

Malaria, information and prevention (Engelse vertaling)

What is malaria?

Malaria is a disease that is caused by parasites in the blood (the official name of the parasite is Plasmodium). People can contract these parasites through a bite of the malaria mosquito (Anopheles), which is active after sunset and during the night. There are five different existing malaria parasites. The most dangerous of these is called Plasmodium falciparum, which causes the most severe form of malaria that can kill travellers within days. Although the other four parasites can also cause severe disease, they are generally never fatal. The first symptoms of malaria resemble the flu.

The most frequent complaints are:

- Fever
- Fatigue
- Headache
- Muscle pain

Other possible complaints are:

- Diarrhoea
- Vomiting
- Coughing and shortness of breath

Complaints can begin as early as eight days after infection through a mosquito bite. Malaria is easy to treat, if timely diagnosed. When you visit a doctor, you should therefore always mention a recent stay in the (sub)tropics.

How can I prevent malaria?

Malaria can be prevented in two ways:

- Prevention of mosquito bites.
- Prevention of malaria after a mosquito bite (by the immediate killing of malaria parasites that have entered the blood stream).

How do I prevent a mosquito bite?

Malaria mosquitos are active in the period between sunset and sunrise. During this period, you can protect yourself against bites in the following ways:

- Wear long trousers and long-sleeve shirts.
- Apply mosquito repelling agents on bare skin surfaces. The best available repellents contain 30-50% DEET. Be careful not to apply DEET on lips, eyes or damaged skin.

- Sleep in airconditioned quarters, or under an (impregnated) mosquito net. After infection, pregnant women have a higher risk to develop severe malaria.

Advice for pregnant women:

- Preferably wear adjusted clothing that maximally covers skin surfaces.
- Stay in mosquito free quarters.
- Mosquito repellents that contain up to 30% DEET can safely be used during pregnancy, but it is advised to use them sparingly. Breast feeding women can safely use DEET-containing repellents Children can safely use mosquito repellents that contain DEET. Children under 2 years of age should not use repellents that contain more than 30% DEET.

Advice for children:

- Children should not apply the DEET containing repellent themselves.
- Do not apply DEET containing repellent on childrens' hands, to prevent them from rubbing it in their eyes or mouth.
- Carefully read the information leaflet and adhere to the prescribed application intervals.
- Wash off DEET containing repellent before going to sleep, if it was applied shortly before AND if children sleep under a (impregnated) mosquito net.

How do I prevent malaria after a mosquito bite?

Malaria can be prevented by using anti-malaria tablets (also called chemoprophylaxis). These tablets contain agents that kill malaria parasites when they enter the bloodstream after a mosquito bite. Severe malaria (by Plasmodium falciparum) can develop up to until approximately 4 weeks after infection. With the less severe forms of malaria, an attack can occur at longer time intervals of several months (up to a maximum of 4 years) after discontinuation of chemoprophylaxis. Such an attack is not preventable by chemoprophylaxis, but can be easily cured.

Anti-malaria tablets (chemoprophylaxis)

Different classes of anti-malaria tablets exist on the market. The best choice depends on the itinerary, duration of travel, underlying disorders and concomitant use of medications. It is therefore possible that travellers who are apparently similar are advised differently.

Malarone ® (tablet 100 mg proguanil/250 mg atovaquone) Malarone Junior ®(tablet 25 mg proguanil/62,5 mg atovaquone)		
Weight (kilograms)	Dose (number of tablets)	Remarks
< 5	Do not use	Use once daily, during evening dinner. Start 1 day before departure to a malaria endemic area. Continue up until 1 week after leaving the malaria endemic area.
5-20	1 juniortablet once daily	
21-30	2 juniortablets once daily	
31-40	3 juniortablets once daily	
≥ 40	1 adult tablet once daily	

Malarone® is malaria prophylaxis prescribed most frequently in the Netherlands. Most common side effects include stomach / intestinal problems and headaches.

When NOT to use Malarone® :

- Children with a weight below 11 kilograms.
- During pregnancy or breast feeding, when the child weighs less than 5 kilograms.
- With concomitant use of metoclopramide, tetracyclin or rifampicin.
- Hypersensitivity/allergy for proguanil or atovaquone.
- Kidney function disorders: consult a specialized physician.
- HIV-medication: consult a specialized physician.

Lariam ® (mefloquine, tablet 250 mg)		
Weight (kilograms)	Dose (number of tablets)	Remarks
<5	Do not use	Start 3 weeks before departure to a malaria endemic area. Continue up until 4 weeks after leaving the malaria endemic area.
5-10	Capsule 5 mg/kg once a week	
11-20	¼ tablet once a week	
21-30	½ tablet once a week	
31-45	¾ tablet once a week	
>45	1 tablet once a week	

Lariam® can give the following complaints: nausea, abdominal pain, dizziness and problems with sleeping (strange dreams, sometimes nightmares) or mood shifts. Severe (psychiatric) side effects are rare (approximately 1 in 10,000 people).

Research has shown that Lariam® can be safely used during all trimesters of pregnancy. For this reason, it is the first choice prophylactic drug for pregnant women travelling to areas where multi-resistant malaria is endemic.

Doxycycline (tablet, 100 mg)		
Weight (kilograms)	Dose (number of tablets)	Remarks
≤ 45	2 mg/kg once daily	Same schedule as Paludrine®
> 45	1 tablet once daily	

The most important side effect of doxycycline are hypersensitivity to sunlight, gastro-intestinal complaint and vaginal discharge due to fungal infection. With the use of doxycycline, the following warnings apply:

- Do NOT use:
 - During pregnancy or breast feeding
 - Children below the age of 8 years
 - Severe liver function disorders
 - Allergy to doxycycline
- During use and until 7 after discontinuation of doxycycline, oral contraceptives are less reliable. It is advised to use additional methods of contraception
- Doxycycline is less effective during concomitant use of certain drugs against epilepsy, or anticoagulant medication.

- Women are advised to carry medication to treat a fungal vaginal infection when necessary.
- Use a good sun screen, that gives protection against both UVA and UVB.

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