



Prevention of Infectious Disease at Sea

Notice to all Shipowners, Fishing Vessel Owners, Manning Agencies, Port Operators, Ship Masters, Seafarers and Fishermen

This notice should be read with Merchant Shipping Notices MSN 1886 (M+F), MSN 1905 (M+F), the Code of Safe Working Practices for Merchant Seafarers and the Ship Captain’s Medical Guide and replaces MGN 399

Summary

This guidance note provides information and recommendations on

- The causes and prevention of Infectious diseases on board ship.
- Appropriate immunisations against infectious diseases likely to be encountered by seafarers in the course of their duties
- Specific requirements for prevention of insect borne diseases including malaria
- Infections encountered in the seafarer’s home country or whilst on shore leave are mostly outside the scope of this document
- Where to get further advice

For specific guidance on COVID-19 please go to the PHE website (<https://www.gov.uk/government/organisations/public-health-england>), NHS website (<https://www.nhs.uk>) or www.gov.uk for the latest information.

Annexes are attached as follows:

- Useful references for further information **Annex 1**
- UK routine and job specific immunisations and geographical requirements **Annex 2**
- Insect borne diseases including malaria **Annex 3**

1. Background

1.1 Infections can cause life-threatening health problems for seafarers and lead to major costs and disruption for maritime employers. Preventive measures are therefore essential.



1.2 Infection may be transmitted by many means including by food and water, from person to person or by insect or animal bites.

1.3 The major means of infection control on board ship are through effective personal hygiene measures and work practices designed to minimize these infection risks but these are not the subject of this MGN. Further information can be found in the Code of Safe Working Practices for Merchant Seafarers and Wellbeing at Sea: A Pocket Guide for Seafarers (see Annex 1).

1.4 Effective hygiene must be supplemented by specific preventive measures including:

- immunisations for a range of infectious diseases (see Annex 2)
- insect bite avoidance (see Annex 3)
- preventive medication in the case of malaria (see Annex 3).

1.5 Treatment after suspected exposure to an infection or on suspicion of signs suggestive of infection is recommended for a few conditions. (For malaria see Annex 3). Post exposure treatment may also be recommended if there is a risk of HIV or rabies infection, following tick bite in high-risk areas and for some other rare bacterial and viral illnesses. Such treatment depends on an expert clinical risk assessment and is not considered here. Reference should be made to the Ship Captain's Medical Guide and telemedical advice sought.

2. Infection risks

2.1 The risk of contracting an infectious disease will depend on a number of factors. Hence requirements are determined by assessing the risk posed by:

- the route of the vessel, especially the location of ports visited, length of stay and likelihood of exposure ashore either on shore leave or when joining or leaving a vessel
- known health risks in the country of origin of seafarers and countries passed through en route to joining or leaving the ship
- the role of each seafarer
- the hygienic and clinical preventive measures taken.

3. Route and ports

3.1 It is recommended that employers and seafarers consult either their occupational health (OH) provider, a travel medicine specialist or one of the websites in Annex 1 prior to arranging for any travel outside the UK, since the risk of specific infectious diseases varies from time to time in every country. This is particularly important when seafarers may eat ashore, spend long periods ashore during an extended port call, or spend time ashore either prior to joining or after leaving their ship, but these situations are outside the scope of this document. The advice given refers to those working on board with only brief periods of shore leave in port.

3.2 Within Europe, USA and Canada, Japan, Australia and New Zealand the risks are usually no greater than those onshore in the UK and no immunisations over and above those given to the general population are recommended (see Annex 2). It is important in any case to ensure that these general immunisations are in date. This situation is of course subject to change over time.



3.3 For all other parts of the world, location specific requirements must be determined. A wider range of immunisations is likely to be needed and these must be carried out before the voyage and kept up to date as long as they are relevant. A full course of immunisations may take a month to complete and take effect so prior planning is essential.

3.4 Tropical and subtropical regions. Malaria and other insect borne diseases are a particular risk in these areas. Insect avoidance and malaria prevention and treatment should be considered well before travel (see Annex 3).

4. Job related risks

4.1 An informed clinical risk assessment is required with respect to vaccination for some diseases in some or all crew members, taking into account the nationality and origin of both crew and passengers and the route of the vessel. Stringent hygiene measures should remain the mainstay of prevention of infection, however.

4.2 Maintenance of Sewage Systems - seafarers whose work involves maintaining shipboard sewage systems are at increased risk of faecal contamination. Immunisation against hepatitis A is recommended for workers at risk of repeated exposure to raw sewage following a local risk assessment. In areas where typhoid is endemic vaccination for typhoid should also be considered.

4.3 Food Handlers - These seafarers will, if infected, pose a risk of transmitting foodborne infections to other crew members or passengers although immunisation for food handlers is not routine in the UK. They should have typhoid and hepatitis A immunisation if they originate from or are working in an area where these infections are likely.

4.4 Cruise Liners - Where large numbers of susceptible passengers are carried, as on cruise ships, outbreaks of influenza can be severe in terms of time off work and risk to passengers, and crew immunisation should be considered.

4.5 Night Work - Crew who are required to spend periods on deck, particularly at night, in places where malaria is rife, will be at high risk of mosquito bites, and bite avoidance (see Annex 3) with correct use of antimalarial tablets is particularly important.

4.6 Travel Away from Vessel - If a seafarer is planning to spend time away from the ship and harbour area either on business or for leisure, additional advice is needed before departure on whether the precautions used on account of the ship's voyage remain adequate.

4.7 Crew Providing Medical Care - Health professionals working on board ship should be fully immunised, including confirmed protection from hepatitis B. The provision of routine hepatitis B immunisation may need to be considered if non-health care specialists are regularly required to provide such care.

5. Responsibilities

5.1 Shipowners and employers have a duty to protect the health and safety of workers (so far as reasonably practicable). This general duty of care includes minimising the risks of infection taking into account the routes and destinations of ships by:

- Making arrangements for infection control on board, ensuring that hygiene measures are effective and suitable
- Making seafarers aware of risks of infection
- Supplying medical stores with these risks in mind including where necessary malaria supplies and protection from insect bites



- Providing and paying for relevant pre travel preventive measures such as immunisations and malaria prophylaxis.
The discharge of these duties needs to be encompassed within a procedural system which is effective, and which can be audited.

5.2 Before a seafarer is appointed to a ship, the maritime employer, including the manning agency or ship management company where they formally employ the seafarer(s), must establish where each crew member will be travelling to and the risks of infection. They should then

- check the immunisation status of the seafarer
- ensure that any missing immunisations are given
- ensure that preventative medication for malaria has been started where appropriate.
- check that if required appropriate malaria medications and insect bite avoidance measures (e.g. insect repellent sprays) are available on board
- if not briefed on destinations, then delegate the above to the shipowner and inform the seafarer.

In the latter case the shipowner then has the duty to arrange these measures even when they are not the employer of the seafarer. The same applies if the voyage pattern is changed.

5.3 Once full information regarding the itinerary of the proposed vessel is available, travel advice, relevant immunisations and malaria prophylaxis, as well as medical reasons for not giving one of the specific antimalarial treatments may be provided (for a fee) by:

- Some but not all doctors approved by the MCA to undertake seafarer medical examinations (Approved Doctors)
- Specialist travel health clinics
- Company OH Providers.

In the UK, routine immunisations recommended for all members of the population (see Annex 2) are provided by General Practitioners, usually under the NHS.

5.4 It is the seafarer's responsibility to comply with infection control measures instigated by the employer. The seafarer should ask for and keep securely a record of immunisations administered and any specific individual requirements concerning the use of malaria medication including possible side effects and present it to the Approved Doctor at medicals and when requested by employers. They should also be aware of the importance of informing any doctor of their recent locations of work if they develop symptoms such as a flu-like illness, fever, or diarrhoea, especially if they have recently flown home from a vessel in an area subject to specific infections. The seafarer's record should be checked before departure by the ship operator and finally by the ship's master.

6. Schedules for immunisation

6.1 The information in Annex 2 to this Notice indicates the requirements for immunisation in broad terms. The doctor providing the immunisations will be able to check precise recommendations and advise on the correct immunisation schedule.



More Information

Seafarer Safety and Health Branch
Maritime and Coastguard Agency
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Spring Place
105 Commercial Road
Southampton
SO15 1EG

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e-mail: medical@mca.gov.uk

Website Address: www.gov.uk/government/organisations/maritime-and-coastguard-agency

General Enquiries: infoline@mca.gov.uk

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Annex 1 Useful references for further information:

The [Code of Safe Working Practices for Merchant Seafarers](#). Also available from www.tsoshop.co.uk or Tel: 0333 202 5070

The Ship Captain's Medical Guide – 23rd Edition. Maritime and Coastguard Agency published 2019 by TSO (as above) should be carried on board – available as above.

Wellbeing at Sea: A Pocket Guide for Seafarers published 2020 by TSO (as above)

Travel Health advice

- Foreign and Commonwealth Office, General travel health and safety www.fco.gov.uk/travel/
- National Travel Health Network and Centre (NaTHNaC), Travel Health Pro section <https://travelhealthpro.org.uk/>
- The World Health Organization: International Travel and Health; Vaccination Requirements and Health <https://www.who.int/travel-advice>
- "Fit for Travel" is a public access website provided by the NHS which gives travel health information for people travelling abroad from the UK www.fitfortravel.scot.nhs.uk
- The International Society of Travel Medicine: an information resource for both travel medicine practitioners and travellers www.istm.org
- Royal College of Nursing Travel Health advice <https://www.rcn.org.uk/clinical-topics/public-health/travel-health>
- World Health Organization **International Health Regulations (2005)** ISBN-13 9789241580410. <http://www.who.int/csr/ihr/en/index.html>

Cruise ships

- CDC Travellers' Health. Cruise Ship Travel: Health recommendations. <https://wwwnc.cdc.gov/travel/page/cruise-ship>
- CDC. Vessel Sanitation Program. <http://www.cdc.gov/nceh/vsp>

Immunisations

- Department of Health, Immunisation against infectious disease - 'The Green Book'. <https://www.gov.uk/government/collections/immunisation-against-infectious-disease-the-green-book>
- For the UK Immunisation schedule see Chapter 11 https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/855727/Greenbook_chapter_11_UK_Immunisation_schedule.pdf

Medications and vaccines

- MedicinesComplete, from the Royal Pharmaceutical Society includes the British National Formulary. <https://about.medicinescomplete.com>



Annex 2 UK Routine and Job Specific Immunisations and Geographical Requirements

1. UK Routine Immunisations

In the UK children are routinely vaccinated against the following infections. It should be borne in mind however that older seafarers or those born or brought up in different countries may have been vaccinated differently.

- Diphtheria
- Haemophilus influenzae type b (Hib)
- Hepatitis B
- Human papillomavirus (certain serotypes)
- Measles
- Meningococcal disease (certain serogroups)
- Mumps
- Pertussis (whooping cough)
- Pneumococcal disease (certain serotypes)
- Polio
- Rotavirus
- Rubella
- Tetanus

For more detail and up to date information on both childhood and adult immunisation schedules see the UK publication [Immunisation against infectious disease](#).

2. Additional immunisations

2.1 Apart from identifying which childhood vaccinations have been given and ensuring that these are up to date, employers or shipowners may wish to consider the advantages of vaccinating crew against other childhood illnesses (e.g. chicken pox) in view of the risk to adults in contracting these diseases, impact on safe manning in the event of an outbreak on board and costs or delays incurred due to port health restrictions.

2.2 Further immunisations should be considered for travel outside of NW Europe, N America, Japan, Australia & New Zealand, or in consideration of local endemic or epidemic disease e.g.:

- Hepatitis A
- Hepatitis B
- Typhoid
- Diphtheria
- Meningococcal meningitis

2.3 Yellow fever vaccination is required for entry into many countries when arriving from countries with risk of yellow fever transmission (sub-Saharan Africa, parts of Central and Southern America). Port Authorities may require an internationally recognised certificate.

2.4 Job related risks are discussed in 4 above.



Annex 3 Insect borne diseases including malaria

1. Insect borne diseases

- 1.1 A number of infections such as malaria, dengue, zika virus and yellow fever are transmitted by mosquitoes, although ticks and other insect or animal vectors may be encountered ashore.
- 1.2 Anyone who falls ill whilst in or after leaving an area with risk of these conditions should inform a doctor immediately that they have been exposed to risk of insect borne infection. This applies up to twelve months of return from a malarial area, and it is particularly important to seek urgent diagnosis and treatment for any feverish illness even when preventative treatment has been taken.
- 1.3 Avoidance of insect bites should be the mainstay of prevention in tropical areas. Although specific preventative measures are available for malaria and yellow fever, this is not the case for other infections, and failure of treatment is a possibility.
- Wear long-sleeved shirts and long trousers when going on deck or ashore particularly after dusk when mosquitoes are most active
 - Use insect repellent on any exposed skin
 - Keep openings (e.g. doors, portholes, ventilators and hatches) closed where possible
 - Use mosquito wire-screening and nets on any openings
 - Use anti-mosquito preparations or insecticides, treating compartments with insecticide spray and killing any mosquitoes found
 - Use filtered air conditioning where available
 - If seafarers need to stay ashore in non-air-conditioned accommodation, beds should have nets. Nets should preferably be impregnated with permethrin, and well tucked in with no tears or holes

2 Malaria Prophylaxis (prevention)

- 2.1 Since immunisation against malaria is not available, a course of preventive medication is required when entering many tropical areas.
- 2.2 Detailed local information on risk is needed to decide whether or not medication is required, and what medication to use. The Company will need to obtain specific advice from a travel medicine specialist on the particular regime to be followed for each area. Considerations will include cost, efficacy, local resistance patterns, simplicity of dosage schedule and possible adverse effects of the medication.
- 2.3 There are reliable Internet sources, which specify the current malaria risk in different locations, as well as providing information on any drug resistance, listed in Annex 1 to this Notice. Additional valid local knowledge may be relevant to particular ports. Specific information is not provided here, as drug resistance is common so recommended regimens are subject to change.
- 2.4 It is the ship operator's responsibility to ensure that a vessel entering malarious areas carries appropriate medication to prevent malaria in sufficient quantities and to ensure that ships' masters are familiar with the advice given with the medication.
- 2.5 Medication should be started from days to weeks in advance of arriving in the affected area depending on the medication used, so forward planning is essential. Medication must also continue for the specified time after leaving the area. It is the master's responsibility to determine when anti-malarial tablets should be started and finished, based on the timing of visits to areas where there is a risk of infection.



- 2.6 Compliance is essential, as most deaths occur in those who do not take the tablets for the required period or in the recommended dosages.
- 2.7 Some treatments are suitable for all seafarers, but others require the individual to have medical clearance before administration. This is important where drug-resistant forms of malaria exist, and as a result, the first choice medications cannot be used. Doses and choice of medicine may have to be altered when someone has another illness or is taking treatment for another medical condition. The Travel clinic, OH adviser or Approved Doctor will be able to advise the seafarer whether they have any medical reasons for not using particular antimalarial medicines.
- 2.8 Insect bite avoidance measures remain important regardless of any medication taken since even where appropriate medication has been taken the risk of contracting malaria remains.
- 2.9 Advice for seafarers who remain on board or are only going as far as the dockside or adjacent areas is not the same as that for travellers to rural areas, as risk in many (but not all) ports is much lower than inland. Crew joining or leaving ships in malarious areas may therefore need prophylactic treatment when those who are already on board may not.

3 Standby treatment

- 3.1 Appropriate emergency standby medication for treatment of malaria should be carried to be used in the event of a suspected case, either in a location where anti-malarial tablets are not indicated because of the low level of anticipated risk, because a seafarer has failed to take the appropriate preventive medicine, or where symptoms are present despite the use of antimalarials.
- 3.2 Standby treatment should be seen as for emergencies only and is aimed at saving the patient's life and not as routine self-medication. It should only be advised if the seafarer will be remote from medical facilities, has been advised about the symptoms of malaria and how to use the medication.
- 3.3 The agent used for standby treatment should be different from the drugs used for prevention, both to minimise drug toxicity and due to concerns over drug resistance.
- 3.4 Based on specialist advice, the carriage of standby treatment alone may be justified where the risks are low.
- 3.5 Standby treatment must always be accompanied by contact with a tele medical advisory service for recommendations on subsequent action including the resumption of malaria prophylaxis. Anyone who has been treated for malaria or suspected malaria must have a medical examination at the next port of call. Serious cases need urgent hospitalisation.
- 3.6 More detailed guidance on diagnosis and care can be found in The Ship Captain's Medical Guide.

