

Malaria

Information Sheet

What is Malaria?

Malaria is a serious and sometimes fatal disease caused by the bite of an infected mosquito. In the human body, the parasites multiply in the liver, and then infect red blood cells.

Four kinds of malaria parasites can infect humans: *Plasmodium falciparum*, *P. vivax*, *P. ovale*, and *P. malariae*. Malaria can usually be prevented.

How does a person become infected?

Malaria is caused by parasites that are transmitted by the bite of a female anopheline mosquito. These mosquitoes most commonly bite for the two hours after dusk and the two hours before dawn.

Malaria from the red blood cells of an infected person can also be transmitted by blood transfusion, organ transplantation, or the shared use of needles or syringes contaminated with blood. Malaria is not spread directly from person-to-person, i.e. you cannot get malaria from contact with infected people (e.g. sitting next to someone with malaria).

Malaria is typically found in tropical and subtropical countries, including parts of Central and South America, Africa, South Asia, South-east Asia, the Middle East and small parts of Oceania. You cannot catch malaria in New Zealand. Travellers from malaria-free regions are at risk if going to a destination where malaria occurs as they have little or no immunity to the disease.

What are the signs and symptoms of the illness?

Symptoms of malaria include fever and flu-like illness, including shaking, chills, headache, muscle and joint aches and tiredness. Nausea, vomiting and diarrhoea may also occur. Malaria may also cause anaemia and jaundice (yellow colouring of the skin and eyes). In severe cases, the illness may cause seizures, coma, kidney and respiratory failure, and shock which may lead to death.

For most people, symptoms begin 10 days to 4 weeks after infection, although a person may feel ill as early as 7 days or as late as 1 year later.

How is malaria diagnosed?

Malaria can be diagnosed from a test where a drop of your blood is examined under the microscope for the presence of malaria parasites. Any person with a fever or flu-like illness who has been to a malaria-risk area in the past 12 months should be tested for the disease.

How is malaria treated?

Malaria should be treated early in its course so it is important that you seek medical help if you develop any malaria-like symptoms. If identified early and treated appropriately, almost all cases of malaria can

be completely cured. Several good anti-malarial drugs are available in New Zealand. The type of drugs and length of treatment depend on several factors, including the type of malaria, where the person was infected, their age, whether they are pregnant, and how sick they are.

How bad is it?

P. falciparum can cause severe and life-threatening malaria (sometimes referred to as 'malignant' or cerebral malaria). *P. falciparum* is very common in many countries in Africa south of the Sahara desert and in some Asian countries.

P. vivax or *P. ovale* malaria usually causes a more mild illness and is the major cause of malaria cases outside Africa. Relapses of *P. vivax* or *P. ovale* infection may occur months to years after treatment.

People who have little or no immunity to malaria, such as young children, pregnant women or travellers coming from areas with no malaria, are more likely to become very sick and die.

Will I need time off school, childcare or work?

Generally you can return to work, childcare or school when you are feeling well enough to attend as the disease does not pass from person-to-person.

How do I avoid the illness?

Prevention of mosquito bites is a very important way to stop malaria. You and your family can prevent malaria by:

- Taking anti-malarial drugs to kill parasites
- Wearing clothing that covers the arms and legs, especially if out of doors at night
- Applying permethrin insecticide to clothes. Permethrin can be bought at Travel Medicine Clinics
- Sleeping under mosquito nets, preferably impregnated with permethrin
- Applying insect repellent to skin. The most effective repellents are those containing DEET (diethyl toluamide) – at a concentration of between 30% to 50%
- Using electric insect-repellent devices, or mosquito coils
- When possible, staying in accommodation that has screens on doors and windows, or is air-conditioned

Many anti-malarial drugs are available but none are 100% effective. Taking anti-malarial drugs in combination with avoiding being bitten is your best protection against malaria. Your healthcare provider and you will decide on the best drug for you based on your travel plans, medical history, age, drug allergies, pregnancy status and other health factors. You will need to visit your healthcare provider **4-6 weeks before** travel to allow enough time for the drugs to become effective, and for a pharmacy to prepare any special doses of medicine (especially doses for children and infants). Many anti-malarial drugs must be taken for a period of time after you leave the malaria area so it is important that you complete the required course.

For further information please contact your doctor, travel health specialist or:



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