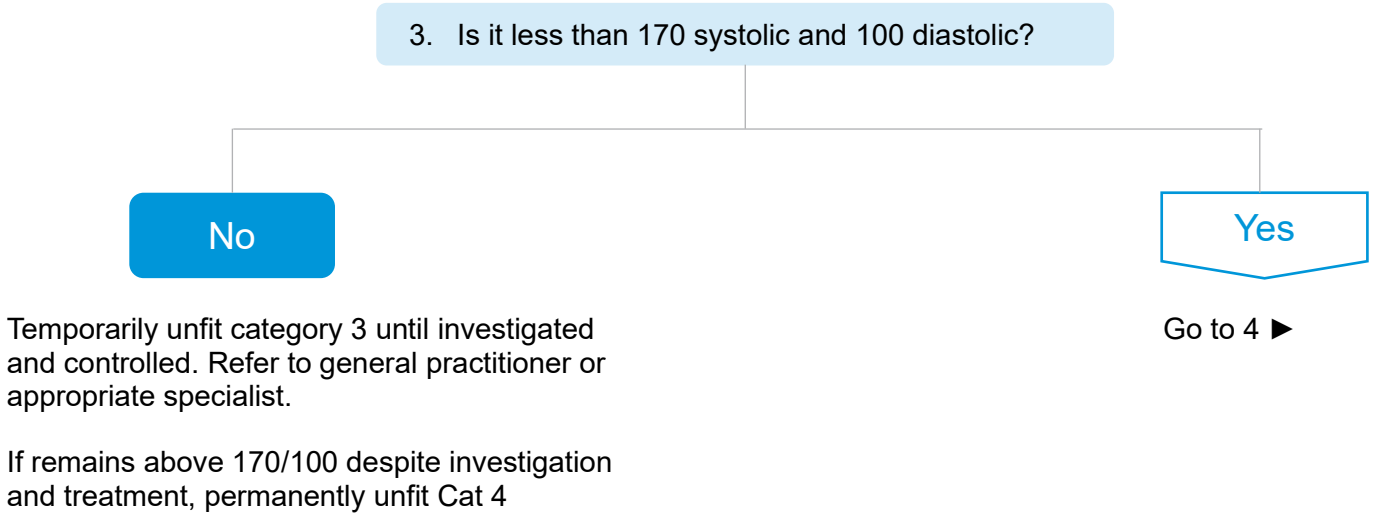
Go to 2 ►

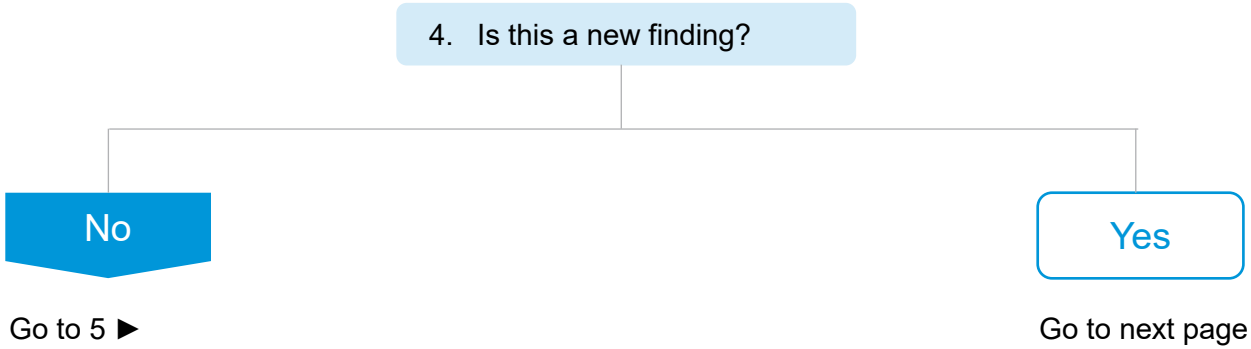
Fit category 1

2. Repeat reading not less than three times during 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.

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




3. Is it less than 170 systolic and 100 diastolic?
No
Yes
Temporarily unfit category 3 until investigated and controlled. Refer to general practitioner or appropriate specialist.
If remains above 170/100 despite investigation and treatment, permanently unfit Cat 4
Go to 4 ▶


4. Is this a new finding?
No
Yes
Go to 5 ▶
Go to next page

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 & Irish Hypertension Society: https://bihs.org.uk/) 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 blood pressure is more than 150/95 and/or 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.

5. Prior investigation and treatment?

Yes

Review history of investigation and treatment.

Temporarily unfit category 3 if thought to be inadequate and further investigation or changes to treatment required.

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

Summary of clinical assessment and decision taking

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?

Yes

Fit category 1

No

2. Repeat reading not less than three times during 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

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

Yes

Fit category 1

No

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

Yes

Go to next page

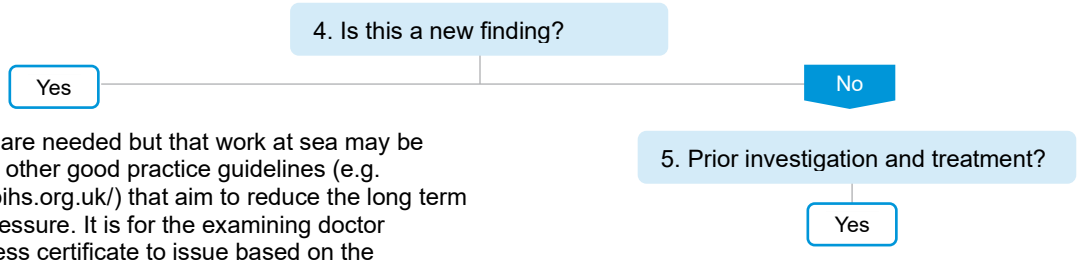
No

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

If remains above 170/100 despite investigation and treatment, permanently unfit Cat 4

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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 & Irish Hypertension Society: https://bihs.org.uk/) 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 blood pressure is more than 150/95 and/or 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.

Review history of investigation and treatment.

Temporarily unfit category 3 if thought to be inadequate and further investigation or changes to treatment required.

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

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 common 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.

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.
- Previous mortality studies have shown that sudden death that was subsequently attributed to cardiac causes was the predominant non-accidental cause of death (>80%) while at sea.

Sudden death whilst driving a vehicle

- 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 an 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 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 because 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.

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 the heart as

needed? Particularly relevant to ability to undertake routine 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 an 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 e.g. intermittent claudication 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 the individual's home country. These 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 and validity period of any medical certificate indicated.

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 more 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.

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 and 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 or 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.

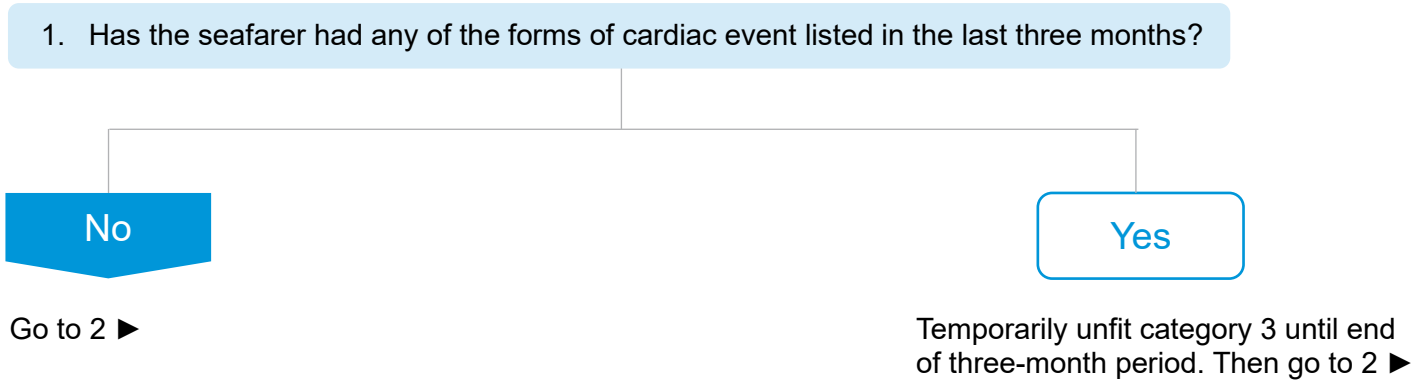
Advice to seafarers
Advice on prevention of recurrence needs to be given and recorded. This may include the need for risk factor screening (weight, smoking, blood pressure, lipids, exercise, diet, diabetes), dietary advice and lifestyle advice including the recommendation to cease smoking.

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 recertification.

Decision taking

Note: Sometimes additional medical information is required from a specialist.

For assistance, refer to the question guide in Annex A: Templates for the request of additional medical information.



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 (1) needs to be completed to stage 3 (nine minutes) without ECG evidence of ischaemic change. 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 the CMA. Repeat assessments must be made every three years.



Go to 3 ►

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, and should remain free from signs of cardiovascular dysfunction, i.e. 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 cardiological opinion.

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. the test may be omitted. You may wish to seek advice from the CMA.
- the seafarer must be taking steps to control risk factors.

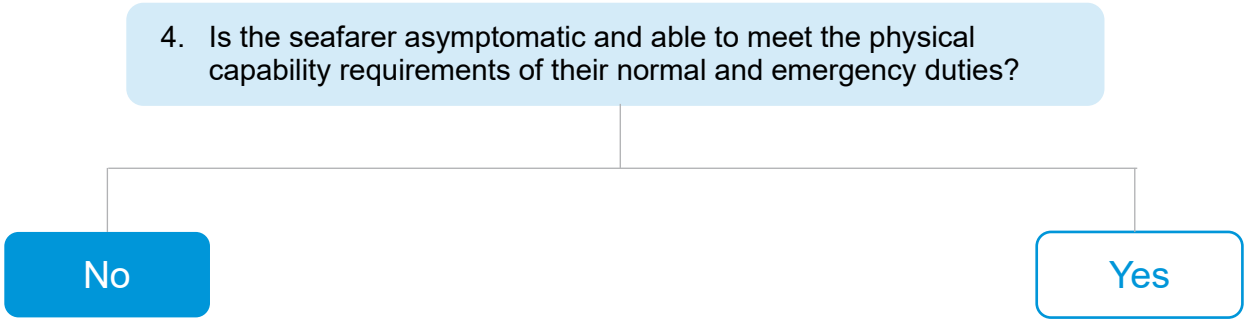
No

Go to 4 ►

Yes

Restricted time limited category 2. No lone working or solo bridge watchkeeping duties. Either UK near coastal waters only or Fit for service only on vessels with a 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).



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.

Case-by-case assessment of ability to undertake non-lone working or no solo watchkeeping duties. Restricted time limited category 2 on local coastal vessels up to 20 nautical miles from the UK coast, unless working on a ship with a ship's doctor with annual review if considered to be capable. A restriction to 'Current role, current employer' may be appropriate.

Summary of decision taking

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 (1) needs to be completed to stage 3 (nine minutes) without ECG evidence of ischaemic change. 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 the CMA. Repeat assessments must be made every three years.

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 the CMA.
- the seafarer must be taking steps to control risk factors.

Yes

Restricted time limited category 2.
No lone working or solo bridge watchkeeping duties. Either UK near coastal waters only or Fit for service only on vessels with a 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).

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 or no solo watchkeeping duties. Restricted *time limited category 2* on local coastal vessels up to 20 nautical miles from the UK coast, unless working on a ship with a ship's doctor with annual review if considered to be capable. A restriction to 'Current role, current employer' may be appropriate.

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.

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 teenage 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.
- A diagnosis of asthma is very common in children. However, although more than 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 (often now an inhaled corticosteroid containing controller therapy) and with only occasional use of supplementary anti-inflammatory reliever therapy/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.

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 are 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 considered. Less specific inducers such as cold, exercise and respiratory infection also need to be noted. 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 controlled by reliever therapy .
- **Mild asthma** – frequent episodes of wheezing requiring use of reliever therapy or the introduction of maintenance therapy. Regular use of a maintenance therapy may effectively eliminate symptoms and the need for more than occasional use of a 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 maintenance inhalers, reliever inhalers used prior to or during exercise or by oral medication.
- **Moderate asthma** – frequent episodes of wheezing despite regular use of maintenance treatment requiring continued use of frequent reliever therapy 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.

- **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 nebulisers or injected bronchodilators needed.

  If steroids have been given as a precautionary measure when a known asthmatic has a respiratory tract infection 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 maintenance, are they taken regularly or only from time to time? If reliever therapy is used to relieve episodes of bronchospasm how frequently is it required? Prescribing data from the GP may give useful additional information on inhaler use and the number of doses for each type of inhaler is written on many.

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 and inform their Approved Doctor.

- **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.

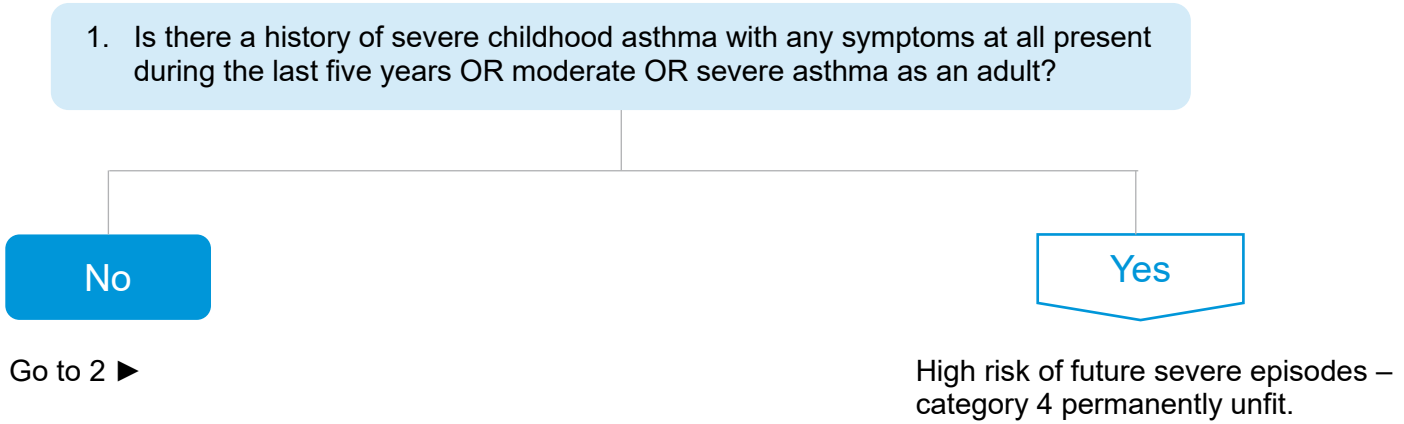
- **How secure is the diagnostic information?** An applicant who is concerned that asthma may have an adverse effect on the issue of a certificate is likely to minimise the severity of their condition and to overstate the effectiveness with which it is controlled. If the pattern of the condition and 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. 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.

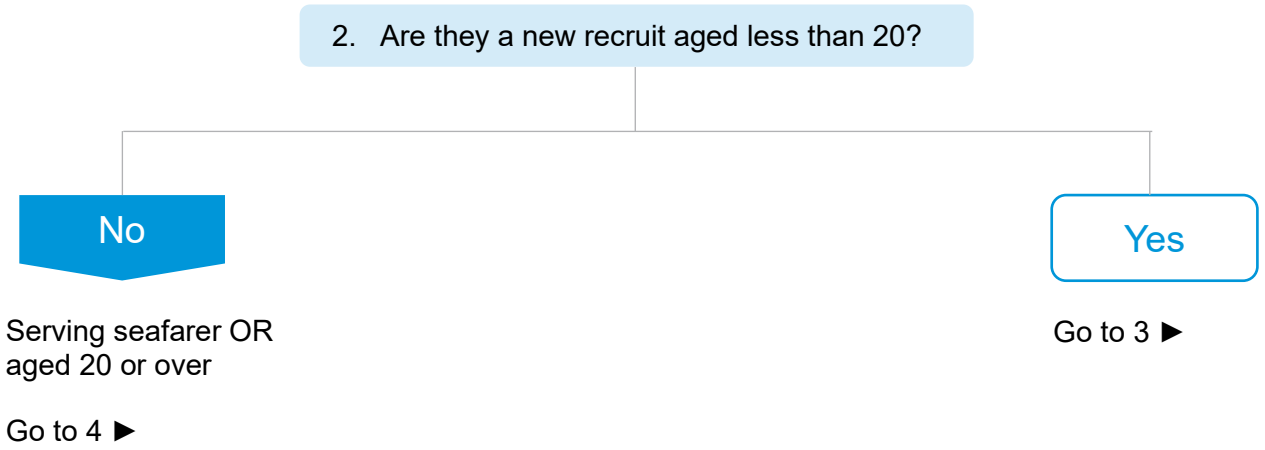
Note: If an occupational cause for asthma that is present in the person's current pattern of employment is found it is important that the ship operator is made aware of this, this may be directly with the consent of the individual or by informing the MCA of the details of the case and providing contact 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.

Decision taking

For all new to sea candidates who have a current or recent diagnosis of asthma and use of inhalers, a medical report should be requested.

For assistance, refer to the question guide in Annex A: Templates for the request of additional medical information.




2. Are they a new recruit aged less than 20?
No
Yes
Serving seafarer OR aged 20 or over
Go to 4 ▶
Go to 3 ▶

3. Is there a history of mild or moderate childhood asthma AND person does not currently need to use 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?



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.

Low risk of severe recurrence – category 1 fit.

4. Is there a history of mild or exercise-induced asthma as an adult that is fully controlled by the regular use of maintenance therapy and/or by occasional use of reliever therapy on not more than two days a month or only in relation to extreme and exceptional exercise?

No

Go to 5 ►

Yes

Low risk of severe recurrences – category 1 fit

5. Is there a history of moderate asthma as an adult but with good control using regular treatment with either maintenance 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?

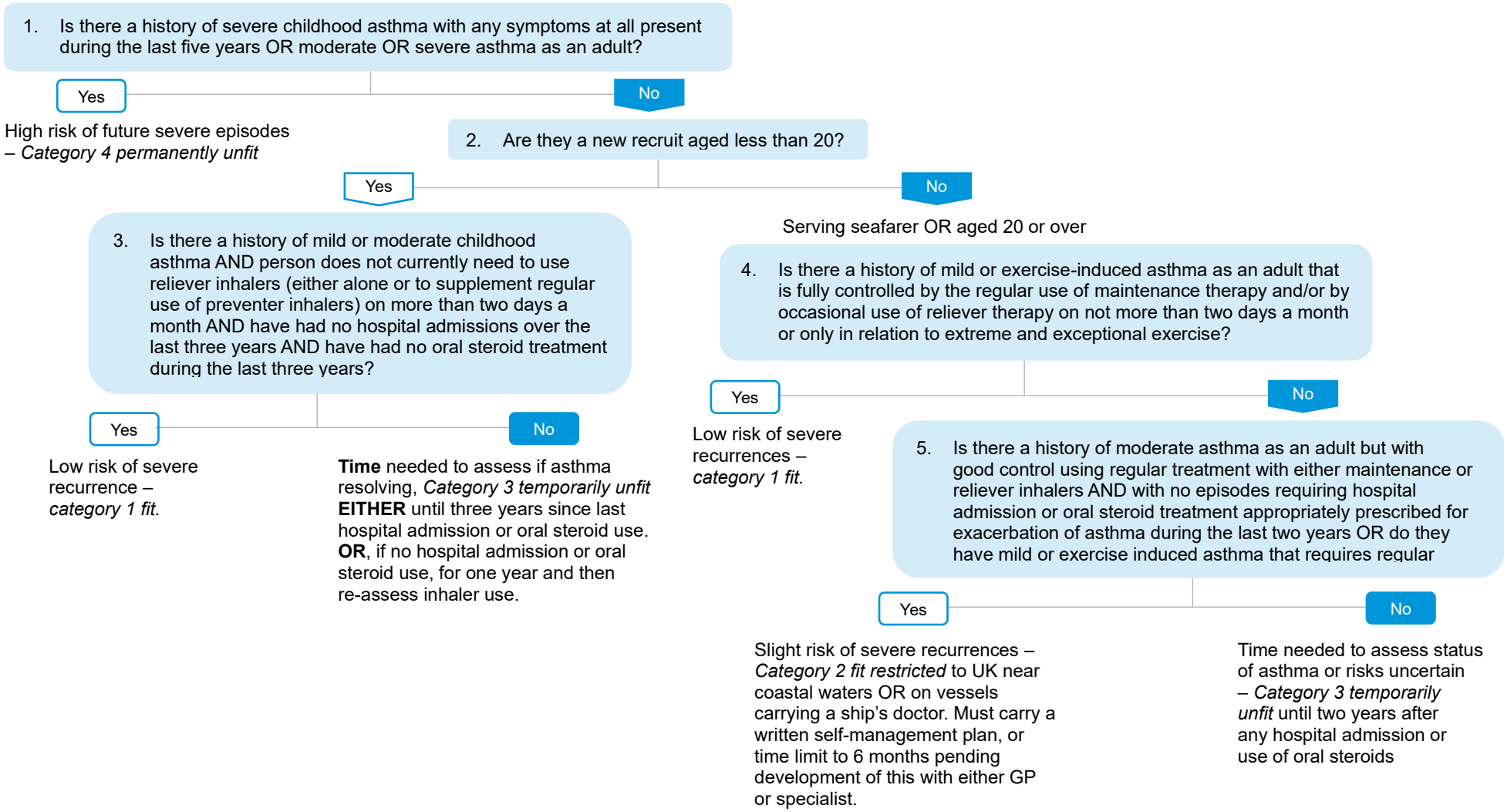


Time needed to assess status of asthma or risks uncertain – Category 3 temporarily unfit until two years after any hospital admission or use of oral steroids.



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.

Summary of decision taking



ADG 11
Dental inspection

Impairment and risks
Severe dental pain is a common cause of medical emergencies at sea and 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 potential 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. Dental issues remain the most common reason for a ship to request telemedical advice and the highest cost medical condition for shipping companies and insurers.
- 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.
- Dental issues can lead to pain, swelling, weight loss and communication difficulties
- The effects can include discomfort, a reduced quality of life, decreased socialising and behavioural issues.

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. An assessment tool that may be useful can be found here

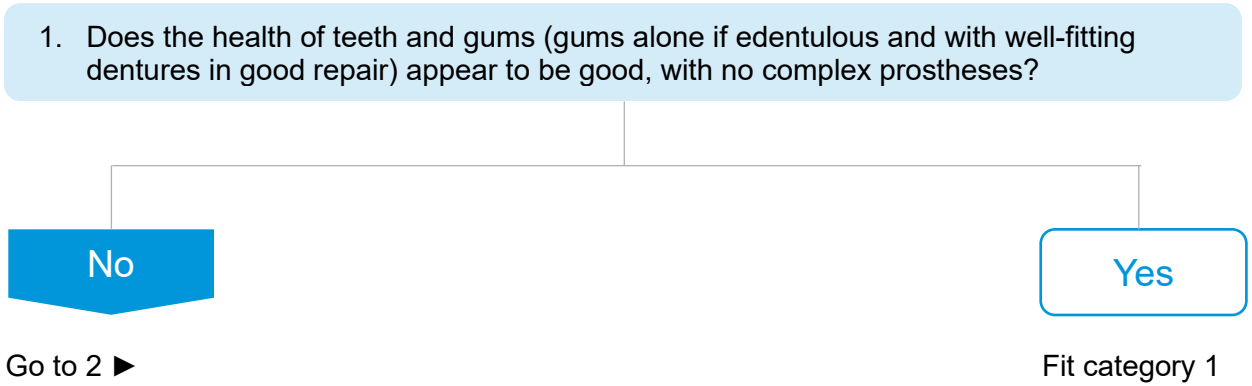
- A healthy mouth includes
    - Teeth are clean.
    - The tooth surface is free of decay.
    - Gums are pink.
    - Soft tissues are pink and moist.

- 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.

Decision-taking

Note: Sometimes additional medical information is required from a specialist.

For assistance, refer to the question guide in Annex A: Templates for the request of additional medical information.



2. Has the seafarer had a dental check-up in the last year, had any recommended treatment completed and has 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).



Go to 3 ►

Fit category 1

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

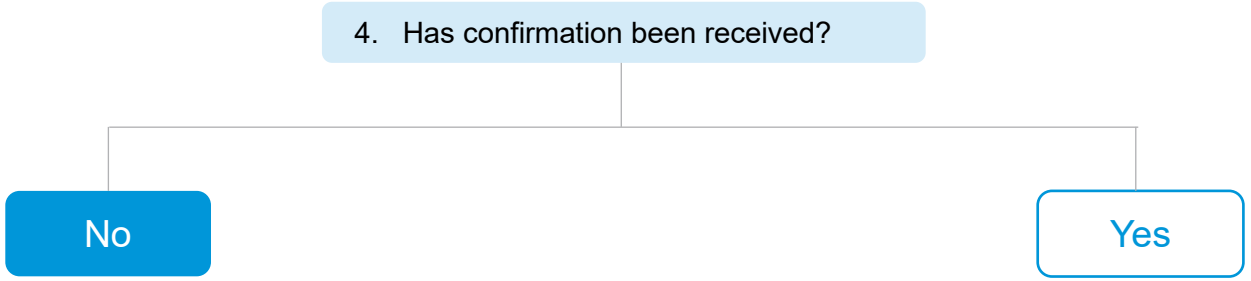
Temporarily unfit category 3. Inform the seafarer that they need to consult with a dentist prior to issue of certificate:

- 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.

Go to 4 ►

Yes

Restricted category 2. Limited to work on specified duties that meet these criteria. Advise on need for dental assessment and give a time limitation to check that treatment obtained



Temporarily unfit category 3 if resolution anticipated.
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.

Fit category 1

Summary of decision-taking

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 has 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 give a 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. 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.

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 assessments 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.

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

Assessment and decision taking

Note: Sometimes additional medical information is required from a specialist.

For assistance, refer to the question guide in Annex A: Templates for the request of additional medical information.

Haematuria

Trace haematuria may be considered negative and does not need to be investigated

1. Is there a single test result + in the absence of symptoms of infection or a history of renal colic and no other abnormality on testing? Unless negative dipstick result for leucocytes and nitrites, arrange culture for infection. This may be either done by the AD or by a GP. Repeat testing then normal and no infection.

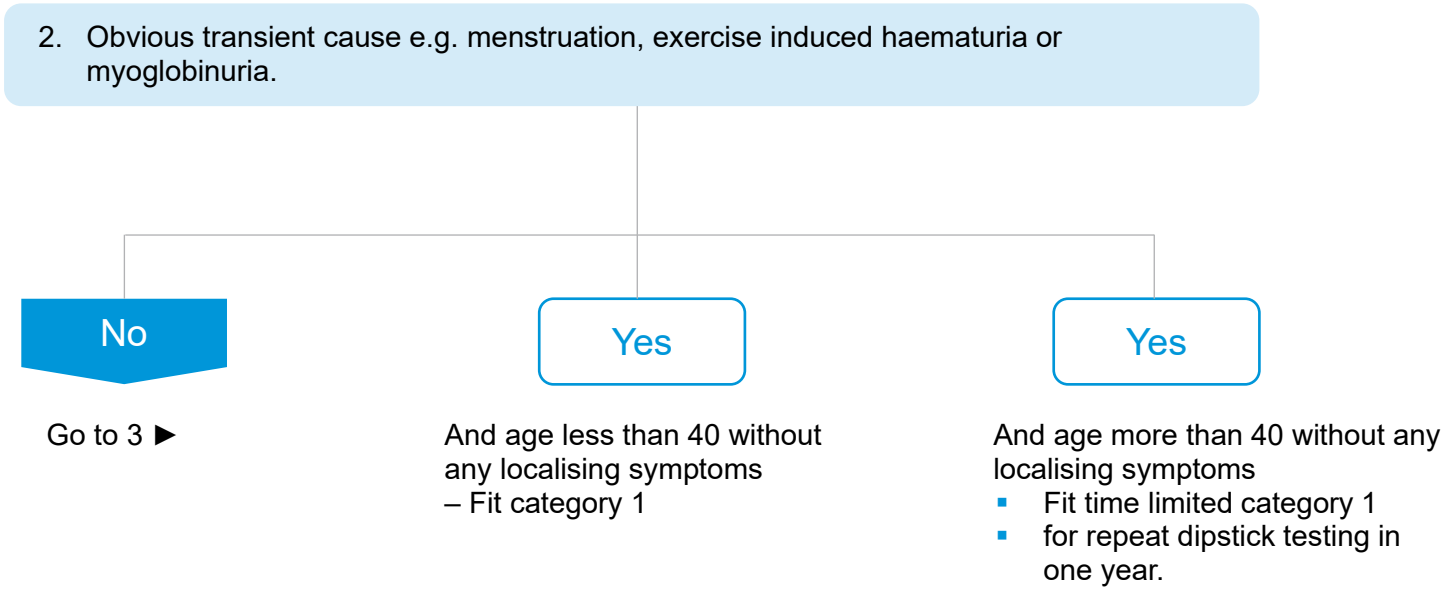


Symptoms, history of renal colic, more than one positive sample or result ++ or more

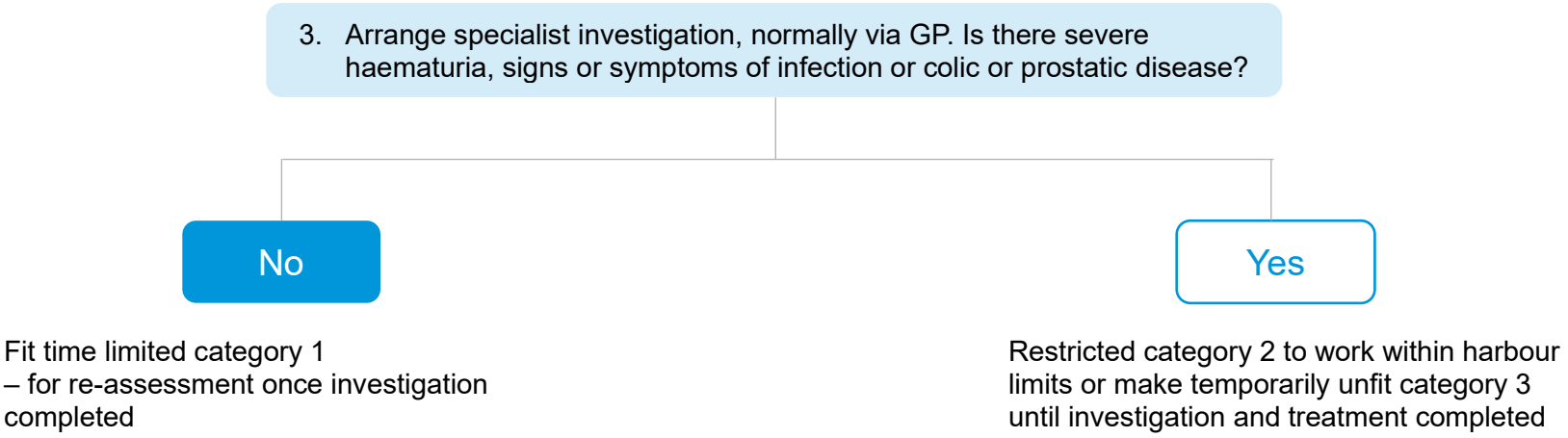
Go to 2 ►

Fit category 1

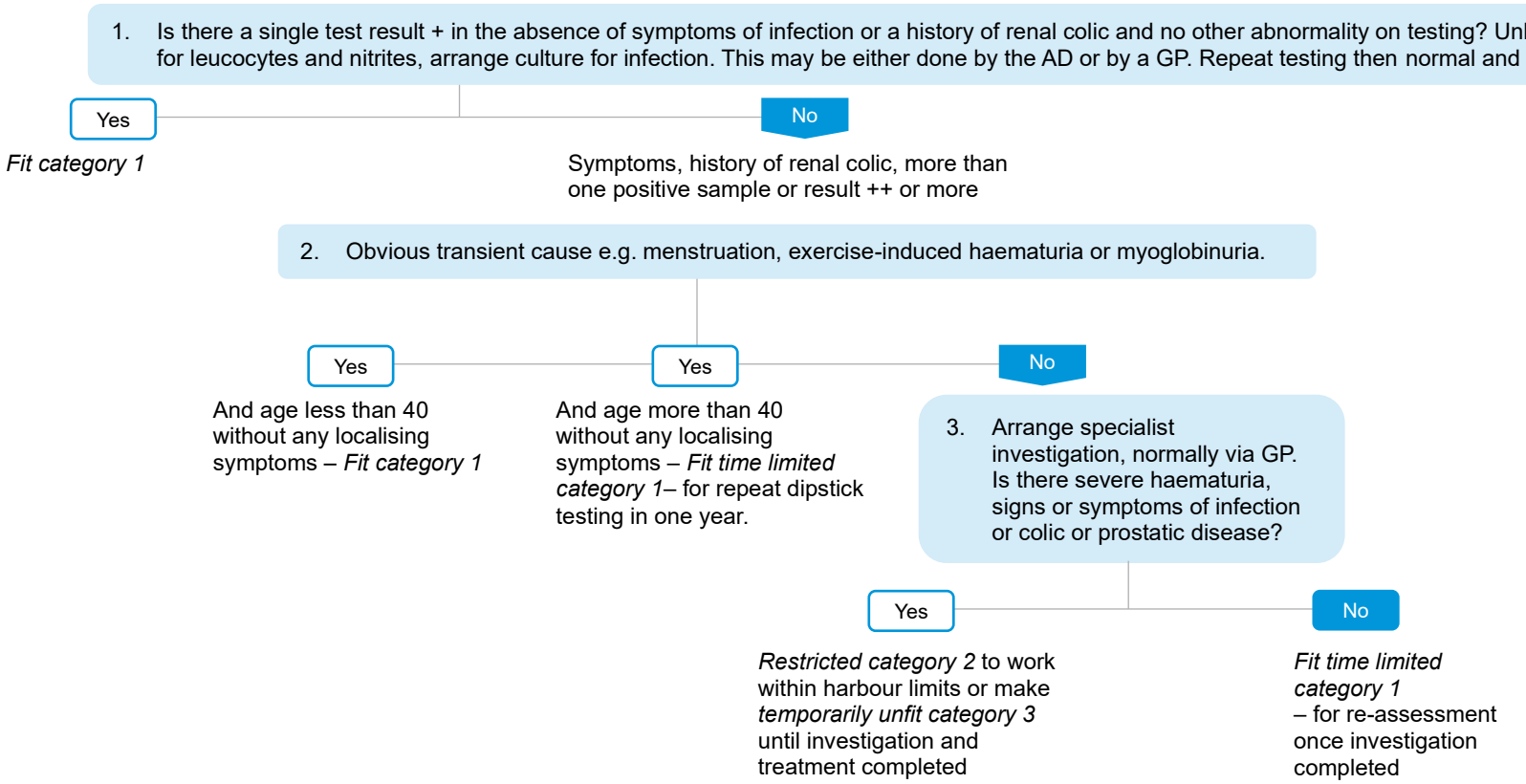
Haematuria


2. Obvious transient cause e.g. menstruation, exercise induced haematuria or myoglobinuria.
No
Yes
Yes
Go to 3 ►
And age less than 40 without any localising symptoms – Fit category 1
And age more than 40 without any localising symptoms
Fit time limited category 1
for repeat dipstick testing in one year.

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

Summary of assessment and decision taking: Urology - Haematuria



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.

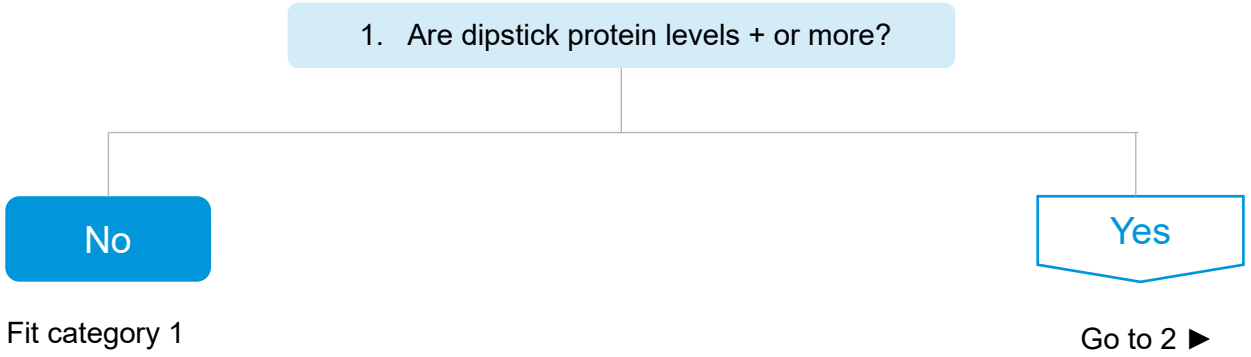
- Progression from minor degrees of kidney impairment to serious kidney disease that could lead to an emergency at sea does not always occur and when it does it normally takes place over a period of several years. Progression can be monitored.

Assessment and decision taking

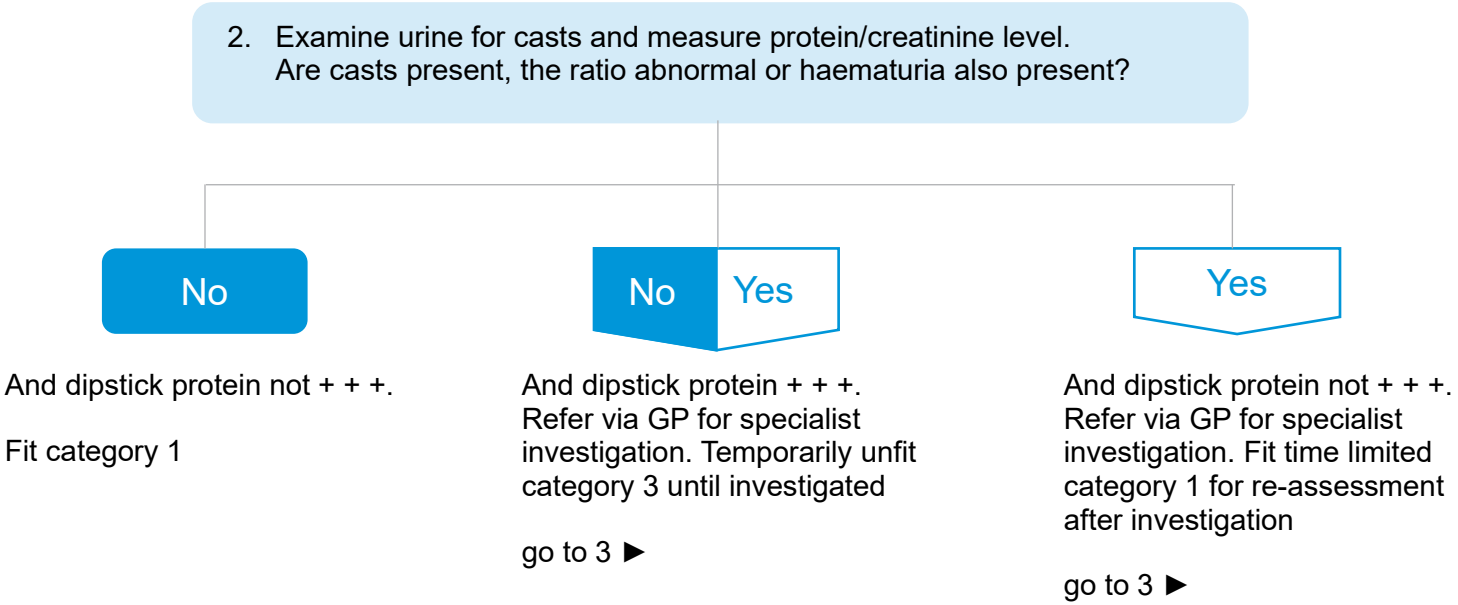
Note: Sometimes additional medical information is required from a specialist.

For assistance, refer to the question guide in Annex A: Templates for the request of additional medical information.

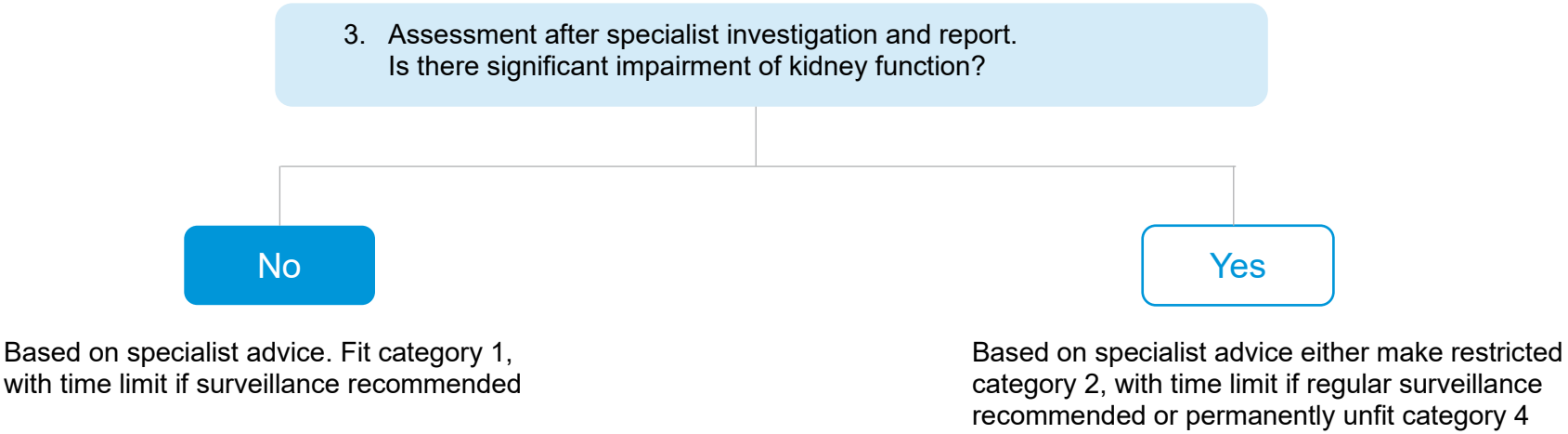
Proteinuria



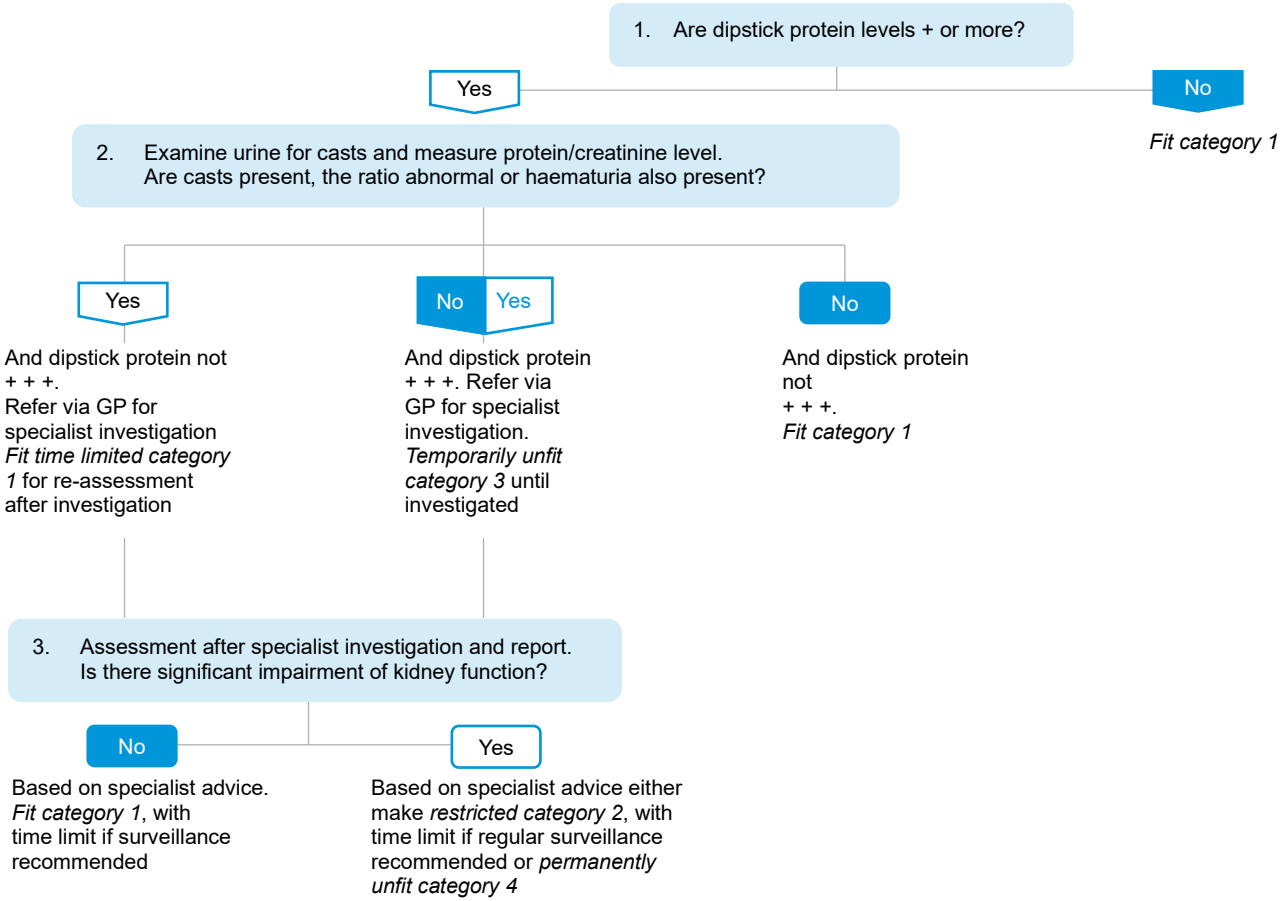
Proteinuria



Proteinuria



Summary of assessment and decision taking: Urology - Proteinuria



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.

Assessment and decision taking

Note: Sometimes additional medical information is required from a specialist.

For assistance, refer to the question guide in Annex A: Templates for the request of additional medical information.

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 s 3.2 – 3.4 for details of investigations needed.
Temporarily unfit category 3 Re-assess after investigation and treatment.

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.

The aim of the hearing test as part of the ENG medical examination is not to require perfect hearing but the functional capability to meet the safety critical job requirements and hear alarms. Local risk assessment may need to be performed to determine suitability for proposed duties.

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 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. These are not part of the statutory medical examination and should be arranged by their employer.

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.

- 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. Therefore, if there is evidence of testing within the ten years prior to the date of examination, testing need not be repeated unless a hearing loss is suspected and the hearing test will still be in date until the expiry date of the last ENG1 certificate.

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 3.14).

No other testing methods should be used to assess hearing in seafarers

c) Documentation of hearing

Evidence that hearing meets the required standards may come from:

- a test date given on the ENG 1 certificate that is being withdrawn;
- documentation of a test and its result at a previous examination in ADIS; 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 should be entered into ADIS either as identified from records or as performed during the current medical, along with the result (in dB of hearing loss in the better ear or 'not impaired etc'), and any relevant documents uploaded into ADIS.

If the seafarer has had a previous seafarer's medical certificate, and associated hearing test from another flag state, this can be used as evidence of hearing if the certificate is from a country whose medical certificate is accepted on UK flagged vessel as per MSN 1805. Certificates from countries not on this list should not be accepted as proof of hearing and a hearing test should be performed at the ENG examination.

Testing

a) Audiometry
Hearing should be calculated by taking the averages of the hearing loss at frequencies 500, 1000, 2000, 3000 Hz in each ear separately and the loss in the better ear documented in ADIS. A loss greater than 30dB in the better ear indicates that there are likely to be problems with hearing normal speech at a distance of 2-3 metres.

b) 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.

The MCA accepts the RNID online hearing test that can be accessed at https://rnid.org.uk/information-and-support/take-online-hearing-check/ or direct from the link in ADIS. Alternatively, the HearWHO test can be used: https://www.who.int/teams/noncommunicable-diseases/sensory-functions-disability-and-rehabilitation/hearwho.

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 unimpaired, possibly impaired or definitely impaired.

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.

c) The whisper test
This test is no longer acceptable as a means of assessment and should not be used at the ENG medical.

d) 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, but this should not usually affect the fitness decision. However it may be relevant when advising on future career options.

e) 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. **That is the standards required for aided hearing are the same as those for unaided hearing.**

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 must 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.

f) Testing of aided hearing

Testing of those who wear a hearing aid is complex.

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. The result should confirm that the seafarer's aided hearing meets the standard of hearing loss less than 30dB (averages of 500-3000 Hz) in the better ear or both ears together. This should be done with free filed testing as audiometry using headphones or audio cups is not advisable for those with hearing aids as it is unreliable.

Alternatively, they should state if the aided hearing is 'unimpaired' or 'possibly impaired' on a speech recognition test. Comments such as 'much improved', 'only mild hearing loss' or 'adequate for speech in a quiet environment' are not sufficient to demonstrate hearing appropriate for hearing alarms and being able to communicate clearly in a shipboard environment.

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 Therefore testing may need to be done by NHS services or privately when usually a free field aided audiogram and free field aided speech audiogram will be performed. Please note that before audiological testing in a seafarer with hearing aids, please ensure that the Real Ear Measurement (REM) has been performed and optimised. This is standard within the NHS but may not be done routinely within the private sector.'

If other testing methods are used, a report stating that the seafarer meets the required MCA standards must be obtained and uploaded to ADIS.

If such audiological assessment is not provided, testing by the AD should be possible using the speech recognition test (with speakers rather than headphones). This 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.

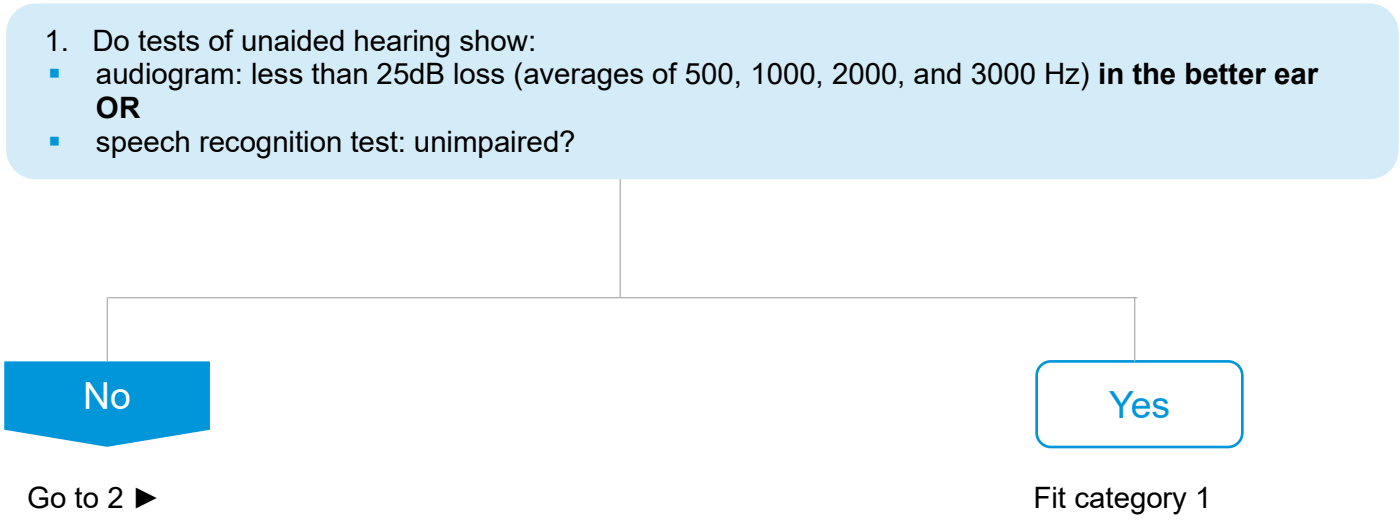
It may be possible for those who do not meet the standard to be made fit if the employer is able to do a risk assessment with respect to ability to hear speech and alarms on board. See note on page 224.

The testing of aided hearing should be repeated in line with the manufacturer's guidelines for the hearing aid, as clinically indicated or every 10 years, whichever is soonest.

Decision taking – Hearing, ear disease, disorders of speech and communication

Note: Sometimes additional medical information is required from a specialist.

For assistance, refer to the question guide in Annex A: Templates for the request of additional medical information.



2. Do tests of unaided hearing show:
- audiogram: between 25 and 30dB loss (averages of 500, 1000, 2000, and 3000 Hz) in the better ear **OR**
- speech recognition test: possibly impaired?

No

Go to 3 ►

Yes

Fit category 1 but assessment by audiologist recommended **prior to next medical** and to have repeat hearing assessment at every medical

3. Do tests of unaided hearing show:
   - audiogram: more than 30dB loss (averages of 500, 1000, 2000, and 3000 Hz) in the better ear **OR**
   - speech recognition test: definitely impaired?

Is a hearing aid used?

No

Temporarily unfit category 3, refer to audiologist for assessment and then reconsider based on outcome. If loss not remediable (including with 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 224.

Yes

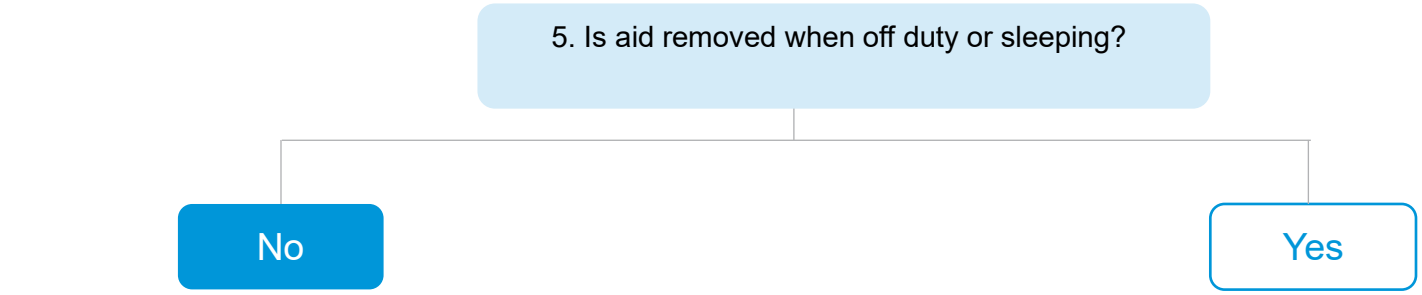
Go to 4 ▶

4. Do tests of hearing using the hearing aid show:
- audiometry: hearing loss less than 30dB loss (averages of 500, 1000, 2000, and 3000 Hz) **OR**
- speech recognition test: unimpaired or possibly impaired?



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-watch keeping staff on UK near coastal vessels. See note on page 224.

Go to 5 ▶



Fit category 1, for repeat evaluation at each medical

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

Note:
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 is required and should state:

- Information on the level of the emergency alarm is available, and an audiogram shows that hearing is adequate to be aroused by it OR

- A practical test on board the vessel where the person works has been undertaken OR

- The employer undertakes to make alternative arrangements to arouse the seafarer in the event of an emergency.

On receipt of this risk assessment a certificate restricted to work on that vessel may be issued, with no watchkeeping and in UK Near Coastal waters.

Noise-induced hearing loss
See MCA advice in MGN 658 (M+F) on the Merchant Shipping and Fishing Vessels (Control of Noise at Work) Regulations 2007. 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 directly, but only with the individual's consent. Alternatively, they should inform the MCA, with details of the vessel.

Summary of decision taking

1. Do tests of unaided hearing show:
   - audiogram: less than 25dB loss (averages of 500, 1000, 2000, and 3000 Hz) **in the better ear** **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, 1000, 2000, and 3000 Hz) **in the better ear** **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. Do tests of unaided hearing show:
   - audiogram: more than 30dB loss (averages of 500, 1000, 2000, and 3000 Hz) in the better ear **OR**
   - speech recognition test: definitely impaired?

Is a hearing aid used?

No → *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 224

Yes →

4. Do tests of hearing using the hearing aid show:
   - audiometry: hearing loss less than 30dB loss (averages of 500, 1000, 2000, and 3000 Hz) **OR**
   - speech recognition test: unimpaired or possibly impaired?

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 224

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 evaluation at each medical.

ADG 14
Vision, colour 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 coordination 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 using 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

- 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 nighttime lookout duties. The use of tinted or photochromic lenses in spectacles can further impair dark adaptation. There is 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. Sometimes 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.

Vision testing

Background
All seafarers are required to meet the agreed eyesight standards as specified in the medical and eyesight standards (See MSN 1886 Appendix 1 to Annex A and 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 decision tree 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.

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.

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.

The tick box on the decision tree 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 (or CAD test if supplementary testing undertaken) should be certificated not fit for lookout, even if they have passed the engineer supplementary tests. Equally, any seafarer who meets the visual acuity standard for their role (engineer or other) but who does not meet the higher visual acuity standards for deck should be marked as not fit for lookout duty on the decision tree.

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. In addition, if they have a medical condition that can lead to a decrease in visual acuity that may shorten their career at sea, appropriate counselling should be undertaken.

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. If further doubt persists that a seafarer meets the required standard the seafarer should be referred for formal testing with an optician. This should certainly be requested before a seafarer is made permanently unfit.

Any seafarer who requires visual aids to meet the aided acuity standard must use them when at work and must have spare glasses or contact lenses (that meet the current prescription) with them on board at all times. 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 decision tree 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 but a conditions letter could be issued.

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.

Visual acuity

The Snellen test type for distance vision should be used and in order to ‘pass’ a line on the Snellen chart a seafarer must correctly identify at least half of the letters on that line.

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 in Snellen notation e.g. 6/6, 6/12.

Vision is safety critical and therefore where there is any doubt as to a seafarer’s visual acuity, particularly for seafarers very close to the standards, the seafarer should be referred to an optician for formal assessment.

The test type should be either on an internally illuminated chart or externally illuminated chart either by daylight or by artificial illumination. Lighting should be uniform and free from reflections and there should be no shadows on the chart. The test should be done at a measured distance (clearly marked on the floor) 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. A visual occluder or piece of card should be used to cover the other eye, not the seafarer’s hand or fist as this can allow cheating and affect visual acuity when that eye is tested. Testing should be carried out without glasses or contact lenses first and then 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 decision making if visual acuity does not meet the required standards.

Colour vision

Initial testing
The AD must ensure that the seafarer meets the required colour vision standards. To comply with international guidelines, testing for all seafarers should be done with the standard F24 or 38 plate Ishihara book and all new-to-sea applicants must be tested by the AD themselves. Some screen-based tests for colour vision are now available, however, to ensure consistency, ADs should continue to use the Ishihara book. Testing must be carried out at every medical examination and with good illumination, ideally in daylight or with daylight fluorescent lighting. Incandescent lighting is unsuitable because of its colour balance. If a room with good daylight is not available, then an alternative location should be identified and the seafarer retested in cases where the result is borderline.

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. Aids to colour vision e.g. red-tinted x-chroma, chromas lenses and chromagen lenses are not permitted as these cannot always be worn on board and are not confirmed to be effective in all light conditions.

When testing a seafarer for the first time, special care must be exercised to ensure that the test is properly conducted. As above, testing in new to sea applicants should always be done by the AD although it may be delegated at subsequent examinations. An inappropriate pass causes major problems for the seafarer and their employer if detected at a subsequent medical. An inappropriate fail can wrongly end a seafarer's career before it is started.

The Ishihara test is an effective screening test but where supplementary testing 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 look out duties. Therefore, if their colour vision is defective they 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 or to maintain and repair them. Lantern tests conducted at 2 miles 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.

Testing must be carried out at one of the MCA's approved CAD testing centres as only they have access to the required plates and the accepted certificate. Tests done at other centres will not be accepted. See MSN 1886 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 may be issued a suitably restricted ENG 1 after the medical examination or may be issued an ENG3 making them temporarily unfit pending further assessment.

For new entrants to deck officer cadetships or those seeking a ratings certification, where restricted duties are impractical because the full range of training cannot be carried out, those with defects confirmed on supplementary testing should be made permanently unfit but advised of the different roles for which they may be able to apply.

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 decision tree related to colour vision deficiency should be marked 'yes' and the question 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 be explained.

If the seafarer provides evidence that they already hold an MCA Certificate of Competency, then a certificate restricted to "Not fit for lookout duties at night" should be issued or the case discussed 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.

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 CAD test. Results over recent years show an average pass rate of less than 5% and this is largely for those who have failed less than 5 plates.

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 and a report should be requested from the provider confirming this. A report that simply states 'pass' is not acceptable.

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.

A seafarer who is referred for a Farnsworth D15 or City University test may be issued a suitably restricted ENG 1 after the medical examination or may be issued an ENG3 making them temporarily unfit pending further assessment.

Test results, deck and engine
The quantitative results rather than a statement of pass/fail should be recorded in the examination records and the test certificate or report uploaded to ADIS, so it is available at subsequent medicals. Clear pass results should normally be considered valid for the duration of the seafarer's career.

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
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. Please issue an ENG1 with the appropriate restrictions based on your findings and contact MCA to discuss. 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.

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 decision tree must be completed appropriately.

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, 'better' eye fully meets the standards required for the duties performed. However, it is not acceptable for any new entrant to 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.

Individuals with monocular vision who hold a Yachtmaster Offshore or Yachtmaster Ocean certificate, can gain a commercial endorsement. They should **never** be considered fit 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. Please seek CMA advice.

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, as has been defined in onshore court cases. This may be expressed, for instance, by avoiding (as appropriate) work with strong alkalis, or with power tools that create fast-flying debris. Continuous use of protective eyewear is an alternative approach. Therefore, MCA recommends that all monocular seafarers are issued the restriction 'Eye protection to be worn for all work'.

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 standards in both eyes 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 etc.

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.

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. The 'fit for lookout duties box' on the decision tree should be ticked as 'no' and the restriction 'Not fit for lookout duties' should be used.

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 visual acuity 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.
- 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 an 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 restrictions and 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 the standards are met, a specialist report on likely progression should be obtained to determine the duration of certificate given. If not already in place, a restriction 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).

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 although for keratoconus this may be slowed by a corneal lens. The condition is likely to progress to the stage where vision standards are not met by middle age. Therefore, if this is 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 and therefore a significant risk of recurrence may require a geographically restricted certificate.

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 unrestricted 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.

ADG 14

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 deck officer. If after career advice, they do not wish to pursue an alternative seafaring career, an ENG 3 Cat 4 should be issued.

Note: Sometimes additional medical information is required from a specialist. For assistance, refer to the question guide in Annex A: Templates for the request of additional medical information.

POSSIBLE TEST RESULTS				OUTCOME OF EXAMINATION			
Department	**Ishihara**	**City University or Farnsworth D-15**	**CAD**	**ENG 1 Fitness Category**	**Colour vision defective box Y/N**	**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	N	Y	None. Results letter to be carried.
Deck: Existing or New e.g. Yacht Personnel, Boat Masters, deckhands	Fail	N/A	Fail/ Not taken	Restricted Cat 2	Y	N	Not fit for lookout duties at night. Not eligible for MCA Deck COC or Rating certification.
	Fail	N/A	Pass	Unrestricted Cat 1	N	Y	None. Results letter to be carried
Engineer	Fail	Fail or not taken	N/A	Restricted Cat 2	Y	N	Not fit for work with colour coded cables etc.
	Fail	Pass (no errors)	N/A	Unrestricted Cat 1	Y	N	None. Results letter to be carried.
Other (Catering Entertainment, Hotel)	Fail	N/A	N/A	Unrestricted Cat 1	Y	N	None but occupation to be shown on certificate.
Security Guard	Fail	N/A	Fail or not taken	Restricted Cat 2	Y	N	No navigational lookout duties.

POSSIBLE TEST RESULTS					OUTCOME OF EXAMINATION		
Department	**Ishihara**	**City University or Farnsworth D-15**	**CAD**	**ENG Fitness Category**	**Colour vision defective box Y/N**	**Fit for lookout duties box Y/N**	**Restriction to be applied**
Dual Deck and Engineering Trainee Officer or Cadet	Fail	Fail or not taken	Fail or not taken	Fail Cat 4	No certificate issued		**No certificate issued.**
Dual Deck and Engineering: Existing or New e.g. Yacht Personnel, Boatmasters, deckhands	Fail	Fail or not taken	Fail or not taken	Restricted Cat 2	Y	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	Unrestricted Cat 1	N	Y	**None. Results letter to be carried.**
	Fail	Pass (No errors)	Fail/ Not taken	Restricted Cat 2	Y	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	N	Y	**None. Results letter to be carried.**

ADG 14

Annex B
Visual acuity testing – possible outcomes

The restriction of ‘Not fit for lookout duty’ should not be used except in the following circumstances:

- Deck candidates with recent laser surgery who meet the VA standard but may have fluctuating visual acuity for up to six months.
- Deck ratings who have no lookout responsibility e.g. some deck hands on car ferries. However 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.

Note: Sometimes additional medical information is required from a specialist.

For assistance, refer to the question guide in Annex A: Templates for the request of additional medical information.

POSSIBLE TEST RESULTS				OUTCOME OF EXAMINATION		
Department	**Basic (unaided) distant acuity standard** **Requirement 6/60 in each eye separately**	**Higher (aided) distant visual acuity standard** **Requirement 6/6 in one eye and at least 6/12 in the other eye**	**Near vision** **Requirement N8 (aided or unaided)**	**ENG 1 Cert Fitness Category**	**Fit for lookout duties box Y/N**	**Restriction to be applied**
Deck or dual career	Pass	Pass	Pass	Unrestricted Cat 1	Y	N/A
	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 Fail – worst eye	Pass	New entrant to seafaring – fail.	N/A	N/A
				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

POSSIBLE TEST RESULTS				OUTCOME OF EXAMINATION		
Department	**Basic (unaided) distant acuity standard** **Requirement 6/60 in both eyes**	**Higher (aided) distant visual acuity standard** **Requirement 6/18 in both eyes**	**Near vision** **Requirement N8 (aided or unaided)**	**ENG 1 Cert Fitness Category**	**Fit for lookout duties box Y/N**	**Restriction to be applied**
Engine	Pass	Pass and meets deck standards as above	Pass	Unrestricted Cat 1	Y	N/A
	Pass	Pass but does not meet deck standards for aided vision	Pass	Unrestricted Cat 1	N	N/A
	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 Fail – worst eye	Pass	New entrant to seafaring – fail.	N/A	N/A
				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 evacuate the ship safely. Aided vision meets deck standards.	Unrestricted Cat 1	Y	N/A
	Vision sufficient to undertake duties efficiently and evacuate the ship safely but not meeting deck standards for aided vision.	Unrestricted Cat 1 (duties to be indicated on ENG 1 certificate)	N	N/A
	Vision insufficient to undertake duties efficiently.	Fail	N/A	N/A

ADG 14

Annex C
Colour Assessment and Diagnosis (CAD) Test

The CAD test has been developed following MCA-commissioned research at the City University, to duplicate the results of the Holmes Wright B lantern test which is no longer available. 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 as these are the only places where the appropriate maritime plates are available.

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 **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 an original 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

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

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.mckeefry@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

ADG 15
Medication

Introduction

The benefits from medications used by seafarers vary widely in terms of control of disease and symptoms as do the risks of that medication. 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 or for ensuring adequate supplies are obtained to cover the seafarer's contract and appropriate transportation to the vessel.
- Immunisations and prophylaxis against malaria, except insofar as prior information on individual risks of adverse effects is available to the medical examiner. See MGN 652 (M+F).
- Misuse of medication, including taking doses outside the range recommended by the supplier.
- 'Performance' foods and nutrients.

Assessment of medication use and risks

Note: Sometimes additional medical information is required from a specialist. For assistance, refer to the question guide in Annex A: Templates for the request of additional medical information.

During 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 1905 (M + F)) and to medications used for malaria prophylaxis (MGN 652 (M+F)).

As a general principle, before an ENG1 is issued, a seafarer should be established on a stable dose of a medication for an appropriate time (often up to three months) and confirmed to have good clinical effect with no side effects. Until this time a seafarer is temporarily unfit to work at sea unless otherwise indicated in MSN 1886 and in a restricted role and environment. The same is true for decreasing or stopping a medication.

Where a short course of medication is being taken or where the dose of a medication is being adjusted slightly, a case-by-case judgement is needed on whether (either because of the medication or the condition for which it is given) the seafarer should be made temporarily unfit, and the issue of a certificate delayed until completion.

The possible impairment and risks, and the clinical assessment and decision taking will be considered separately for each type of medication. 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 and the above principle adhered to.

Seasickness or other intercurrent illness including gastroenteritis may affect the absorption and efficacy of medications. Where this may quickly (within a day or two) result in a deterioration in the seafarer's medical condition a geographical restriction is likely to be appropriate.

Many ship operators require crew members to declare any medication to the master at embarkation, and 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.

For medication that may be controlled or illegal in some countries, and may also be a potential drug of abuse, a conditions letter should be given to all seafarers stating that the medication must be declared on boarding the vessel and stored securely.

Considerations

Medications that can impair safety-critical duties
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. Such medications include:

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

- Risk of bleeding from injury or spontaneously (warfarin, DOACs, clopidogrel, aspirin and some other analgesics)

- Dangers from cessation of medication use (metabolic replacement hormones including insulin, anti-epileptics, anti-hypertensives, oral anti-diabetics)

- Risk of immunosuppression (biologic agents, anti-metabolites and cancer treatments)

- Medications supplied for use at individual discretion, the use of which may indicate a change in the seafarer's medical condition (asthma treatments, antibiotics for recurrent infections).

Medications that require limitation of period at sea because of surveillance requirements including blood tests
A wide range of agents, such as anti-diabetics, anti-hypertensives, and endocrine replacements. How often such monitoring, including blood tests, are required should be taken into account when issuing a certificate.

Advice to seafarers who are taking regular medications
These should not be included as restrictions but may be written in a conditions letter if thought to be appropriate.

- Be aware of any possible side effects of the medications you use and if they occur inform the officer responsible who can obtain telemedical 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 (also during journey to join or after leaving a ship).

- If on injectable medications, facilities for sharps disposal must be arranged.

Specific classes of medication

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 and other opiate replacement regimes.
   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. Consider seeking CMA advice.

5. **Anti psychotics and therapy for bipolar disorders.** Consider in relation to underlying condition, compliance and any side effects (See ADG 6)

6. **Stimulants.** Other than caffeine. Erratic behaviour.

   Not generally acceptable unless prescribed for a specific condition e.g. ADHD, and seafarer confirmed to be on stable dose with good clinical effect and no side effects. Conditions letter to be given as above.

7. **Antihistamines.** Used for treatment of allergies, as cough suppressants, as sedatives and as treatments for motion sickness. 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.** These include 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, risk of infection if poor hydration – (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 effects of imbalance of some hormones e.g. 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. Other hormone replacement therapy should be considered on an individual basis.
    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).

    The prolonged use of oral steroids is 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 gastrointestinal disturbances.

    For short courses, the seafarer is temporarily unfit until any impairing infection resolved. For self-administered courses for infection prophylaxis, a case-by-case decision based on underlying conditions and the antibiotic used should be made.

    For the prolonged use of antibiotics again a 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. **Biologics, antimetabolites and anti-cancer medications.**

    These may increase the risk of severe infection or sepsis which is very difficult to diagnose and treat at sea. Obtain a specialist report stating, in all probability and the specialist's expert opinion, the excess risk of severe infection or sepsis, ideally as less than 2%, 2 – 5 % or over. Given the difficulty in assessing and treating severe infection or sepsis at sea, if the excess likelihood of these is over 2% then a geographical restriction is appropriate. Certificates should usually also be time limited to coincide with follow up.

17. **Medications requiring regular surveillance (including with blood tests) 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 how appropriate surveillance will be managed and 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. A time limited certificate should be issued, and a geographical restriction may be appropriate if surveillance is required every three months or more frequently.

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 to a geographical area.

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. A conditions letter should be issued.

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).

21. **Antithrombotic drugs (anticoagulants, antiplatelets) and their risks.**

    This section covers the use 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 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.

    The antithrombotic drugs commonly used include antiplatelets (e.g. aspirin, clopidogrel), and anticoagulants (e.g. warfarin and Direct Oral AntiCoagulants (DOACs) such as apixaban and rivaroxaban that are now used more commonly). 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. Telemedical 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. 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. Treatment provides effective reduction of embolization risk, but with an appreciable risk of bleeding. 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 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 at least 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. This may take considerably longer.
- **Direct Oral Anticoagulants (DOACs):** standard dosages, so no monitoring needed. Reduction in embolic risks similar to (or better than) warfarin. Bleeding risks may be comparable to warfarin, but there is some evidence of a lower risk with some DOACs. Effects can be reversed with an antidote, but specific antidotes not available in remote locations or even reliably worldwide. Half-life is about 12 hours and so cessation of medication will progressively reduce the excess risk of bleeding.

For those on warfarin or DOACs, their risk should be assessed using the HAS-BLED. 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. An ORBIT or DOAC score may also be used if thought to be more clinically appropriate.

HAS-BLED Bleeding Risk Score
(INR in 2-3 range or standard dose of DOAC)

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.

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.

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.

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 anticoagulation 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

Subject to compliance with medical surveillance/treatment

For those on **a DOAC**, 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

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 crew members are likely to be faced with complex and prolonged medical care requirements until evacuation can be arranged.

Higher levels of anticoagulation, as commonly used after heart valve replacements, may result in permanent unfitness.

Explanatory note

Employers frequently ask for a definition of ‘work with a low liability of injury’ but as vessels and tasks vary significantly it is not appropriate for MCA or an AD to provide a definitive list. There are no duties on board that are entirely free from injury risks and a risk assessment for each individual is the responsibility of the company or owner of the vessel, with OH input as available. However if clarification is requested, we may suggest that considerations should include but not be limited to:

- 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.
- Use of heavy equipment including mooring ropes may cause significant internal injury or fractures to long bones.
- Entry to confined spaces can result in trauma to the head or peripheries and rescue may be challenging.
- Use of sharp instruments may lead to trauma to digits which although not likely to be fatal may cause significant bleeding.
- Bad weather and long periods spent on deck (fatigue) may increase the risk of falls etc leading to injury, including head injury.
- Working with heavy mooring lines etc that may cause significant trauma in the case of an accident.
- Work with mechanical winches etc with the risk of injury to limbs.

Mitigation of any identified risks again is the responsibility of the employer, and this will depend on the seafarer's role and tasks. Such measures may include the use of appropriate personal protective equipment e.g. helmet to reduce the risk and or reallocation of tasks.

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.

22. Medicinal Cannabis

Cannabis refers to the dried leaves, flowers, stems, and seeds of the cannabis plant. The plant has many different chemical compounds, including tetrahydrocannabinol (THC), which has intoxicating (mind altering) effects and Cannabidiol (CBD) which does not have the same effects.

In the UK, according to the NHS website, medicinal cannabis is only likely to be prescribed for the following conditions and any seafarer with these underlying conditions is very unlikely to meet the medical standards of MSN 1886.

1. Children and adults with rare, severe forms of epilepsy.
2. Adults with vomiting or nausea caused by chemotherapy.
3. People with muscle stiffness and spasms caused by multiple sclerosis (MS).

However, an increasing number of individuals, including seafarers, are now being prescribed cannabis by private providers for other conditions such as mental health issues, ADHD and ASD, migraine and pain of other causes.

If cannabis is being used regularly but not prescribed it should be treated as drug dependence as per MSN 1886 5.3.

A variety of products may be prescribed for the different indications, and some contain THC whereas others don't.

CBD (or cannabidiol/hemp oil) is widely available in shops such as https://www.hollandandbarrett.com/shop/cbd/. This is different to medical cannabis that is prescribed as above. The supply of CBD in the UK is regulated under the Misuse of Drugs Act 1972, and the products must contain none, or very limited quantities of (THC). Cannabis oil can contain higher levels of THC and is therefore a controlled substance in the UK.

When assessing a seafarer using cannabis it is important to assess the underlying condition as per MSN 1886, confirm that the medicine is prescribed by a GMC registered physician and establish what follow up is in place. Again, the seafarer must be on an established dose of cannabis with good relief of symptoms, before an ENG1 certificate can be considered.

The primary effect of cannabis is psychoactive, that is, it alters perception and may lead to euphoria and relaxation. Likewise, it can impair cognitive function leading to poor memory, decreased attention and reduced decision-making capabilities. Some people are affected more than others, but we must take these effects into consideration when issuing an ENG1 certificate regarding fitness to work at sea.

It must also be noted that other countries do have different rules about cannabis, and it is illegal (prescribed or recreational) in some countries or states of countries. Research suggests that only Canada and Uruguay legalise cannabis on a federal level, in others (or states of some other countries) it is legal to possess and use, but not to sell, and in some the use of cannabis for medical reasons is permitted whereas in others it is completely illegal. However, the situation may change and the resources below may be useful. https://www.cntraveller.in/story/these-are-the-countries-where-marijuana-is-legal/ (June 2022). Map from https://canex.co.uk/cannabis-legalisation-where-is-medicinal-cannabis-legal-in-the-world/ (August 2020).

Because of the above it is recommended that for all seafarers using medically prescribed cannabis any ENG1 certificate

issued should be restricted to UK Near Coastal waters and ‘no safety critical duties’. A conditions letter should also be issued stating that the seafarer should declare the medication on board and ensure safe storage. Please ask for CMA advice in all cases.

23. GLP1 antagonists

The use of these medications is increasing, either prescribed or bought on the internet. Information about short and long-term side effects is still incomplete but there are concerns about initial side effects of nausea, vomiting, diarrhoea, stomach pain, constipation, heartburn, burping, runny nose or sore throat and headache. Longer term issues may include gallstones and pancreatitis although the incidence is estimated at less than 1%. As for all medication, seafarers should be established on a regular dose of the medication with good clinical effect and no side effects before an ENG1 certificate is issued.

The seafarer’s BMI or other medical condition should also be assessed as per MSN 1886 and this manual and an appropriate certificate issued.

Monitoring requirements

Many medications require regular blood test monitoring and the frequency required should be considered as part of the risk assessment. It should be assumed that the seafarer must return to their usual health care provider for such investigations unless they can arrange with the company for these to be done elsewhere e.g. on board a cruise ship and have an arrangement with the prescribing doctor for follow up of the results and responsibility for making any required changes.

An ENG1 certificate should usually be time-limited to coincide with these blood tests and if required more frequently than every three months consideration should be given as to whether this is compatible with working at sea except for in local waters or on vessels that return home every few days.

If the seafarer is well established on the medication and you are comfortable that they are engaged with their care it may be possible to issue a certificate with a longer time validity, for example six months when blood tests are required every three months. In this situation the restriction ‘Subject to compliance with medical surveillance/treatment’ should be added to the certificate. Alternatively, this may be issued in a conditions letter but do be aware that this then has no legal standing. Once the blood results are provided, and the seafarer confirms no change in their medical condition, a further ENG1 certificate may be issued without a full medical examination for a total of 12 months or to coincide with the next clinical review appointment, whichever is soonest.

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, including working at sea.

Allergic diseases are a diverse group of conditions which present with immunologically mediated symptoms in response to a variety of precipitants. They include such conditions as asthma, rhinitis, atopic dermatitis, urticaria and angioedema, anaphylaxis, and non-IgE-mediated conditions such as Food Protein Induced Enterocolitis Syndrome (FPIES) and Eosinophilic Esophagitis (EoE). The prevalence of these is increasing rapidly worldwide, especially in children and many seafarers are now declaring a history of allergy at an ENG medical examination.

Asthma (see MSN 1886 8.4 and ADG 10) and eczema/dermatitis (see MSN 1886 12.2) are chronic inflammatory disorders that are frequently atopic but can be caused by or exacerbated by irritant factors such as topical or inhaled chemicals, infections, environmental changes, stress, exercise, and sometimes foods. These conditions may coexist with IgE-mediated (type 1, immediate) hypersensitivity but are not in themselves IgE-mediated conditions.

Anaphylaxis

Anaphylaxis is a severe systemic hypersensitivity reaction that is rapid in onset and may lead to death. The causes are varied. Foods are the most common cause of anaphylaxis in children, with the greatest risk from food allergy being in teenagers and adults up to the age of 30. The causes of anaphylaxis in adults are more diverse, with a greater proportion being due to drugs and venom, the latter primarily from Hymenoptera insects. IgE-mediated food allergy can also present in less severe ways, including cutaneous reactions (e.g. urticaria, angioedema) without systemic involvement, and pollen-food syndrome. The prevalence of anaphylaxis has increased over time, although the number of deaths has not increased.

Severity of anaphylaxis is unpredictable from reaction to reaction, and it is a myth that it worsens with each reaction. Several factors can increase or decrease severity, although this varies from patient to patient. Exacerbating factors include allergen dose and route of exposure, nature of the allergen (e.g. cooked v raw), exercise, alcohol, environmental factors, intercurrent illness, delayed access to emergency treatment (especially adrenaline), and comorbidities including asthma and clonal mast cell disorders such as mastocytosis. Management of allergic anaphylaxis involves carriage of two adrenaline auto-injectors with training in their use, and avoidance of the trigger. In some cases (such as venom allergy) desensitisation may be possible, although this should be discussed with an allergist.

Spontaneous (idiopathic) urticaria/angioedema/anaphylaxis.

A significant proportion of patients who present with urticaria, angioedema, or anaphylaxis have no cause identified despite thorough assessment. These cases are referred to as spontaneous (or idiopathic) urticaria, angioedema, or anaphylaxis. The clinical presentation of idiopathic anaphylaxis and acute spontaneous urticaria/angioedema is indistinguishable from that with an allergic cause, and the treatment is the same. Chronic spontaneous urticaria and angioedema refers to cases where the urticaria and angioedema occur on most days for at least 6 weeks. The condition can have a significant impact on quality of life in large part due to the variability of symptoms and unpredictable nature of exacerbations. Because of the potential impact on their ability to conduct routine and emergency duties when they have symptoms this condition may be incompatible with work at sea. Certainly, those with a history of physical urticaria (for example to heat, cold, physical exercise, or sunlight) should not be issued an unrestricted certificate. Please seek CMA advice.

Idiopathic anaphylaxis is responsible for up to 30% of anaphylaxis cases in adults and assessment poses a greater difficulty in part due to being a diagnosis of exclusion and because of the unpredictable frequency and severity of the episodes of anaphylaxis. It has been reported that there is a remission rate after a few years of 90% with frequent (at least 2 episodes in the previous 2 months or at least 6 episodes in the preceding year) and 65% with infrequent (not meeting the above criteria) idiopathic anaphylaxis, but each seafarer must be assessed on an individual basis and a specialist report requested.

Impairment and risk

The importance of allergy in relation to fitness to work at sea lies in the probability of further symptoms of a severity that requires medical support and treatment that may not be readily available. This may occur in the form of asthma exacerbations or anaphylaxis to any trigger (or idiopathic). Allergic dermatitis may not present such an immediate risk but can prevent seafarers from doing their duties, especially where these involve contact with factors such as foods, liquids, solvents and detergents that may exacerbate the underlying condition. Immediate treatment with adrenaline (for anaphylaxis) or antihistamines (for urticaria) can often treat an acute episode, but some require a second dose and approximately 10% of cases will experience a biphasic reaction, with exacerbation of symptoms later despite apparent complete resolution initially. Treatment with adrenaline other than as prescribed in an EpiPen is not generally practicable at sea and may only produce short-term improvement in severe cases. In the longer-term steroids, bronchodilators (asthma), antihistamines (urticaria/angioedema) and topical treatments (dermatitis) may suppress symptoms but will not cure the underlying condition.

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.

Investigation of urticaria, angioedema, and anaphylaxis may involve tests such as skin prick testing and specific IgE tests. These may help predict probability of a reaction on exposure to the allergen tested, but do not predict severity of the reaction. These tests are not usually helpful in the investigation of dermatitis, where they are frequently positive but without clinical allergy; for dermatitis, patch testing may be more helpful. These investigations should be interpreted in the context of the clinical history by allergy specialists or dermatologists with experience in the conditions. Tests such as food IgG antibodies, vega testing, hair analysis, and kinesiology have no scientific rationale and should not be used.

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, test results, and sometimes response to therapy.

When there is doubt regarding the cause or potential severity of a reaction to a common allergen UK candidates should be referred to an NHS allergy specialist to inform the risk assessment underlying the fitness decision. The British Society for Allergy and Clinical Immunology website (www.bsaci.org) has a “Find a Clinic” function under Resources for Allergy Sufferers and Carers to identify the closest allergy service. In other countries, advice from an accredited allergy specialist or immunologist should be sought.

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.

Assessment and decision taking

Seafarers have presented with a wide range of proven or suspected allergies. If this is their first ENG examination, it is essential to establish the severity of any potential reaction with an allergy focused clinical history as described in NICE guidance. The variability of allergic presentations means that it is impossible to write a single standard which has meaning and general validity. However, it may be helpful to ask the following questions:

- Is there any personal history of atopic disease (asthma, eczema, or allergic rhinitis)? These conditions may be better explanation for the symptoms than food allergy and will require a different assessment.

- What is the suspected allergen(s)? What is being avoided and why? This may give clues about whether foods are being avoided based on allergy, intolerance, dislike or other reasons. Confidence in the allergen is important as some (such as cats or stings) may be avoidable at sea (if not in port), but foods may not be. A careful risk assessment is required in each case, considering both the likelihood of exposure and possible consequences.

- What symptoms occurred on exposure to the suspected allergen? Typical features of anaphylaxis include airway, breathing, and/or circulation problems, often (but not always)

with urticaria and/or angioedema. A history of anaphylaxis would usually lead to prescription of adrenaline auto-injectors. Food intolerance usually presents as predominantly gastrointestinal symptoms.

- What quantity and in what form was the allergen that triggered a reaction, and have they tolerated it since? Threshold of allergen required to trigger a reaction can vary between and within individuals (see cofactors above) so this doesn't guarantee a future threshold but may be helpful if they have reacted to very low quantities previously.

- What was the time course of the previous suspected reactions? Type 1 (IgE-mediated) hypersensitivity usually occurs within an hour of exposure to the allergen (or rarely up to 6 hours in cofactor-dependent anaphylaxis). Food intolerance is of variable time course. A prolonged time course of days to weeks may suggest spontaneous urticaria/angioedema.

- Were any cofactors relevant to the reaction? Cofactors such as exercise, alcohol, stress, illness, NSAIDs, and extremes of temperature can exacerbate anaphylaxis, which may have implications for seafarers.

- Does the individual carry adrenaline auto-injectors? If so, while they are helpful in the initial management of anaphylaxis the absence of rapid medical support will usually mean that they are not acceptable as the mainstay of management at sea. If used, they must also be replaced, and this may not be possible whilst on board. The possession of an adrenaline auto-injector 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.

- Was any treatment required, or assessment in hospital? Use of adrenaline (especially by a healthcare professional) may imply a severe reaction.

Chronic spontaneous urticaria and angioedema may be managed by regular non-sedating antihistamines or other medication, including immunosuppression in some cases. If so, this may require monitoring and surveillance and affect suitability for going to sea (see ADG 15).

Assessment 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.

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.

Decision taking

Note: If Diagnosis not established or additional information required the seafarer is Cat 3 Temporarily unfit pending further investigation

Note: Sometimes additional medical information is required from a specialist. For assistance, refer to the question guide in Annex A: Templates for the request of additional medical information.

1. Does the information available suggest that a life-threatening reaction (e.g. anaphylaxis) is reasonably foreseeable? For example, allergy to a common food stuff, previous severe reaction, specialist opinion advising so.

No	No	Yes
And they do not have a strongly suspected allergy – consider in relation to pattern or impairment, symptoms or alternative diagnosis and restrict appropriately.	And they have a strongly suspected allergy Go to 2 ►	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. A geographical restriction also does not mitigate the risk of the potentially severe consequences.

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. 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, 'Employer to guarantee a xxx (allergen) free diet' or 'Must avoid xxx (allergen)' depending on severity and issue conditions letter
- 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
- issue conditions letter repeating restriction and stating that, if prescribed, EpiPens must be carried at all times when on board

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 using 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

Summary of decision taking

Note: If Diagnosis not established or additional information required the seafarer is Cat 3 Temporarily unfit pending further investigation

1. Does the information available suggest that a life-threatening reaction (e.g. anaphylaxis) is reasonably foreseeable? For example, allergy to a common food stuff, previous severe reaction, specialist opinion advising so.

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. A geographical restriction also does not mitigate the risk of the potentially severe consequences.

No

And they have a strongly suspected allergy

No

And they do not have a strongly suspected allergy – consider in relation to pattern or impairment, symptoms or alternative diagnosis and restrict appropriately.

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. dermatitis attributed to nickel, reaction to food that is consistent but not severe and responds to oral medication such as antihistamine)?

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, 'Employer to guarantee a xxx (allergen) free diet' or 'Must avoid xxx (allergen)' depending on severity and issue conditions letter
- 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
- issue conditions letter repeating restriction and stating that, if prescribed, EpiPens must be carried at all times when on board

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 using 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

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

ADG 17
Assessment of physical capabilities

Introduction
The physical capability requirements for work at sea vary widely and must take account of both routine and emergency duties as well as the potential need to evacuate from the vessel and 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 in capability. 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 although care should be taken to ensure that this assessment is objective.
- 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 maximum oxygen uptake (VO2 max) which 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 http://www.nrpt.co.uk/training/tests/fitness/index.htm. This sort of testing has the advantage that it is objective, 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 is not readily reproducible and should not be used for the assessment of physical capability.

- 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 a physically demanding course within a reasonable time frame e.g. advanced firefighting, helicopter escape, personal survival course. The course should be completed after recovery from any injury or illness that may affect physical capability and after any significant change in medical condition.

When there is no specific clinical reason for concern with respect to physical capability, but an employer has raised a concern, it may be appropriate for a workplace assessment to be carried out by the employer with respect to the seafarers' specific duties. The employer should be advised to seek an Occupational Health assessment outside of the ENG1 medical examination.

Interpretation of results

1. Is there any evidence that the person cannot 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, or 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.

Decision taking

Note: Sometimes additional medical information is required from a specialist.

For assistance, refer to the question guide in Annex A: Templates for the request of additional medical information.

1. Is there any indication that physical capability may be limited? (e.g. stiffness, obesity, history of heart disease, multiple comorbidities)

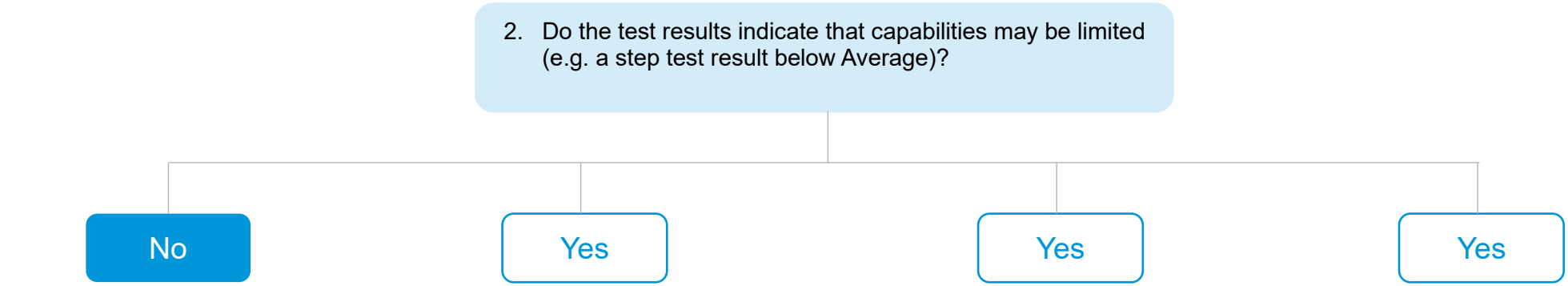
No

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).

Go to 2 ►



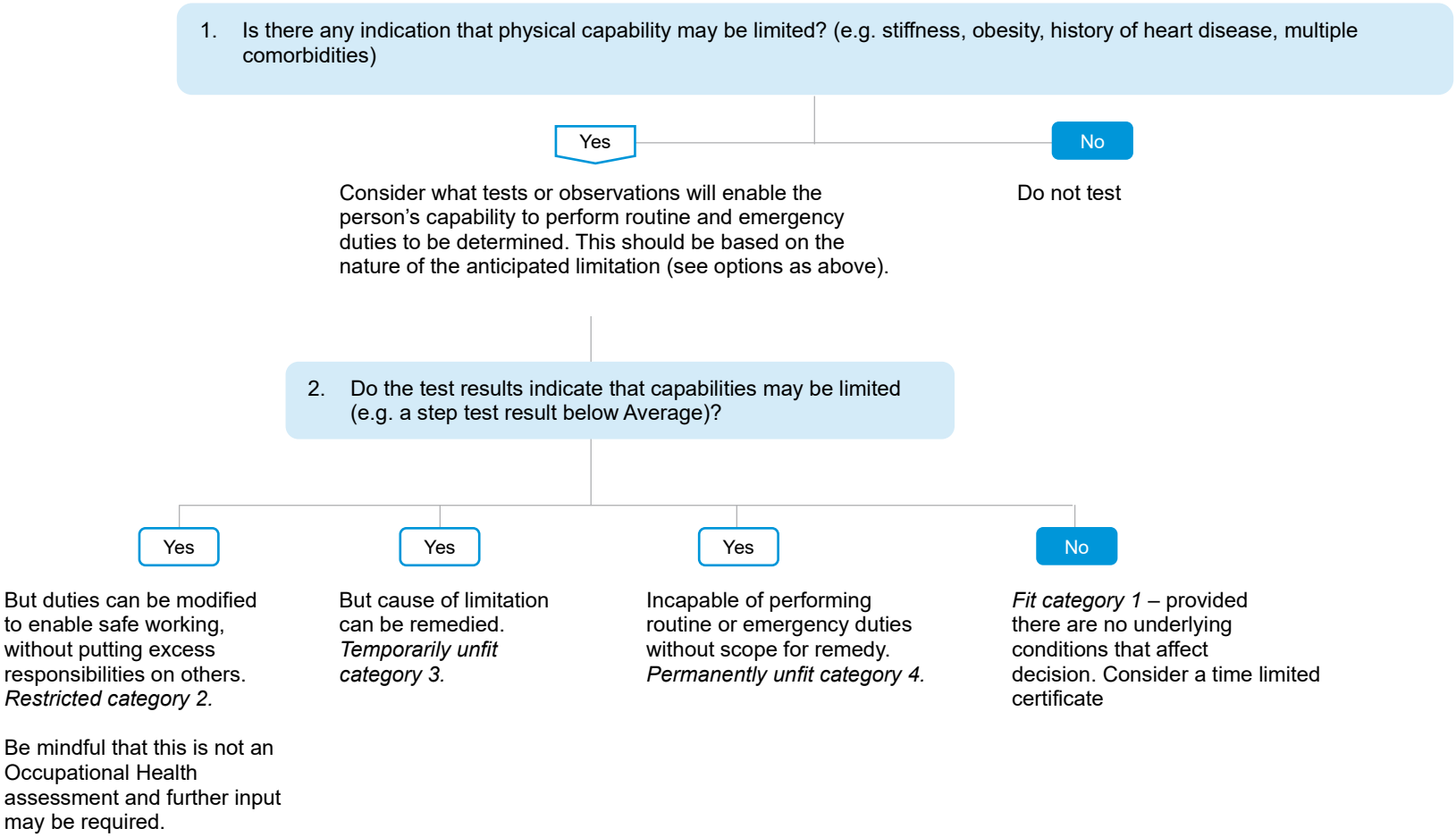
Fit category 1 – provided there are no underlying conditions that affect decision. Consider a time limited certificate

But duties can be modified to enable safe working, without putting excess responsibilities on others.
Restricted category 2. Be mindful that this is not an Occupational Health assessment and further input may be required.

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.

Summary of decision taking



Templates for the request of additional medical information

The following are generic and meant as a guide for questions to be asked of specialists when requesting additional medical information. They are not exhaustive and should always be tailored to the individual seafarer or fisher.

General risk assessment

- Is the individual's medical condition currently considered to be stable?
- Are there any current restrictions to activities or tasks the individual can perform safely?
- What treatment is required?
  Please confirm that any medication prescribed has been at a stable dose for the last three months with good clinical effect and no side effects.
- If the medication may cause immunosuppression what is the increased likelihood per annum of the individual suffering severe infection or sepsis?
  Ideally this will be expressed as less than 2%, 2 – 5%, 5 – 10% or more.
- What is the likelihood of a deterioration in the medical condition that may impact the individual's ability to perform their routine and emergency duties? Ideally this will be expressed as less than 2%, 2 – 5%, 5 – 10% or more.
- What is the likelihood of a deterioration in the medical condition that may require assessment ashore?
  Ideally this will be expressed as less than 2%, 2 – 5%, 5 – 10% or more. What is the likely time frame in which that will be required.
- What follow up is planned and what is the likely impact if this is delayed?

Please note that medical care on board a merchant vessel is very limited in both the training of the providers and the medicines/equipment available. In addition, access to a higher level of care may be hours or days away.

Asthma

- Has the individual ever been admitted to hospital and when? If yes, was ITU care required?
- Has the individual required steroids in the last three years?
- What is their current treatment and follow up plan?
- Do they use their reliever therapy more than twice per month?

Renal stones

- How many stone episodes has the individual suffered? Please provide dates.
- If the individual has had more than one episode are these likely to be due to persistent stones or recurrent stones?

- Is the individual confirmed to be stone free on imaging (Xray, ultrasound or CT scan) performed within the last 2 years?

- Does the individual have normal renal function and a normal metabolic screen and a 24-hour urine that includes calcium, oxalate, phosphate, urate, citrate, sodium, cystine, magnesium.
  We appreciate these investigations may not be required for clinical management but are for occupational risk assessment.

Neurodiversity

1. How does the individual interact with peers and superiors? Consider that they may have to share a cabin with somebody they have not met before and take instructions from officers without explanation.

2. How does the individual manage the learning of new tasks? Can they complete a task from written and/or verbal instructions? There will be routine and emergency duties that they must do that may be unfamiliar to them.

3. How does the individual react to change and a lack of routine? Time on board may or may not have a routine and this may be interrupted at any time due to weather, cargo handling, emergency situations etc.

4. How does the individual manage in stressful situations that they may not have encountered before? How do they work under pressure? They may need to react to an emergency situation for which they have not been specifically trained.

5. Has the individual shown signs of any impulsive behaviour?

6. Does the individual require any adaptations to participate in routine activities/perform expected tasks?

Mental health conditions

- What symptoms did the individual have at presentation? When did symptoms start?

- What is the diagnosis?

- What treatment has been given and with what effect?

- Any ongoing symptoms or date of last symptoms.

- What is the current treatment? Is any medication established at a stable dose with good clinical effect and no side effects?

- Is the individual compliant with treatment?

- Do they have insight into their condition?

- What is the likelihood that they will have recurrent symptoms over the next 12 months? Ideally this will be expressed as less than 2%, 2 – 5%, 5 – 10% or more.

- What is the planned follow up?

Diabetes

- What is the individual's latest HbA1c? Date and value
- What is the trend of these results over the last 12 months?
- Has the individual suffered any significant hypoglycaemic episodes over the last 12 months? If so, what treatment was required?
- Has the individual required medical care for hypo or hyperglycaemia over the last 12 months?
- Are there any planned changes to treatment in the near future?
- Do they have any ophthalmological, neurological, or renal complications?
- What is the planned follow up?

Malignancies

- 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?
- Is the prognosis such that there is a risk of seizure from a brain secondary or recurrence? Ideally this should be stated as less than 2%, 2 – 5%, 5 – 10% or more.
- Is there a risk of recurrence or complications (either from disease or its treatment) that may need urgent medical care? Please give additional details and ideally this should be stated as less than 2%, 2 – 5%, 5 – 10% or more.
- Is there a risk of sudden incapacitation? Ideally this should be stated as less than 2%, 2 – 5%, 5 – 10% or more.
- What is the planned follow up?

Frequently asked questions (FAQs)

Q: Who do I contact if I require advice on a medical issue?

A: ADs should use the CMA advice function in the online ADIS system. Seafarers should contact the MCA's Medical Administration Team at medical@mcga.gov.uk.

Q: What is the definition of a seafarer?

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: An ENG 1 can be issued to anyone aged 16 or over who meets the medical fitness standards. STCW does not allow an ENG 1 to be issued to someone under the age of 16. For seafarers aged 16 to 18 years, a medical certificate may 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 section 2.4.

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 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 (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 maintained on the GOV.UK website : https://www.gov.uk/government/publications/mca-approved-doctors-uk-based.

Overseas: https://www.gov.uk/government/publications/mca-approved-doctors-overseas/mca-approved-doctors-overseas.

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 original official document which includes a photograph e.g. a passport, discharge book or photographic driving licence which is then checked by the AD. The AD must record on the seafarer's medical records, the form of ID produced. An electronic copy is not acceptable.

Q: If a seafarer is unable to produce a discharge book, passport or photographic driving licence, can I still conduct a medical examination?

A. No. An AD must be able to verify that the person they are examining is who they say they are. A medical examination cannot be undertaken if the person's ID information has not been added to their record.

Q: Who do I contact if I suspect that a seafarer has misrepresented information i.e. about their true identity or state of health?

A: Contact the MCA Medical Administration Team with full details at medical@mcga.gov.uk.

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 to a maximum of 2 years. If the seafarer is likely to be unfit for longer than this, they should be made permanently unfit.

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. Alternatively they may now wish to apply in a different role where their medical condition does not make them permanently unfit e.g. monocular vision in a new entrant. Please ensure you review all previous notes in ADIS to avoid the risk of non-disclosure and seek advice from the CMA or Medical Administration Team if required.

Q: What time period does a night seafarer work?

A: “Night” is defined as a period of nine consecutive hours including the period between midnight and 5am. Although the 2010 Regulations are expressed in “local” time, it is recognised that “ship’s time” may be different when a ship is at sea.

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 an MCA 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 at every examination. The Marine Office or MCA CAD Test Centre conducting the test should provide the seafarer with a letter recording the results or decision following the test which should be uploaded to ADIS.

Q: Can a seafarer appeal the outcome of a medical examination more than once?

A: Not if it relates to the same restriction or reason for failure.

Reference material

6.1 Maritime glossary
6.2 Categorisation of waters (non-sea)
6.3 Sources of help outside MCA
6.4 Useful publications

Maritime glossary

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	His Majesty's Coastguard
HSE	Health and Safety Executive
ILO	International Labour Organization
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
OEUK	Offshore Energy UK (Previously OGUK)

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 1837 (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.

Sources of help outside MCA

Websites on immunisations and malaria prophylaxis

https://www.gov.uk/government/publications/malaria-prevention-guidelines-for-travellers-from-the-uk
Department of Health, England

https://www.nhsinform.scot/healthy-living/travel-health/travel-health-and-vaccinations/
NHS Scotland.

www.masta.org
Medical Advisory Service for Travellers Abroad. Access to information and to advisory service.

www.cdc.gov/travel
U.S. Centers for Disease Control and Prevention. Easy-to-use USA official site.

http://www.who.int/en/
World Health Organisation. International requirements specified.

https://travelhealthpro.org.uk/
National Travel Health Network and Centre (NaTHNac).

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
Seafarer's Hospital Society.

020 7188 2049
gst-tr.dreadnought@nhs.net
Dreadnought Medical Service.

https://seahospital.org.uk/help-for-you/dreadnought-special-medical-service-for-seafarers/
Seafarers Hospital Society.

Useful publications

Maritime and Coastguard Agency free publications

A wide range of booklets and leaflets are 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

The Code of Safe Working Practices for Merchant Seafarers 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
https://www.gov.uk/government/publications/code-of-safe-working-practices-for-merchant-seafarers-2026-edition.