

## Key aspects briefly summarized

- Malaria is a life-threatening parasitic infection, which is transmitted by mosquitoes at night.
- Great care should be given to preventive mosquito protection from dusk to dawn in all malaria risk areas.
- In high-risk areas, the intake of prophylactic medication is strongly advised.
- For stays in low risk areas: discuss with a travel health advisor whether carrying an emergency self-treatment against malaria is necessary.
- If you belong to a special risk group (pregnant women, small children, senior citizens, persons with pre-existing conditions and/or with immune deficiency): seek medical advice before the trip as malaria can quickly become very severe.
- If you have a fever  $>37.5^{\circ}\text{C}$  on axillary or tympanic measurement (a functioning thermometer is indispensable!) during or after the trip, see a doctor / hospital immediately and have a blood test done for malaria! This applies regardless of whether you have used prophylactic medication or not!
- For personal safety, we strongly recommend getting informed in detail about malaria and reading the following information.

### Disease

Malaria is a life-threatening acute febrile illness caused by parasites called Plasmodia, which are transmitted by mosquitoes at night (between dusk and dawn). Rapid diagnosis and treatment are crucial to prevent complications and death, and to cure the disease. To prevent malaria, diligent mosquito-bite protection is important, as well as taking additional prophylactic (preventive) medication when staying in high-risk areas. Risk groups such as pregnant women, small children, elderly persons or travellers with complex chronic conditions should seek specialized advice.

### Occurrence / Risk areas

Malaria occurs widely in tropical and subtropical areas in Africa, Asia, South America, and Central America (see also malaria map).

### Transmission

*Plasmodia* are transmitted to humans by *Anopheles* mosquitoes, which only bite between dusk and dawn. They sometimes go unnoticed, because they are small and make almost no noise.

### Symptoms

After visiting a malaria endemic area, the symptoms usually appear seven days to one month after infection, but sometimes after several months or more than a year. Symptoms begin with fever and may appear very similar to flu. Other symptoms may include headache, muscle pain, nausea, and sometimes diarrhea or cough. The diagnosis can only be confirmed with a blood test.

### What to do in case of symptoms?

Fever during or after a stay in a malaria-endemic area is an emergency! Prompt diagnosis and treatment are required as the health of people with malaria can deteriorate very quickly. That means: if you have fever  $>37.5^{\circ}$  (use a thermometer!) you need to test for malaria within a maximum time-frame of 24 hours, regardless of whether or not you have used prophylactic medication (chemoprophylaxis). Try to reach a doctor or hospital where you can reliably receive such a test. If the first test is negative, it should be repeated on the following day if the fever persists.

Malaria can be treated effectively, but without treatment, this disease can quickly cause complications and become fatal. People who have had malaria in the past are not protected from being infected again.

## Prevention

Prevention of malaria requires a combination of approaches:

1. **Diligent mosquito-bite protection** at dusk and at night until dawn is of key importance. Use it for all regions where malaria is present, including areas where the risk is minimal. Bite protection is also effective against other insect-borne disease that often occur in the same region! It consists of the following measures:
  - **Clothing:** Wear long-sleeved clothes and long trousers. For additional protection, impregnate the clothes beforehand with insecticides containing the active ingredient permethrin (e.g. Nobite® Textile).
  - **Mosquito repellents:** Apply a mosquito repellent to uncovered skin.
  - **Sleeping room:** Sleep in an air-conditioned room or under an impregnated mosquito net. Cautiously use 'knockdown' sprays indoors or burn mosquito coils strictly outside, e.g. under a table in the evening.
  - **Chemoprophylaxis:** Depending on the region and season, it may be necessary to take a prophylactic medication. This is recommended for all destinations with a high risk of malaria (marked as red on our maps). It needs to be taken with food before, during, and after your stay. Discuss with your travel health advisor to ascertain if you need to take chemoprophylaxis for your trip. The appropriate medication and the right dosage will be prescribed.
2. **Taking standby emergency treatment (SBET, drugs used to self-treat malaria)** with you is recommended for special risk situations (stay in regions with **low** malaria risk and if there is no or uncertain medical care available). Talk to your travel health advisor to determine whether carrying SBET is necessary with you, especially if you plan a trip where reliable medical infrastructure is not assured.
3. For some **risk groups**, malaria can quickly develop to a dangerous disease. If you are **pregnant**, if you are travelling with **small children**, or if you are a **senior citizen** and / or if you have **other illnesses /pre-existing conditions** and/or you are **immunocompromised**, you should seek advice from a specialist in travel medicine to determine whether chemoprophylaxis is recommended for your trip – even if the area is marked as low risk malaria zone.

For travellers, there is currently no malaria vaccination available.

## Of note

- Take a functioning clinical thermometer with you!
- Malaria symptoms develop at the earliest 7 days after entering the malaria area. A fever > 37.5° always means suspicion of malaria!
- In case you have fever during or even months after a stay in a malaria area:
  - Immediately consult a health care facility to rule out malaria through a blood test.
  - This should be done within a maximum of 24 hours and applies regardless of whether you have used prophylactic medication or not!
  - The blood tests should be repeated if the result is negative or doubtful.
- For persons having visited a malaria area with low risk and for whom SBET was prescribed:
  - If you have fever: immediately try to get tested for malaria.
  - If this is not possible, and fever persists for longer than 24 hours or recurs: start taking the standby emergency-self-treatment as it was prescribed by your travel health advisor.
  - Even if you have started your self-treatment against malaria: seek medical advice as quickly as possible to get the cause of your fever diagnosed.

For personal safety, we strongly recommend getting informed in detail about malaria and taking this factsheet with you on your trip.