

## FACT SHEET

### Lyme Disease

Lyme disease is a bacterial infection caused by the bacterium *Borrelia burgdorferi* and is to humans through the bite of infected blacklegged ticks (*Ixodes* ticks). These ticks usually live on deer, mice and other animals. The top Lyme disease states -- in rank order of average cases -- are Connecticut, Rhode Island, Maryland, New Jersey, Massachusetts, New York, New Hampshire, Pennsylvania, Maine, Delaware, Virginia, Vermont, Wisconsin and Minnesota. Lyme disease is diagnosed based on symptoms, physical findings like a rash and the possibility of exposure to infected ticks.

<http://www.cdc.gov/lyme/index.html>

- Cause:** A bacterial disease caused by the *Borrelia burgdorferi* bacterium.
- Symptoms:** Within 1 to 2 weeks of being infected, people may have a "bull's-eye" rash with fever, headache, and muscle or joint pain. Some people have Lyme disease and do not have any early symptoms. Other people have a fever and other "flu-like" symptoms without a rash. After several days or weeks, the bacteria may spread throughout the body of an infected person. These people can get symptoms such as rashes in other parts of the body, pain that seems to move from joint to joint, and signs of inflammation of the heart or nerves. If the disease is not treated, a few patients can get additional symptoms, such as swelling and pain in major joints or mental changes, months after getting infected
- Spread:** People get Lyme disease when they are bitten by ticks carrying *B. burgdorferi*. Ticks that carry Lyme disease are very small ranging in size from the age of the tick and can be hard to see. Larval stages are about poppy seed size and adult ticks are the size of a sesame seed. *Ixodes* ticks bite mice, deer or other animals infected with Lyme disease and then bite people or other animals, such as dogs and horses, passing the disease to them.
- Incubation:** The incubation period from infection to onset of erythema migrans (a red round or oval shaped rash in varying sizes; warm to touch, itchy and/or painful) is typically 7 to 14 days but may be as short as 3 days and as long as 30 days.
- Contagious Period:** No evidence of natural transmission from person to person.
- Reportable:** By the provider or lab within 7 days to the local or state health department.

**Diagnosis and Treatment:**

The diagnosis of Lyme disease is based primarily on clinical findings, and it is often appropriate to treat patients with early disease solely on the basis of objective signs and a known exposure.

According to treatment experts, antibiotic treatment for 3-4 weeks with doxycycline or amoxicillin is generally effective in early disease. Cefuroxime axetil or erythromycin can be used for persons allergic to penicillin or who cannot take tetracyclines.

**Prevention:****Avoid tick habitats:**

Whenever possible, avoid entering areas that are likely to be infested with ticks, particularly in spring and summer. Ticks favor a moist, shaded environment, especially areas with leaf litter and low-lying vegetation in wooded, brushy or overgrown grassy habitat.

**Use personal protection measures:**

If you are going to be in areas that are tick infested, wear light-colored clothing so that ticks can be spotted more easily and removed before becoming attached. Wearing long-sleeved shirts and tucking pants into socks or boot tops may help keep ticks from reaching your skin. Ticks are usually located close to the ground, so wearing high rubber boots may provide additional protection.

The risk of tick attachment can also be reduced by applying insect repellents containing DEET (n,n-diethyl-m toluamide) to clothes and exposed skin, and applying permethrin (which kills ticks on contact) to clothes.

**Perform a tick check and remove attached ticks:**

The transmission of *B. burgdorferi* (the bacteria that causes Lyme disease) from an infected tick is unlikely to occur before 36 hours of tick attachment. For this reason, daily checks for ticks and promptly removing any attached tick that you find will help prevent infection. Embedded ticks should be removed using fine-tipped tweezers. DO NOT use petroleum jelly, a hot match, nail polish, or other products. Grasp the tick firmly and as closely to the skin as possible. With a steady motion, pull the tick's body away from the skin. The tick's mouthparts may remain in the skin, but do not be alarmed. The bacteria that cause Lyme disease are contained in the tick's midgut or salivary glands. Cleanse the area with an antiseptic.