



## What is malaria?

Malaria is a mosquito-borne disease caused by a parasite called *Plasmodia*. The disease is transmitted to people by the *Anopheles* mosquito. Worldwide, approximately 216 million cases of malaria occur each year causing an estimated 655,000 deaths, primarily in the African Region. In the United States, approximately 1,500 cases of malaria are diagnosed each year, even though malaria has been eradicated in this country since the early 1950s.

## What are the different types of malaria parasites?

There are four different strains of malaria parasites, called *Plasmodium*. *Plasmodium falciparum* (*P. falciparum*) is commonly found in very warm areas closer to the equator and tends to cause the most serious symptoms and sometimes death. The other three types of malaria: *P. vivax*, *P. malariae*, and *P. ovale* are fairly widespread in occurrence and do not usually cause life-threatening conditions.

## How is malaria spread?

Malaria is spread by the bite of an infected *Anopheles* mosquito. With certain types of malaria, there may be dormant forms which may cause relapsing symptoms from months to years after the initial infection. Malaria may also be transmitted by a blood transfusion from an infected person or by the use of contaminated needles or syringes. Transfusion-transmitted malaria is rare. On average, only one case occurs in the US every two years.

## How soon after exposure do symptoms of malaria appear?

The time between the bite of an infected mosquito and when symptoms develop depends on the strain of malaria. With *P. falciparum*, it is usually nine to 14 days between exposure and when symptoms develop. The time from exposure to when symptoms develop is 12 to 18 days for *P. vivax* and *P. ovale*, and 18 to 40 days for *P. malariae*. With one strain of *P. vivax*, it may be eight to ten months between exposure and when symptoms develop. When someone is infected through a blood transfusion, this time depends on the number of parasites transferred but is usually less than two months.

## What are the symptoms of malaria?

Symptoms of malaria include fever, shaking chills, headache, muscle aches, and tiredness. Nausea, vomiting, and diarrhea may also occur. Cycles of these symptoms generally occur every three days for *P. vivax*, *P. falciparum*, and *P. ovale*. With *P. malariae* symptoms generally cycle every four days. Malaria may cause anemia and yellowing of the skin and eyes due to loss of red blood cells. If untreated, *P. falciparum* may cause kidney or liver failure, seizures, mental confusion, coma, and sometimes death.

## How can malaria be prevented?

The mosquitoes that spread malaria are most active in the early morning before sunrise and in the evening before sunset. If outdoor activities are planned, it is important to wear mosquito repellent with an active ingredient such as DEET or picaridin (KBR 3023), that is proven to repel the mosquitoes that transmit malaria. Many experts believe that DEET is the best active ingredient to prevent mosquito bites from *Anopheles* mosquitoes since it is known to provide long-lasting protection.

**Are there any medications to prevent malaria?**

Before traveling to an area with regularly occurring malaria, it is recommended to make an appointment with a healthcare provider to discuss taking antimalarial medication preventatively. The area that people are visiting or traveling around helps to determine which anti-malaria medicine should be given. It is very important to take the medication according to directions given by the healthcare provider.

**Are there any effective homeopathic or natural medications to prevent malaria?**

There are no effective homeopathic or natural medications to prevent a person from getting malaria. Taking a homeopathic medicine does not protect a person from getting malaria.