

Prevent Tick Bites

Prevention of Lyme disease and other tick-borne diseases starts with reducing your exposure to tick bites. Tick-borne diseases generally occur during the summer months when ticks are most active. There are no vaccines available for Anaplasmosis, Lyme disease, or Rocky Mountain Spotted fever. To prevent these illnesses you must prevent tick bites. Use the following personal protection measures:

- Avoid tall grass and over-grown areas.
- When hiking stay in the middle of trails.
- Consider using tick repellent.
- Tuck pant leg into socks.
- Wear long-sleeved shirts and closed shoes.
- Wear light-colored clothing to see the ticks easier for removal.
- Examine yourself, your children, and pets for ticks when returning indoors.
- When returning home after an outing, shower using a washcloth or puff to remove unattached ticks .
- Talk to your veterinarian to find out how to protect your pets from tick bites, and the roll of vaccine for dogs.



Tick Removal

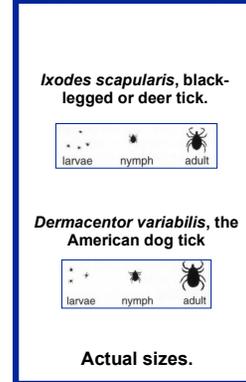
To remove a tick, use tweezers and grasp the tick's mouthparts as close to the skin as possible. Pull the tick with steady pressure in an upward motion. Don't yank the tick out of your skin. Don't use petroleum jelly, hot matches, nail polish remover, or any other substance to remove a tick. Don't crush the tick's body because it may contain infectious fluids.



When the tick has been removed, wash the area of the bite with soap and water, then apply an antiseptic.

Write on the calendar the date you removed the tick and the part of the body from which it was removed.

Should you experience any symptoms of any diseases mentioned in this brochure within the timeframe indicated, contact your physician to be evaluated.



Preventing tick bites is the key to preventing Lyme disease, Anaplasmosis, Babesiosis, and Rocky Mountain Spotted Fever.

Prompt treatment is the key to preventing severe illness.

Connecticut Department of Public Health
 Epidemiology and Emerging Infections Program
 410 Capitol Avenue, MS# 11EPI
 P.O. Box 340308
 Hartford, CT 06134-0308
 Phone: 860-509-7994
 Fax: 860-509-7910
www.ct.gov/dph

Connecticut Agricultural Experiment Station
 123 Huntington Street
 New Haven, CT 06511
 Phone: 201-974-8500
www.ct.gov/caes

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PREVENT TICK-BORNE DISEASES



Lyme Disease & Other Tick-borne Diseases in Connecticut

What You Should Know and What You Should Do

BAN THE BITE



Lyme Disease

Lyme disease was first recognized in the United States in the "Lyme", Connecticut area when in 1975 a cluster of children and adults experienced uncommon arthritic symptoms. The disease became physician reportable in Connecticut in 1987. Since then, it has become the most commonly reported tick-borne disease. Although the disease is named after the small town of Lyme, CT, it was recently determined that the disease is thousands of years old. In 2012, researchers announced that the "Iceman" who was found melting out of an Alpine glacier in 1991, had Lyme disease.

Lyme disease is caused by bacteria called *Borrelia burgdorferi*. These bacteria are transmitted through the bite of an infected tick, *Ixodes scapularis*, also known as the black-legged or deer tick. There is a blood test for Lyme disease but it isn't always conclusive.

Symptoms often begin with an expanding red rash around the area of the bite and flu-like symptoms that include muscle aches, fatigue, and fever. These



Photo credit: CDC

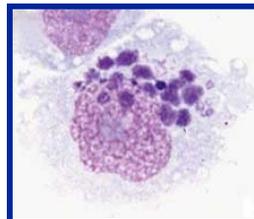
symptoms generally appear 3-32 days after the bite. The early signs of the disease can be overlooked or misdiagnosed. In addition, some people bitten by an infected deer tick do not develop the early symptoms of Lyme disease. If it is not diagnosed and treated promptly, symptoms of Lyme disease may appear weeks to months later, causing serious complications of the joints, nervous system, and heart. Lyme disease is treated with antibiotics.

Anaplasmosis

Anaplasmosis (HGA), formerly known as human granulocytic ehrlichiosis (HGE), is caused by bacteria called *Anaplasma phagocytophila*. These bacteria infect white blood cells and are transmitted through the bite of the same tick that causes Lyme disease.

Symptoms of HGA generally include sudden onset of fever, headache, muscle aches, and/or

fatigue. Nausea, vomiting, or rash may be present in some patients, although many people infected will not become sick. Illness can range from mild to potentially life threatening. Symptoms occur 7-21 days after the tick bite. Laboratory findings may include thrombocytopenia (decreased number of blood platelets), leukopenia (a decreased number of white blood cells), and/or elevated liver enzymes in the blood. Anaplasmosis may be confused clinically with Rocky Mountain spotted fever (RMSF); however, absence of a prominent rash is a good indicator it is not RMSF. As with Lyme disease, this disease is also treated with antibiotics.



The bacteria that cause human granulocytic anaplasmosis (HGA). CDC

Babesiosis

Babesiosis is caused by a one-cell parasite that infects red blood cells. The parasite, called *Babesia microti*, can be seen within red blood cells when viewed under a microscope. Babesia are most frequently transmitted by the bite of an infected deer tick, and rarely by blood transfusion from an infected donor.

Symptoms of babesiosis may include fever, chills, muscle aches, fatigue and jaundice secondary to hemolytic anemia (destruction of red blood cells). These symptoms may appear 1-4 weeks after the bite. While most people will not become ill, babesiosis can be a potentially severe and sometimes fatal disease. Babesiosis is treated with a combination of medications which usually include quinine and/or clindamycin.

Co-infections

Co-infections are possible through the bite of a single infected deer tick. This means, you can become infected with the microorganisms that cause Lyme disease, anaplasmosis, and babesiosis with a single bite from an infected deer tick. Symptoms from different diseases makes it more difficult for a diagnosis and treatment.

The only way to prevent these diseases is to prevent tick bites.

Rocky Mountain Spotted Fever

Rocky Mountain spotted fever (RMSF) is the most severe and most frequently reported illness caused by rickettsia bacteria, which also cause typhus, in the United States. In Connecticut, RMSF has been reportable since 1980 making it the longest reported tick-borne disease. It is also the least reported tick-borne illness in Connecticut with an average of only 3 cases reported annually.

Rocky Mountain spotted fever is caused by *Rickettsia rickettsii*. Unlike the previously mentioned tick-borne diseases in Connecticut, RMSF is transmitted through the bite of infected *Dermacentor variabilis*, the American dog tick.

Symptoms of RMSF include sudden onset of fever, headache, and muscle pain, followed by a rash. These symptoms may appear 3-14 days after the bite of an infected dog tick. As with other tick-borne diseases, RMSF can be difficult to diagnose in the early stages, and without prompt treatment can cause serious and sometimes fatal illness. This disease is treated with antibiotics.

Treatment

Treatment of tick-borne diseases should begin as soon after infection as possible. Treatment is generally very effective. If you are bitten by a tick, remove the tick as soon as possible. Write on the calendar the date you removed the tick and the part of the body from which it was removed. If you experience any of the symptoms previously mentioned for any of the tick-borne diseases, contact your physician. It will be important for your physician to have a complete history of your exposure to ticks. If you experience an expanding red rash and can not see your physician right away, take a picture of the rash and bring that picture with you at the time of your doctor appointment. Anaplasmosis, Lyme disease, and Rocky Mountain spotted fever are treated with some of the same antibiotics.

Early treatment is the key to prevent severe illness.