



Lyme Disease



Lyme disease (LD) is an infection caused by *Borrelia burgdorferi*, a type of bacterium called a spirochete (pronounced spy-ro-keet) that is carried by deer ticks. An infected tick can transmit the spirochete to the humans and animals it bites. Untreated, the bacterium travels through the bloodstream, establishes itself in various body tissues, and can cause a number of symptoms, some of which can be severe.

LD manifests itself as a multisystem inflammatory disease that affects the skin in its early, localized stage, and spreads to the joints, nervous system and, to a lesser extent, other organ systems in its later stages. If diagnosed and treated early with antibiotics, LD is almost always readily cured. Generally, LD in its later stages can also be treated effectively, but because the rate of disease progression and individual response to treatment varies from one patient to the next, some patients may have symptoms that linger for months or even years following treatment. In rare instances, LD causes permanent damage.

The prevalence of LD in the northeast is due to the presence of large numbers of the deer tick's preferred hosts - white-footed mice and deer - and their proximity to humans.

Studies have shown that an infected tick normally cannot begin transmitting the spirochete until it has been attached to its host about 36-48 hours; the best line of defense against LD, therefore, is to examine yourself at least once daily and remove any ticks before they become engorged (swollen) with blood.

Generally, if you discover a deer tick attached to your skin that has not yet become engorged, it

has not been there long enough to transmit the LD spirochete. Nevertheless, it is advisable to be alert in case any symptoms do appear; a red rash (especially surrounding the tick bite), flu-like symptoms, or joint pains in the first month following any deer tick bite could signal the onset of LD.

WHAT TYPES OF AREAS WOULD BE CONSIDERED TICK-INFESTED?

Ticks live in or near woods and surrounding areas that provide a habitat for the white-footed mouse or other potential tick carriers can be infested. Tall grassy places, such as along the side of roads or surrounding some beaches also may be tick-infested. In endemic areas, people may encounter ticks in their own backyards. The nymphs and adult ticks wait on low vegetation in wooded areas or grasslands and can attach themselves to anything that brushes by them. They do not fly or jump.

WHEN ARE YOU MORE AT RISK FOR LYME DISEASE?

This is primarily a warm weather disease. The ticks normally feed from April to October; the nymphs are most active between May and August. Also, more people are outdoors during the warm weather months. Adult ticks can remain active well into the winter if the winter is mild. So, if you live in a part of the country where the winters are mild, you can contract Lyme disease at any time, making this a 12 month a year disease for those milder areas.

WHAT DOES THE TICK LOOK LIKE?

The deer tick is much smaller than the dog tick or wood tick, although it may be difficult to distinguish between them. The flat, eight legged adults are less than one-tenth of an inch. The immature ticks (called nymphs) are about the size of a poppy seed. The male is black and the female is dark red and black. Engorged with blood they are somewhat larger (3 times their original size) and have a bluish cast to them.

WHAT SHOULD I DO IF I AM BITTEN?

If you discover a tick attached to you, remove it immediately. The longer the tick feeds, the greater the chance that it will have transferred the bacteria into you. Use a pair of fine tweezers. Grasp the tick as close to your skin as possible, close to the tick's mouth, and gently pull it off. Try to make sure that



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the mouth parts do not remain in the skin. If they do, they should fall out by themselves in a few days. If the whole head remains in, call your doctor.

- Thoroughly clean your hands and the bite area by applying rubbing alcohol.
- Put the tick into a jar. Save the tick, your doctor may want to see it.
- Don't try to use gasoline, petroleum jelly, kerosene, or a hot match to remove the tick.
- These have not been shown to be effective and may damage your skin or hair. This may cause the tick to release the bacteria into your skin.
- Don't use your bare fingers, the bacteria from a crushed tick may be able to penetrate through the skin.

WHAT ARE THE SIGNS AND SYMPTOMS OF LYME DISEASE?

Within days to weeks following a tick bite, the symptoms are: red "bull's eye" rash, tiredness, fever, headache, stiff neck, muscle aches, and joint pain. If untreated for weeks to months, arthritis can begin to develop. Symptoms of arthritis are joint pain and swelling.

HOW CAN LYME DISEASE BE DIAGNOSED?

The easiest way for Lyme disease to be correctly diagnosed, is for a physician to see the rash. In the absence of the rash, early diagnosis may be difficult. Keeping a history of the clinical symptoms and getting a blood test 4-6 weeks after the onset of infection may be of help to the physician in his or her diagnosis of Lyme disease.

HOW IS LYME DISEASE TREATED?

According to treatment experts, antibiotic treatment for 3-4 weeks is generally effective in early disease. Later disease, particularly with neurologic manifestations, may require treatment with intravenous antibiotic for 4 weeks or more, depending on disease severity. In later disease, treatment failures may occur and retreatment may be necessary.

HOW CAN I PROTECT MYSELF FROM LYME DISEASE?

- If you are planning to hike in the woods, or to work or play in your yard (especially if you reside in an high risk area), follow these precautions to protect yourself from ticks:
- Wear long sleeve, light-colored, tightly woven fabrics. (It may be easier to see ticks on such clothing)
- Tuck your shirt into your pants and the pants into your socks, shoes, or boots.
- Wear a hat or pull back long hair.
- When walking in the woods or grassy fields, try to stay near the center of trails.
- Apply tick repellents with DEET (N,N-diethylmetatoluamide) to your clothing, shoes and socks before starting out.
- Be careful about spraying the repellent on your bare skin and using sprays excessively.
- Check yourself occasionally for ticks. On returning from a trip or each night, check yourself, children, and pets for ticks. Check hair, body folds, ears, underarms, back, behind knees, etc.
- Shower and shampoo.
- Check clothes and wash them immediately in order to remove ticks that may be hidden in creases.
- Educate yourself and family about Lyme disease.
- Watch out for early signs and symptoms.
- Keep lawns mowed and brush trimmed as short as possible

CONTACT HEALTH SERVICES IF YOU HAVE ANY ADDITIONAL QUESTIONS OR CONCERNS.



HEALTH SERVICES

(603)862-2856 *during hours of operation* | (603) 862-Well (9355) *after hours*

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