

What is malaria?

Malaria is a disease caused by the Plasmodium parasite in the blood that can cause severe illness and death. There are four varieties of parasite that can cause malaria: *Plasmodium falciparum*, *Plasmodium vivax*, *Plasmodium ovale*, and *Plasmodium malariae*.

Who is at risk for malaria?

Anyone traveling or living in tropical areas (see areas of transmission at www.cdc.gov/Malaria/) of the world is at risk for becoming infected with malaria.

What are the symptoms of malaria?

High fever, chills, sweats and headache are the classic symptoms, which may appear suddenly. If untreated, fever may come and go, appearing every second or third day. Symptoms also may include nausea, vomiting, diarrhea, cough, joint pain, abdominal pain and back pain. If left untreated more severe symptoms such as encephalopathy, anemia and renal failure may occur.

How soon do symptoms appear?

Symptoms usually appear seven to 30 days after being bitten by a mosquito, depending on which species of parasite is causing the disease. In some cases, symptoms may not appear until nearly a year later.

How is malaria spread?

The parasites that cause malaria are spread by a bite from a certain variety of female *Anopheles* mosquito. It is found in certain tropical areas of the world. Malaria was eliminated from the United States in the early 1950's, but the mosquito possible for transmission of malaria in the United States is still present. Therefore, the need to watch for travel associated malaria is necessary in order to prevent the re-introduction of the disease into the U.S.

When and for how long is a person able to spread the disease?

A person can only spread the disease if they have the parasite in their blood, but the disease cannot be spread directly from person to person. It can only be spread through the bite of an infected mosquito. The parasite may remain in the blood of an untreated person from one to five years, depending on which parasite is causing the disease.

How is a person diagnosed?

The laboratory will look at a sample of blood with a microscope to see if there are any parasites present. The laboratory also will be able to tell what variety of parasite is causing the disease. Multiple samples may be needed to find parasites because they are not always seen in great quantities in the blood.

What is the treatment?

Malaria can be treated with proper medication. The type of medication depends on what variety of parasite is causing the infection, the severity of the disease, and where the person was traveling or living when infected.

Does past infection make a person immune?

No. A person may get malaria again; however, the symptoms may not be as severe.

Should adolescents or others be excluded from school, work or other activities if they have malaria?

No, infants, toddlers and school-aged children should not be excluded unless the staff determines the child is unwilling or unable to participate in activities or the staff determines that they cannot care for the child without compromising their ability to care for the health and safety of the other children in the group.

All others can attend work and other functions as long as they are well enough to do so.

What can be done to prevent malaria?

When traveling to areas with malaria, medications can be taken to prevent the disease. Different antimalarials are used for travel to different parts of the world. The medication should be taken before leaving and continued after returning, as prescribed.

Mosquito bites also should be avoided. Some ways to protect yourself include:

- Using nets with insecticide on them while sleeping.
- Remaining in areas that are screened to prevent mosquitoes from entering.
- Wearing long pants and long-sleeved shirts.
- Using a mosquito repellent that contains DEET.

To find recommendations about medications to prevent malaria, visit www.cdc.gov/travel/.

Additional Information:

Additional information is available by calling the North Dakota Department of Health at 800.472.2180.

This disease is a reportable condition. As mandated by North Dakota law, any incidence of this disease shall be reported to the North Dakota Department of Health.

Resources:

1. *Red Book: 2015 Report of the Committee on Infectious Diseases*. 30th ed. [Children in Out-Of-Home Care]. Kimberlin, DW; Brady, MT; Jackson, MA; Long, SS. American Academy of Pediatrics. 2015: 132-151.
2. *Red Book: 2015 Report of the Committee on Infectious Diseases*. 30th ed. [Malaria]. Kimberlin, DW; Brady, MT; Jackson, MA; Long, SS. American Academy of Pediatrics. 2015: 528-535.
3. Heymann, D. L. (2015). *Control of Communicable Diseases Manual, 20th Edition*. Malaria. American Public Health Association. 2015: 372-389.
4. Centers for Disease Control and Prevention. 2014. Malaria. www.cdc.gov/malaria/.