



GUIDANCE NOTICE

Guidelines for the medical assessment of near coastal seafarers

Introduction

This information is for the medical or ophthalmic practitioner who completes the [AMSA forms 559 \(Certificate of Medical Fitness\)](#) or [542 \(Eyesight Test Certificate\)](#).

General Considerations

Domestic seafarers work on vessels in Australian waters which may extend beyond 200 nautical miles from the coast and thereby be extremely remote from full medical facilities. Employers have a duty of care to provide a safe work environment and protect the health, safety and welfare of employees. Employees similarly have a duty of care for their own safety, that of the people they work with and the community. Medical assessment of fitness is one aspect of meeting this duty of care.

The primary objectives of a medical assessment of fitness for duty on board a domestic commercial vessel are to ensure that individuals are fit to perform the essential tasks of their job at sea effectively and to anticipate and, where possible, prevent the avoidable occurrence of ill-health which could place individuals, their colleagues, passengers and others at risk.

Medical conditions may impinge on work in the following areas:

- the condition may limit, reduce or prevent an individual from performing the job effectively (e.g. loss of mobility and dexterity making engine room work and other maintenance tasks difficult);
- the condition may be made worse by the job (e.g. an asthmatic exposed to allergens on a vessel carrying grain);
- the condition may make it unsafe for the person to do the job (e.g. liability to sudden loss of consciousness whilst transferring from a smaller vessel to a larger vessel by climbing a rope ladder);

- the condition may make it unsafe both for the individual and other crew (e.g. a vessel's crane operator liable to sudden loss of consciousness);
- the condition may make it unsafe for other vessels (e.g. a master, coxswain or watchkeeper who is at risk of sudden loss of consciousness due to a cardiac arrhythmia);
- the condition, if it worsens, is one which may require emergency evacuation for medical treatment (e.g. gastric ulcer haemorrhage);
- the condition may impair the person's ability to cope with emergency situations.

National laws determine that to minimise the risks of such issues, domestic seafarers must meet certain medical standards. In pursuit of this aim, assessment of vision and other medical fitness aspects is required for the issue and renewal of certificates of competency which define the roles and duties domestic seafarers are capable of undertaking. Consideration of the following information is important when completing the relevant AMSA forms – [AMSA 542 \(eyesight\)](#) and [AMSA 559 \(medical\)](#). The eyesight standards contain mandatory provisions for acuity and colour vision. The medical guidelines do not cover all clinical situations but, in conjunction with the accompanying job task analyses for the various seafarer roles, can be used as a reference when assessing fitness for sea service.

It is recognised that not all potentially impairing medical situations are identified in this document and, therefore, it is important that all possible consideration is given to the wide range of medical, physical and psychological circumstances that can arise in the seafaring environment. The seafaring environment can be hostile, dangerous, unforgiving and remote from medical assistance if anything goes wrong.

Tables with indicative, but not exclusive, job task analyses for different seafaring roles are attached to this document. Individuals may have more than one seafaring role and, therefore, require consideration of duties within more than one section. Particularly careful consideration should be given to masters, mates, coxswains and crew who perform lookout and vessel control duties (e.g. navigation) as the safety of the vessel and thereby the whole crew may depend on them performing their duties effectively and safely.

Medical information

Vision

Distance visual acuity is required for lookout duties, and safe operation of ships, small craft and lifting equipment such as cranes. Near vision is required to read charts, weather maps, computer screens, monitors and instructions. Night and depth vision are required for lookout duties and control of the vessel; (depth vision is especially important for operating cranes at close distances).

Normal colour vision is required for deck watchkeeping and lookout duties to distinguish red and green port and starboard channel markers, navigation beacons and vessel navigation lights. The ability to identify red, green and white navigation lights is an essential part of the job for masters, coxswains, watchkeepers and general purpose hands.

Impaired colour vision also presents a risk to engineers who may be required to distinguish the colour of electrical wiring in order to make proper electrical connections. As such, it presents a risk depending on the degree of impairment that may affect a person's ability to perform their duties.

The primary screen for colour vision is the Ishihara Pseudoisochromatic Plate testing. If this is passed the standards are met and a seafarer is considered colour vision safe for deck and engine room duties. If a seafarer (master, mate or coxswain) passes either an Ishihara screen or a Holmes Wright Lantern Type B (HWB) test they are considered red-green colour safe for watchkeeping and lookout duties at night (Visual acuity requirements must also be met). If a seafarer passes either an Ishihara screen or a Farnsworth D15 colour vision matching test he or she is considered red-green colour safe for all engine room tasks.

Notwithstanding the above, in certain roles evidence of adequate colour vision may be based on a statement from a suitably qualified optometrist or ophthalmic practitioner, that the seafarer suffers no greater abnormality in colour vision than could be identified by the Ishihara Test.

Visual aids are permitted in order to meet the visual acuity standards and where aids are required, a spare pair must be carried when working on board a vessel.

Other visual conditions should also be considered for their potential effect on acuity and colour vision.

Hearing

Hearing is required for communication by radio, by telephone or person to person and therefore the critical frequencies are in the speech range 500 to 3,000 Hz. If hearing is not apparently satisfactory in one to one conversation, further assessment via audiometry may be required. If the seafarer uses a hearing aid, they can be assessed with the aid(s) but should be required to provide specialist evidence of recent testing and that hearing using the aid is satisfactory.

Speech must be reasonably clear and free of stutter and hesitation sufficient to use radios and communicate.

Other ear, nose and throat conditions should be considered for their potential effect on hearing, balance and communication.

Cardiovascular system

Cardiovascular conditions should be considered for their potential to cause sudden loss of consciousness or capability. Ischaemic heart disease presents a high risk unless there is good control of symptoms and risk factors, with no medication for angina control necessary. Cardiological specialist opinion may be required for individuals with a history of myocardial infarction or coronary artery disease requiring angioplasty, stenting or bypass grafting.

Dysrhythmias with clinical symptoms such as syncope present a high risk and may require cardiological specialist opinion. Pacemakers or implantable cardioverter defibrillators may require cardiological specialist opinion. Valvular or congenital heart disease, cardiomyopathy and aneurysms may also require cardiological specialist opinion depending on the specific nature of the condition.

Hypertension will require confirmation of adequate and stable control via treatment (< 150/95).

Peripheral vascular issues including arterial disease, varicose veins, deep vein thrombosis (with or without pulmonary embolism) may present a high risk and may require further specialist opinion.

Respiratory system

Significant impairment to lung capacity or function, whether chronic or intermittent, such as recurrent pneumothorax, asthma, or other chronic respiratory conditions, may present a high risk and requires careful consideration. Evidence of stability and good control of asthma via medication is essential.

A history of tuberculosis will require evidence that the seafarer is no longer infectious.

Gastrointestinal system

Any condition that may suddenly or subtly impair capability can present a high risk such as poor dental hygiene, oesophageal varices, peptic ulceration, pancreatitis, liver or gall bladder disease, hernias, colostomies and inflammatory bowel disease.

Catering crew and engineers who may have to maintain water/sewage systems may be at risk of acquiring or transmitting Hepatitis A and should preferably have completed an immunisation course.

Genitourinary system

Any condition that may suddenly or subtly impair capability can present a high risk, such as renal calculi, renal failure (exacerbated by dehydration due to climate), prostatic hypertrophy or issues causing menorrhagia. Haematuria should have been investigated for an underlying cause.

Pregnancy is not incompatible with seafaring duties, however, it presents a range of potential complications which may alter physical and psychological capability, such as hyperemesis, hypotension, impaired mobility/agility, reduced physical tolerances. Aspects of seafaring duties may be associated with an increased risk of spontaneous miscarriage, with accompanying haemorrhage.

Neurological system

Epilepsy presents a high risk due to the potential for sudden disablement or impaired awareness. A history of blackout, convulsion or episode of altered awareness within the last 2 years requires thorough investigation and careful consideration as to the risk of recurrence. Multiple episodes have a high risk of recurrence unless a specific avoidable cause has been identified. Treated epilepsy should have evidence of stability and control over the preceding 2 years including a seizure free period of a duration compatible with the specific seafaring role and associated risks.

Other sudden and significantly disabling conditions such as migraine, transient ischaemic attacks or strokes present a high risk and require careful consideration.

Progressive degenerative conditions may need specialist assessment, depending on the diagnosis, current and predicted effects on physical capability, cognition and memory.

Psychiatric conditions

The effects of conditions such as adjustment disorders, anxiety and depression may be subtle or may present sudden risks to safety such as via self-harm impulses.

Acute and potentially relapsing conditions such as schizophrenia and bipolar disorder are likely to present a high risk and specialist psychiatric opinion should be considered.

Musculoskeletal/morphological conditions

Seafaring is a physically demanding occupation on a moving platform, and good mobility, agility, balance, co-ordination and general physical capability are required to minimise the risk of injury.

Normal back, upper and lower limb function is important, and significant impairment due to recurrent inflammatory or degenerative conditions, amputation or artificial limbs presents a high risk and should lead to careful consideration. Functional capacity evaluation may be required.

Obesity (BMI > 30 kg/m²) presents an increased risk and morbid obesity (BMI > 40 kg/m²) an even greater risk. Functional capacity evaluation should be considered.

Endocrine conditions

Diabetes presents a high risk depending on the type, management and stability. Hypoglycaemia, whether suddenly disabling or subtle in its effects, may be catastrophic for the vessel and the seafarer depending on circumstances and location. The seafarer should have a comprehensive understanding of, and insight into, the condition, the risks and warning signs of hypoglycaemia; how to prevent and manage this issue; and should practice a consistently applied self-testing regime to minimise its likelihood. A history of poor diabetic control is not compatible with safe service at sea. Evidence of satisfactory control of the condition should be available.

Other endocrine conditions should be considered carefully, such as thyroid and adrenal disease.

Miscellaneous conditions

Skin conditions present a risk to others if contagious, as do other infectious conditions. Carriage of blood borne conditions (Hepatitis B / HIV) is generally acceptable providing appropriate care is observed with respect to transmission risks.

Haemopoietic conditions and neoplasms will require careful consideration in terms of their effects and potential access to treatment facilities on a periodic basis.

The effects, and potential adverse effects, from all medication should be considered. Many have the potential alone, or in combination, to impair concentration, judgement, vision, perception, attention, awareness, balance and other characteristics required for safe performance of duties.

Illicit drugs and alcohol present similar difficulties with safe performance of duties. Inappropriate use, misuse, addiction or dependence will require extremely careful consideration, and are likely to be incompatible with safe service at sea, until successfully treated, with a significant period of remission and evidence of low risk of relapse.

Age is, in itself, no barrier to continuing sea service, however, the actual and potential progressive effects of aging should be considered carefully. Apparent physical and cognitive decline may require further assessment, particularly in the context of the capability to go beyond the performance of normal, routine duties and deal with sudden emergency situations.

More Information

Fact Sheets containing more information on certificate of competency requirements, sea service and task books can be obtained from the AMSA website at www.amsa.gov.au.

If there is an inconsistency between this document and previously issued documents about the subject matter, this document supersedes information found in previous documents dealing with these matters. Previous documents found to be in conflict with this document (or parts thereof) will be updated or withdrawn at the earliest opportunity.

Table 1: Masters / mates / coxswains

1. Vision	<ul style="list-style-type: none"> • read instructions/instruction manuals • read gauges/dials/computer screens • read charts/weather maps • read labels/markings • read radar, global positioning system (GPS) and other monitors (digital, analogue and graphic) • distinguish between various coloured navigation lights • identify navigation lights from beacons, buoys, lighthouse towers, other vessels • distinguish coloured light alarms • observe aspect of other vessels (including distance acuity and judgement) • keep watch for obstacles to navigation • stand watch – night vision and depth perception • identify hazards on deck
2. Hearing/speech	<ul style="list-style-type: none"> • give/take instructions • use 2-way radios and telephones (including hands free headsets) • distinguish different auditory alarms
3. Consciousness	<ul style="list-style-type: none"> • alert to changes in machinery vibration e.g. engines • alert to movements of other vessels • alert to position of ship's ancillary craft • interpret complex information from digital, analogue and graphic computerised monitoring equipment e.g. radar, GPS, computerised charts, echo sounder, compass • respond to alarms • alert to changes in weather • high level decision-making in emergencies • responsible for safety of ship's crew and safety of vessel • alert to movements and position of crew • controlling risk
4. Physical	<ul style="list-style-type: none"> • climb narrow, steep stairs • climb rope ladders at sea • climb steel rungs/ladders • lift hatch covers • fine motor skills to plot courses on charts, use keyboards on computer, rotate knobs, pull levers, push buttons • assist with lifting, manual labour e.g. lifting cylinders, 25 litre drums etc. • cleaning/maintenance of the bridge (wheelhouse) • clean own cabin, shower i.e. bending, reaching, scrubbing, and wiping (varies from ship to ship) • handle cargo • handle wires, chains and ropes • hook and unhook tows
5. Other	<ul style="list-style-type: none"> • shift work • occasional long hours of work • write reports • plan ship repairs • plan work schedules • away at sea for extended periods of time • fit through escape hatches • work at high temperature, humidity and/or in extreme cold and in storms/cyclones etc. • wear PPE – boots, overalls, hard hat, water proof clothing, hearing protection and occasionally respirators • order deck stores • check radio equipment, life rafts • inspect holds, oil tanks, ballast tanks, water tanks and other confined spaces • work with heavy seas on and below deck • work in conditions involving heavy rolling and pitching of vessel • use firefighting hoses, extinguishers and breathing apparatus

Disclaimer: This fact sheet provides summary information only. AMSA makes decisions about seafarer certificates under *Marine Order 505 (Certificates of competency — national law) 2013* and *National Standard for Commercial Vessels (NSCV) Part D, Crew Competencies*. Please refer to these documents for full details of eligibility and other requirements for certificate applications.

Table 2: Engineers / engine drivers

1. Vision	<ul style="list-style-type: none"> • read gauges, dials • read instruction manuals, drawings • near vision for callipers and other instruments • near vision for identifying and using nuts, bolts, screws, pins etc. • ability to distinguish basic colours to recognise coloured alarms and coloured wires • identify hazards in engine room
2. Hearing/speech	<ul style="list-style-type: none"> • communicate by 2-way radio and telephones (including hands free headsets) • hear alarms and pager • give/take instructions
3. Consciousness	<ul style="list-style-type: none"> • alert to changes in machinery vibration e.g. engines • alert to alarms (visual and auditory) • respond to alarms and emergencies • alert to position of ship's ancillary craft • interpret complex information from monitors and gauges on instrument control panels in engine room • risk control • high level decision-making in emergencies
4. Physical	<ul style="list-style-type: none"> • lift and carry condenser coils, pipes, motors, pumps up to 35 kg (may be two person lift) • lift and carry 25 kg containers of chemicals • use circular saws, hand tools, grinders & pedestal drill • welding/oxy-cutting • fine manual dexterity in placing nuts, bolts, screws, use keyboards on computer, rotate knobs • turning valves, levers • push button controls • climb steep stairways, steel rung ladders, rungs on masts and onto ship's crane • stand and walk most of the shift • work in awkward postures • work in confined spaces • work overhead • clean own cabin, shower i.e. bending, reaching, scrubbing and wiping (varies from ship to ship) • handle cargo • handle wires, chains and ropes • hook and unhook tows
5. Other	<ul style="list-style-type: none"> • shift work • write reports • plan ship repairs • plan work schedules • away at sea for extended periods of time • fit through escape hatches • work at high temperature, humidity and/or in extreme cold and in storms/cyclones etc. • wear PPE – boots, overalls, hard hat, hearing protection and occasionally respirators • order engine room stores • exposure to heat and fumes • safe handling of chemicals, lube oils and fuel oils • check radio equipment, life rafts • inspect holds, oil tanks, ballast tanks, water tanks and other confined spaces • work in conditions involving heavy rolling and pitching of vessel

Table 3: General Purpose Hands / others (depending on specific role)

1. Vision	<ul style="list-style-type: none"> • read instructions, procedures • read gauges, dials • read labels, markings • distance vision when operating small craft, crane, hoist • see navigation lights of other vessels, beacons, lighthouses etc. • distinguish various coloured navigation lights • distinguish coloured light alarms • stand watch – night vision and depth perception • near vision for identifying shackles, markings on slings, bolts, nuts, screws etc • identify hazards on deck
2. Hearing/speech	<ul style="list-style-type: none"> • give/take instructions • hear whistles for crane/hoist movements • use 2-way radio, telephones • hear warning signals/alarms • use hands free headsets to communicate by radio in rough seas
3. Consciousness	<ul style="list-style-type: none"> • alert to movements of other persons, operating machinery, ship's small craft • monitor equipment including radar, digital and analogue read outs on gauges, GPS, compass, galley equipment • alert to hazards on vessel e.g. fire, etc. • respond to alarms and emergencies
4. Physical	<ul style="list-style-type: none"> • manual dexterity to tie knots, splice rope, repair/use canvas tarpaulins, place slings, use pliers, spanners, other hand tools, catering implements • pull knobs, levers, push buttons to operate crane, machinery, catering equipment • reach and working overhead • lift stores and catering supplies • climb ship's rope ladders in rough seas and steel rung ladders whilst carrying equipment • lift weights up to 50 kg (two person lift) • lift cables, boxes, batteries, winches, hoists up to 40 kg • use powered tools, saws, drills, rattle guns, chisels, sledgehammers • moor/unmoor vessels • use air/electric chain hoists • pull on ropes, chain, and pressing buttons on mobile control box • clean catering equipment, pots, utensils • stand for long periods • clean own cabin, shower i.e. bending, reaching, scrubbing, and wiping • handle cargo • handle wires, chains and ropes
5. Other	<ul style="list-style-type: none"> • work at heights • work in high temperature, humidity and/or in extreme cold, and in storms, cyclones etc. • long work hours • away at sea for extended periods of time • fit through escape hatches • shift work • plan work schedules • wear personal protective equipment e.g. safety boots, earplugs or earmuffs, hard hat, gloves, overalls, waterproof clothing, safety spectacles and occasionally respirators • exposure to paints, thinners, oils, antifoul, degreasers, cleaning chemicals • use fire-fighting hoses, extinguishers • inspect holds, oil tanks, ballast tanks, water tanks and other confined spaces • work in conditions involving heavy rolling and pitching of vessel