

BACKGROUND

Anaplasmosis (previously known as human granulocytic ehrlichiosis) is an infectious disease transmitted by ticks carrying the bacteria *Anaplasma phagocytophilum*, which survives and reproduces in white blood cells. Ticks acquire the organism when feeding on deer, elk or wild rodents.

WHO DOES THE ISSUE IMPACT?

In Pennsylvania, anaplasmosis is passed to humans through the bite of a deer tick (*Ixodes scapularis*) that is infected with the organism that causes anaplasmosis. Deer ticks are commonly found in Pennsylvania, but studies suggest that the rate of *Anaplasma*-infected deer ticks varies widely within the state. Anaplasmosis occurs most frequently in New England and the upper Midwest during April to September, while another peak may occur in October when adult deer ticks are feeding.

COMPLICATIONS

Older populations and people with weakened immune systems are at risk for severe illness and complications. Signs and symptoms of severe illness can include respiratory failure, bleeding problems, organ failure and death.

SIGNS AND SYMPTOMS

Early signs and symptoms (1 to 2 weeks after tick bite) are usually mild or moderate and may include fever, chills, severe headache, muscle aches, nausea, vomiting, diarrhea, and loss of appetite.

CAUSES AND TRANSMISSION

Transmission of anaplasmosis from an infected deer tick occurs after it has been attached and feeding; however, tick bites are typically painless and many persons with anaplasmosis do not recall a tick bite. In rare circumstances transmission can occur through the transfusion of contaminated blood.

TESTS AND DIAGNOSIS

Diagnosis is based on clinical signs and symptoms and can be confirmed using specialized laboratory tests.

TREATMENTS

Anaplasmosis is usually treated with the antibiotic doxycycline. As confirmatory laboratory tests can take significant time to complete, treatment should not be withheld while awaiting results.

WHAT CAN YOU DO?

To prevent anaplasmosis:

- The risk of being bitten by an infected tick can be decreased by using the following precautions:
 - Use insect repellent containing low concentrations (10 to 30%) of diethyltoluamide (DEET) on clothing and exposed skin;
 - Apply DEET sparingly on exposed skin. Do not apply to the face. Do not use under clothing.
 - Do not use DEET on the hands of young children. Avoid applying to areas around the eyes and mouth.
 - Do not use DEET over cuts, wounds or irritated skin. Wash treated skin with soap and water after returning indoors, and wash treated clothing.
 - Avoid spraying in enclosed areas. Do not use DEET near food.

- Avoid tick-infested areas;
- Wear light colored clothing so ticks can be spotted more easily;
- Tuck pant legs into socks or boots, and shirts into pants;
- Tape the areas where pants and socks meet;
- Wear a hat, long sleeved shirt, and long pants for added protection;
- Walk in the center of trails to avoid overhanging brush; and
- Check yourself, family members and pets for ticks after leaving potentially tick infested areas and promptly remove any ticks detected.

If you find a tick:

- If you find a tick attached to your skin, there is no need to panic. There are several tick removal devices on the market, but a plain set of fine-tipped tweezers will remove a tick quite effectively. [Prompt and proper tick removal is very important for preventing possible disease transmission.](#)
 - Use fine-tipped tweezers and protect your fingers with a tissue, paper towel, or latex gloves. Avoid removing ticks with your bare hands.
 - Grasp the tick as close to the skin surface as possible and pull upward with steady, even pressure. Don't twist or jerk the tick; this can cause the mouth-parts to break off and remain in the skin. If this happens, remove the mouth-parts with tweezers. If you are unable to remove the mouth easily with clean tweezers, leave it alone and let the skin heal.
 - After removing the tick, thoroughly disinfect the bite and your hands with rubbing alcohol, an iodine scrub, or soap and water.
 - Avoid folklore remedies such as "painting" the tick with nail polish or petroleum jelly or using heat to make the tick detach from the skin. Your goal is to remove the tick as quickly as possible; do not wait for it to detach.

If you suspect that you or a family member might have anaplasmosis:

- See your healthcare provider if you become ill after having been bitten by a tick or having spent time outdoors participating in activities that may result in tick bites like hiking, camping, yard work, gardening, fishing, hunting, dog walking, etc.

RESOURCES FOR MORE INFORMATION

CDC anaplasmosis website: <https://www.cdc.gov/anaplasmosis/index.html>

This fact sheet provides general information. Please contact your physician for specific clinical information.

If you have any questions, contact us at 1-877-PA-HEALTH.