

I 1 Instruction Sheet on Malaria

German: *Malaria*; French: *paludisme*; Spanish: *paludismo*

1. GENERAL INFORMATION ON MALARIA

1.1 Transmission

Malaria is a contagious disease that is widespread in warm climatic regions, and, as *malaria tropica*, is also acutely life-threatening, especially when it affects the brain. It is transmitted by the bite of a certain type of mosquito (*anopheles*), particularly during the hours of twilight and darkness.

1.2 Symptoms

About 7 – 12 days after infection, and sometimes even later, the person becomes feverish with general flu-like illness, headaches, muscle aches, often coupled with perigastric complaints with nausea, vomiting and diarrhoea.

1.3 Forms of Malaria

Whereas with the “3-day fever” (*malaria tertiana*) and “4-day fever” (*malaria quartana*) a classic attack of malaria involving shivering, headaches and muscle aches can recur every 3 or 4 days, the symptoms of the dangerous “tropical fever” (*malaria tropica*) are often uncharacteristic, so that under some circumstances they are wrongly diagnosed as a feverish cold or enteritis.

It is absolutely necessary to obtain radio medical advice in such cases.

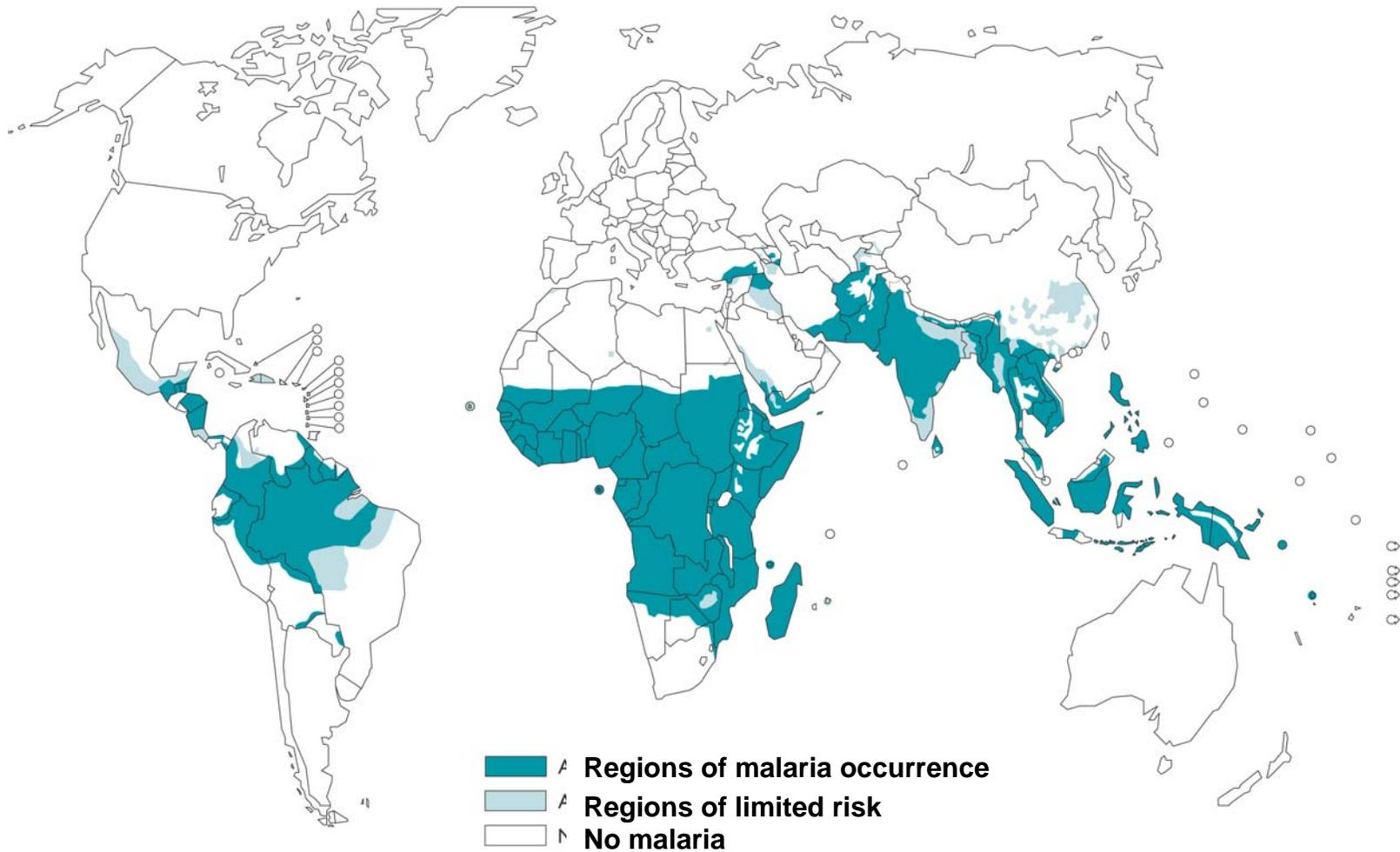
1.4 Occurrence of Malaria

Malaria occurs primarily in tropical Africa, Southeast Asia, the northern part of South America and Central America (see Fig. 1). In Africa, *malaria tropica* is particularly common, although in principal all forms of malaria occur in practically all tropical regions.

Regions considered hazardous for shipping are tropical Africa and Indonesia east of Bali; that is from Lombok (all the dark highlighted areas in Figs. 2 and 3).

Figure 1.

Malaria risk regions according to WHO



This map is a visual aid only, it is not a definitive source of information about malaria endemicity

Source: ©WHO, 2004

Figure 2.

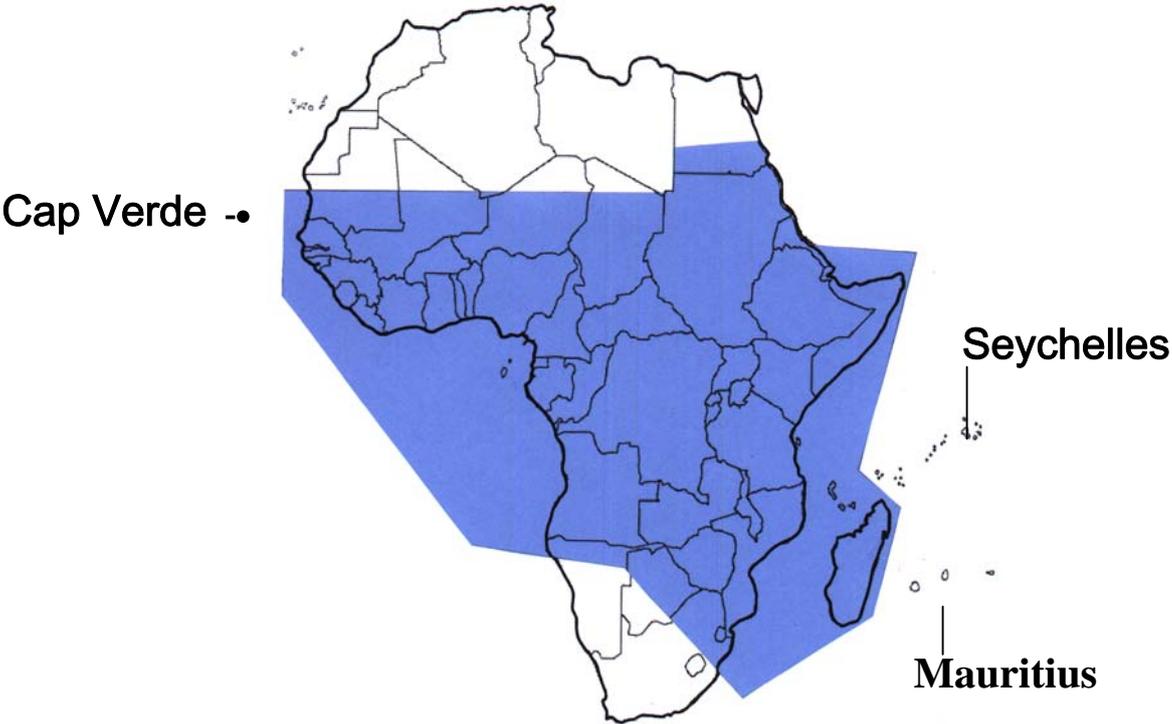
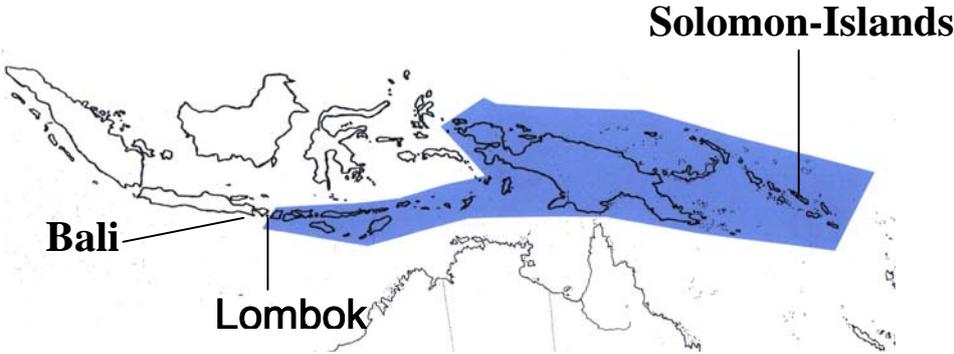


Figure 3.



2. PREVENTION (malaria prophylaxis)

2.1 General preventive measures

Through suitable preventive measures and their regular application, it is possible to prevent the outbreak of malaria. The risk of infection; i.e. the bite of a malaria-infected mosquito, can be reduced appreciably by wearing, during the evenings and at night, light-coloured clothing that covers as much skin as possible, rubbing the skin with mosquito repellents, sealing off rooms with wire-mesh windows and doors and sleeping places with mosquito netting, and by spraying insecticides.

2.2 Medicinal Measures

Medicinal prophylaxis is frequently necessary in addition. As a rule, it must be carried out in all malaria-risk areas (see Figs. 2 and 3) if the ship's period of stay takes in the hours of dusk and darkness, and must be continued after leaving the malaria-risk area according to the following scheme:

Drug: Malarone® (250mg atovaquone/100mg proguanil hydrochloride)

	24-48 hours before arrival in risk area	daily during stay in risk area	daily for a further 7 days after leaving malaria-risk area
Adults	1x1 tablet	1x1 tablet	1x1 tablet

The maximum period of intake should not exceed 37 days; if intake over a longer period is necessary radio medical advice should be obtained or the Maritime Medical Service of the See-Berufsgenossenschaft Hamburg consulted.

The tablet should be taken at roughly the same time daily with a meal or a milk product. If the person vomits within an hour after taking the tablet, intake should be repeated. The instructions on the enclosed leaflet should be observed (e.g. contraindications).

The dispensing officer must convince himself that they are actually swallowed. One single omission may compromise the protective effect.

Recommendations for prevention and treatment (see 3. below) may change according to resistance situation and after the introduction of new drugs. It is thus imperative to obtain immediate radio medical advice in any case of suspected malaria.

Shipping companies whose ships are calling at ports in the above-mentioned malaria-risk regions (Figs. 2 and 3) are asked to obtain advice about the quantities of supplies Malarone® required for prophylaxis before the start of the voyage and about checking the ship's dispensary from the Port Health Service of the port of registry or from the Occupational Health Service of the See-Berufsgenossenschaft Hamburg.

3. TREATMENT

- 3.1** If malaria is suspected without prior Malarone® prophylaxis, after a blood sample has been taken (see 4.1) and radio medical advice obtained, adults should be given 4 Malarone® tablets a day on 3 consecutive days. The treatment of children/persons under 40 kg in body weight is in line with their weight and can be inferred from the enclosed leaflet.

4. VERIFYING CASES OF MALARIA / RECOGNITION AS AN OCCUPATIONAL DISEASE

Reliable verification of malaria is only possible by taking a blood sample. Therefore, in the case of all febrile illnesses which appear to indicate malaria or which cannot be clearly diagnosed, and immediately after every death for unknown reasons which occurs in connection with a febrile illness or during a tropical voyage, a blood sample must be taken. Only through later examination of this blood sample in Germany will it be possible to decide whether the diagnosis of malaria was correct, and whether the illness is therefore an occupational disease.

For this reason, it is always necessary for each ship to carry a number of micro slides (glass plates), blood-collecting needles, lancets and skin disinfectants. The blood sample must be sent to See-Berufsgenossenschaft Hamburg (in the appropriate container for micro slides). Each container can accommodate two micro slides. The blood sample can be prepared by anyone without the need for special skills.

4.1 Taking a blood sample

INSTRUCTIONS

FOR TAKING A BLOOD SAMPLE

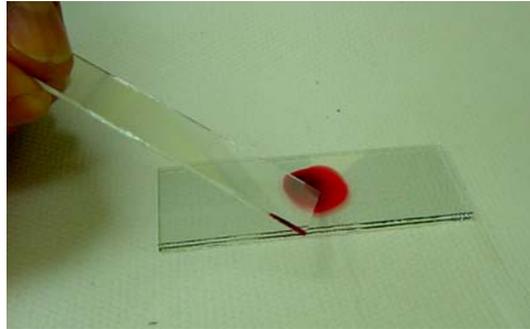
(THICK DROP)

Care must be taken to ensure that the sample is taken before a malaria remedy is administered.

- a) Clean the patient's earlobe with sterile alcohol sponges and allow it to dry. After that, it is advisable to clean (degrease) the micro slide with the alcohol sponge and allow it to dry.
- b) Insert a sterilized lancet or needle (e.g. injection needle) into the edge of the earlobe at its deepest point.
- c) By pressing the sides of the earlobe with your fingers, a drop of blood can be made to appear; apply it to the glass plate (cleaned beforehand) by holding the plate up against the blood drop. Then, using the needle, a sterilized glass

rod or the corner of a second micro slide, spread the drop out in a moderately thick layer to about the size of a cent (see Fig. 4); two drops on each of two plates.

Figure 4



- d) Let the blood samples dry in the air, with the blood side upwards (duration about 1 – 2 hours; protect the samples from flies). Do not put the glass plates on top of each other.
- e) Attach adhesive labels to the dry plates indicating the patient's name, date of birth, rank, and the place and date of the sample. Do not cover the blood sample, not even on the reverse.
- f) Insert the glass plates into the slots of the container, and close it.

Captains and ship's officers can receive instruction in the very easy technique of taking a blood sample: in the mornings at the Maritime Medical Service, Reimerstwierte 2, Hamburg, or in the other offices of the Maritime Medical Service (Bremen: Faulenstrasse 67; Bremerhaven: Bartelstr. 1; Kiel: Preusserstrasse 1 – 9; Rostock: Doberaner Strasse 44 – 47).

5. NOTIFICATION AS AN OCCUPATIONAL DISEASE

Malaria is an occupational disease which must be reported!

For the proper handling and investigation of all cases, it is necessary that – in addition to the blood sample – the Notification of an Occupational Disease (form) be sent to the See-Berufsgenossenschaft, together with a detailed report by the vessel's master. The report should explain when the prophylaxis with medicines began on the voyage in question, what medication was administered, how consumption was monitored and how long the chemoprophylaxis was maintained. If the ports of call are known to exhibit an appreciable occurrence of malaria cases, this should also be stated in the report.

5.1 In-service examination

It must be noted that, for each case of illness, an in-service examination must be made by a physician authorized by the See-Berufsgenossenschaft after the ship has returned to Germany, even if the sick person has recovered completely in the meantime. This examination can be undertaken at the Maritime Medical Service in Hamburg, or by one of the authorized physicians in the other port cities.