



Lyme Disease

What is Lyme Disease?

Lyme disease is an infection caused by the Lyme disease bacteria (*Borrelia burgdorferi*), which is transmitted from the white-footed mouse and deer to people by the bite of a deer tick. The infection is spread only by the bite of a deer tick which is infected with the bacteria; it cannot be spread directly from person to person or from pet to person. The deer tick that passes the infection is smaller than the more common dog or wood tick. The nymph form of the tick is only the size of a poppy seed, and the adult is the size of a small apple seed.

What are the symptoms?

Lyme disease most often starts with a characteristic **“bull’s-eye” rash** and summer flu symptoms such as **fever, fatigue, muscle aches, and joint aches**. These symptoms appear an average of 1 to 2 weeks (range = 3 to 30 days) after the tick bite. The rash usually starts at the site of the tick bite as an expanding solid red blotch **OR** a “bull’s eye” (red center surrounded by clear ring that is in turn ringed by an expanding red rash). The rash has an average size of 5 to 6 inches (range = 2 to 24 inches), is usually not painful or itchy, and may or may not be warm to the touch.

When Lyme disease is treated in this early stage, it is almost always cured. If it is not treated, other symptoms can develop such as severe fatigue, painful swelling of the joints, heart abnormalities, and nervous system problems (headaches, facial paralysis, and memory problems, etc.)

How is it diagnosed?

The diagnosis is based on the typical symptoms following exposure to ticks (or high-risk activities) in the late spring and summer (May through August). There is a blood test which can *help confirm* the diagnosis, but it cannot be used alone to make the diagnosis, since the results can often be misleading.

What is the treatment?

Lyme disease is usually treated with 3 to 4 weeks of oral antibiotics. Intravenous antibiotics may be required for some advanced cases.

How can I prevent Lyme Disease?

- **Avoid high-risk areas** – tall grasses, brush, shrubs, and low tree branches. Direct contact is required since ticks cannot jump or fly. Stay on cleared paths.
- **Apply insecticides to the edge of wooded areas and to shrubs** (Damminix, Dursban, Tempo, Sevin, permethrin)
- **Wear long pants and sleeves in light colors**



Lyme Disease (continued)

- **Use insect repellants**
DEET (25%) to clothes and exposed areas of body. DEET can be toxic if applied to large areas of the body. It should be used cautiously in small children and not used in infants.
Permethrin (Permanone, Permakill) to clothing
- **Check for ticks and remove them** (see below). The tick has to remain attached to the body for at least 36 hours for disease transmission to occur.

How should I remove an attached tick?

Using tweezers (not fingers!), grasp the tick as close to the skin as possible and gently but firmly pull the tick straight out. **DO NOT** squeeze the body of the tick as this may increase the risk of spreading germs. **DO NOT** use Vaseline, heat, or chemicals to kill the tick while it is attached. If the body and head are removed, it is not essential to remove the small mouth parts left behind. Tape the tick to a card and record the date and location of the bite. Wash your hands and the site of the tick bite with soap and water.

How can ticks be removed from clothing?

Put the clothing in the dryer on high heat for several minutes – “Tumble dry until they die.” Washing in hot water will NOT kill the ticks.

Do I need to see a doctor if I have been bitten by a tick?

Not always. Many ticks which attach to people are not deer ticks and do not spread Lyme disease. Not all deer ticks carry the Lyme bacteria. It is important to see the doctor if you have the symptoms of Lyme disease and have been bitten by a deer tick or have been in high-risk situations for a tick bite.

Is there a vaccine for Lyme Disease?

No, there is no longer a vaccine available for humans against Lyme disease. Research is continuing in this area for a possible replacement vaccine.

Where can I get more information about Lyme Disease?

Lyme Disease Foundation 1-800-886-LYME www.lyme.org

Lyme Disease Network www.lymenet.org

Center for Disease Control www.cdc.gov

