



Recognizing
Lyme symptoms ●
Personal protection
● Removing ticks

de.gov/lyme
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Transmission

The Lyme disease bacterium, *Borrelia burgdorferi*, is transmitted to animals and humans through the bite of an infected blacklegged or deer tick. Immature ticks are very tiny and can be difficult to see which can increase the possibility of undetected tick exposures. Ticks (including species other than the blacklegged or deer tick) can also transmit diseases other than Lyme disease, including Rocky Mountain spotted fever, ehrlichiosis and anaplasmosis.



There is no evidence that Lyme disease is transmitted from person-to-person. For example, a person cannot get infected from touching, kissing or having sex with a person who has Lyme disease. Humans most often acquire Lyme disease in the spring and summer months when they enjoy outdoor activities.

Symptoms of Lyme Disease

The Lyme disease bacterium can infect several parts of the body which can cause different symptoms at different times. Symptoms of Lyme disease can be nonspecific and may resemble other diseases.



Early Symptoms:

- Rash – Lyme disease is frequently characterized by an expanding red rash, commonly referred to as a bull's - eye rash. Rashes can occur anywhere on the body, and vary in size and shape. The rash can be warm to the touch, but usually not painful or itchy. Not all patients will develop the characteristic rash.
- Fever and/or chills
- Fatigue
- Muscle and joint aches
- Headache

Untreated infections can lead to a variety of symptoms, some of which can be very serious and debilitating. These symptoms can include:

- Severe joint pain and swelling (usually large joints, particularly the knees)
- Bell's palsy
- Heart palpitations and dizziness
- Severe headaches and neck stiffness due to meningitis
- Neurological problems



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Treatment

Most cases of Lyme disease can be cured with a few weeks of oral antibiotics. Depending on symptoms, some patients may require a second course of antibiotic therapy. Patients with certain neurological or cardiac forms of illness may require intravenous antibiotics.

A small percentage of patients with Lyme disease have symptoms that last months to years after treatment with antibiotics. These symptoms can include muscle and joint pains, arthritis, cognitive defects, sleep disturbance, and fatigue. The cause of these symptoms is unknown. There is evidence that they result from an autoimmune response, in which a person's immune system continues to respond even after the infection has been cleared.

Landscape Management

Keep your grass mowed.

Remove leaf litter, brush and tall weeds from around the home and the edge of your lawn. Use plantings that do not attract deer or exclude deer through various types of fencing. Deer are the main food source for adult ticks. Move firewood, birdhouses and feeders away from the home.



Create a 3-foot or wider wood chip, mulch or gravel barrier between your lawn and woods. Modify your landscaping to create “tick-safe zones.”

Tick Removal



Use fine-tipped tweezers or shield your fingers with a tissue, paper towel or rubber gloves. Avoid removing ticks with bare hands whenever possible.

Grasp the tick close to the skin surface and pull upward with steady, even pressure.

Do not squeeze, crush, or puncture the body of the tick since its fluids (saliva, body fluids, gut contents) may contain infectious germs. After removing the tick, cleanse the site with an antiseptic or soap and water, and wash your hands.

Personal protection

Know where to expect ticks. Blacklegged ticks live in moist and humid environments, particularly in or near wooded or grassy areas.

Wear light colored clothing. When possible, wear long sleeves and long pants. Tuck your pant legs into your socks so that ticks cannot crawl up inside of your pant legs.

Apply tick repellants. Repellents containing permethrin can be sprayed on boots and clothing and will last for several days. Repellents containing DEET can be applied to the skin but will last only a few hours before reapplication is necessary. Use insect repellent containing less than 50 percent DEET for adults. Use repellent containing less than 30 percent DEET on children. The American Academy of Pediatrics (AAP) recommends DEET not be used on infants younger than 2 months old.

Upon return from outdoor activities in potentially tick-infested areas, search your body for ticks. Take special care to check under the arms, in and around the ears, inside the belly button, behind the knees, between the legs, in and around all head and body hair, and around the waist.

Check children for ticks, especially in the hair. Additionally, ticks may be carried into the household on clothing and pets.

What is BLAST?

BLAST is an acronym from the Ridgefield, Connecticut, BLAST Program (used with permission) for the five steps to take to prevent Lyme disease:



- **B** — Bathe or shower within two hours of coming indoors.
- **L** — Look for ticks on your body and remove them.
- **A** — Apply repellent to your body and clothes.
- **S** — Safeguard your yard.
- **T** — Treat your pet.