



July 2011

# Malaria

## What is malaria?

Malaria is a serious illness which affects red blood cells. Malaria is caused by infection of parasites of the *Plasmodium* species. The disease occurs in areas such as Africa, South America, Southeast Asia and parts of the Indian sub-continent.

There are four species of malaria that infect humans: *Plasmodium falciparum*, *Plasmodium vivax*, *Plasmodium ovale* and *Plasmodium malariae*. *P. falciparum* and *P. vivax* infections are the more common worldwide. *P. falciparum* is the most serious form of malaria, causing more severe or fatal infections.

## What are the symptoms of malaria?

The illness begins with malaise and fever for several days, followed by shaking chills and rapidly rising temperature, accompanied by headache and nausea. After a fever-free interval, the cycle of chills, fever and sweating recurs daily, every other day or every third day.

If the person is not treated severe malaria may develop. The person's spleen may become enlarged, and the levels of platelets and red blood cells may drop very low. This may progress to include jaundice, difficulty breathing, confusion, seizures, kidney failure, coma and death. A person with malaria may develop relapses throughout their life. The severity of the illness depends on which species of the malaria parasite is responsible for the infection.

The time for symptoms to develop after exposure to the parasite depends on the species: nine to 14 days for *P. falciparum*; 12 to 18 days for *P. vivax* and *P. ovale*; and 18 to 40 days for *P. malariae*. Some types of *P. vivax* may not cause symptoms until six to 12 months after exposure.

If a person becomes infected with malaria through a blood transfusion, symptoms can develop soon afterwards or up to two months later, depending on the number of parasites transfused.

People who become infected by the *P. vivax* or *P. ovale* species may experience relapses of malaria.

## How does malaria spread?

Most cases of malaria are acquired through the bite of an infected female mosquito. However, malaria can also be spread by transfusion with infected blood, by shared needle use, by organ transplant and from a mother to her unborn child.

## How is malaria prevented?

1. Get a risk assessment with a travel medicine doctor or your family doctor to determine both your risk of exposure to malaria and your need for appropriate preventative treatment. While no vaccine is available, there are anti-malarial medications that can decrease the chance of developing malaria if they are taken properly. The medication is usually started one week before travelling and continued for four weeks afterwards. The medication prescribed will depend on where you will be visiting. Always follow your doctor's instructions so that the medication can be effective.

For further information, please call:  
**York Region Health Connection 1-800-361-5653**  
**TTY 1-866-252-9933 or visit [www.york.ca](http://www.york.ca)**

## 2. Try to prevent mosquito bites:

- if possible, avoid going out between dusk and dawn. If you must go out at night, wear long sleeves and long pants.
- apply insect repellent containing active ingredients, such as N,N-diethyl-m.tolamide (DEET). The manufacturer's recommendations for use must not be exceeded, particularly for small children and women who are pregnant.
- if accommodations allow entry of mosquitoes, use insecticide-treated mosquito nets over the bed, with edges tucked under the mattress. Make sure the netting has no holes. Sleep in the middle of the bed to avoid contact of the body to the mosquito net. Use screens over doors and windows; if no screens are available, close windows and doors at night.

## How is malaria treated?

Prompt and effective treatment is necessary to reduce the risk of severe disease and prevent death. Individuals must seek medical attention as soon as possible for any unexplained fever that develops one week or more after entering an area where there is a malaria risk and up to three months (or later) after departure from a risk area. Progression from malaria infection with no symptoms to severe and complicated malaria can be extremely rapid, possibly resulting in death.

Treatment is determined by your doctor and should include anti-malarial medicines.

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