

**What is Anaplasmosis?**

Anaplasmosis is an acute, febrile illness, which can be caused by the bacteria *Anaplasma phagocytophilum*. This bacteria is transmitted to people by tick bites from the black-legged deer tick (*Ixodes scapularis*) and the western black-legged tick (*Ixodes pacificus*).

Who is at risk for anaplasmosis?

Anyone can get anaplasmosis. People who spend time outdoors in tick-infested areas are at an increased risk of becoming infected. Human infections occur most often between April and September with May through July showing the most cases. People with weakened immune systems due to other infectious diseases, who are on suppressive therapy or have abnormal spleen function appear to develop more severe disease.

What are the symptoms of anaplasmosis?

Common symptoms include fever, headache, chills, weakness, muscle pain, and nausea. Other symptoms can include joint pain, vomiting, diarrhea, cough, and confusion. If left untreated, severe symptoms can occur such as difficulty breathing, hemorrhage, renal failure or neurological problems.

How soon do symptoms appear?

Symptoms can begin to appear one to two weeks after the bite of an infected tick.

How is anaplasmosis spread?

The disease is transmitted to people by the bite of an infected tick. Ticks become infected by feeding on infected animals such as cattle, goats, deer or rodents. When that tick feeds again, the infection can be transmitted to the tick's new host. The tick must be attached to a person's skin, usually for several hours, before it can transmit the disease. The bite of the tick is usually painless.

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

This disease is not spread directly from person to person, except by blood transfusion.

How is a person diagnosed?

Anaplasmosis can be diagnosed based on symptoms, exposure to infected ticks and laboratory results from blood tests. Diagnosis is made after consulting with a health-care professional.

What is the treatment?

The disease is treated with antibiotics taken orally or by injection.

Does past infection make a person immune?

No data is available to indicate protective immunity after infection. Therefore re-infection can occur, although it is rare.

Should children or others be excluded from day care, school, work or other activities if they have anaplasmosis?

No, unless the child is too ill to participate. (This disease is not spread directly from person to person.)

What can be done to prevent the spread of anaplasmosis?

If you are in areas where ticks may be present, the following precautions can reduce the risk of acquiring anaplasmosis:

- If a tick-infested area cannot be avoided, wear a long-sleeved shirt, long pants and high socks with pant cuffs tucked into the socks. Light colored clothing will make ticks easier to find. Walk in the center of mowed trails to avoid brushing up against weeds, grasses and bushes.
- Conduct thorough "tick checks" on yourself and your children after spending time outdoors. Prompt removal of ticks, even after they have attached, can reduce the chance of anaplasmosis transmission.
- Insect repellents containing 20 percent or more DEET have been shown to be effective in repelling ticks. Use products that contain permethrin on clothing and gear. If such products are used, be sure to follow the manufacturer's directions on the label.
- Making sure pets are free of ticks will also reduce the amount of tick exposure.

To remove an attached tick, grasp with tweezers or forceps as close as possible to attachment (skin) site, and pull upward and out with a firm and steady pressure. If tweezers are not available, use fingers shielded with tissue paper or rubber gloves. Do not handle with bare hands. Be careful not to squeeze, crush or puncture the body of the tick, because it may contain infectious fluids. After removing the tick, thoroughly disinfect the bite site and wash hands. See or call a health-care professional if there is a concern about incomplete tick removal. It is important that a tick be removed as soon as it is discovered.

Additional Information:

For more information, call the North Dakota Department of Health at 800.472.2180 or visit www.ndhealth.gov/disease/Tickborne.

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.

Resource: American Academy of Pediatrics. [Ehrlichia and Anaplasma Infections]. In: Pickering LK, Baker CJ, Kimberlin DW, Long SS, eds. *Red Book: 2012 Report of the Committee on Infectious Diseases*. 29th ed. Elk Grove Village, IL: American Academy of Pediatrics; 2012:[312-315]

