



# Lyme Disease

## What is Lyme Disease?

Bacteria carried by blacklegged ticks cause Lyme Disease. Ticks get the bacteria when they bite mice or deer that are infected. You may get the disease if you are bitten by an infected tick. Lyme Disease was first reported in Old Lyme, Connecticut, in 1975 and most infections occur in northeastern states (Virginia to Maine), north-central states (Wisconsin and Minnesota) and the west coast (particularly northern California).

## How is Lyme Disease spread?

Most humans are infected through the bites of immature ticks that are tiny (smaller than 1/10<sup>th</sup> of an inch), hard to see and feed during the spring and summer. Adult ticks can also transmit the disease, but they are much larger and are therefore easier to find and remove before infection occurs. Ticks can attach to any part of the body but are often found in hard-to-see areas such as the groin, armpits and scalp. In most cases, for the Lyme Disease bacteria to be transmitted, the tick must be attached for 36-48 hours or more.

## Who is at risk for Lyme Disease?

Usually Lyme Disease occurs in the summer and early fall. Children and young adults who live in wooded areas are most often infected. Activities that can lead to tick exposure include:

- ❖ Doing outside activities (for example, gardening, hunting or hiking) in an area where Lyme Disease is known to occur;
- ❖ Having a pet that may carry ticks home; and
- ❖ Walking in tall grasses.

## What are the signs and symptoms of Lyme Disease?

There are three stages of Lyme Disease:

- ❖ **Stage 1**, 3-30 days post bite: "Early Localized Lyme Disease". The symptoms of Stage 1 are similar to the flu and may include fatigue, chills, fever, headache, muscle and joint aches and swollen lymph nodes. In about 70-80% of infected people, a "bull's-eye" rash begins at the site of the bite and expands to up to 12 inches across. Parts of the rash may clear as it grows, giving it that bull's-eye appearance.
- ❖ **Stage 2**, days to weeks post bite: "Early Disseminated Lyme Disease". Untreated, the infection may spread from the bite site to other parts of the body. Symptoms include paralysis or weakness in the face, muscle pain and pain or swelling in the knees and other large joints, heart problems such as skipped heartbeats (palpitations) or "bull's-eye" rashes in other areas of the body.
- ❖ **Stage 3**, months to years post bite: "Late Disseminated Lyme Disease". The bacteria have spread throughout the body. About 60% of those with untreated infection may begin to have episodes of Lyme arthritis, with severe joint pain and swelling. Up to 5% of those untreated may develop shooting pains, numbness or tingling in the hands or feet, and problems with short-term memory.
- ❖ Rarely, a person will continue having symptoms that can interfere with daily life even after they have been treated with antibiotics. Some call this "Post-Lyme Disease Syndrome". The cause is unknown.

## How is Lyme Disease diagnosed?

In areas where Lyme Disease is more common, the child's health care provider may be able to diagnose Stage 1 Lyme Disease without doing any lab tests. A blood test can be done to check for antibodies to the bacteria that cause Lyme Disease. Laboratory tests are not recommended for those who do not have symptoms typical of Lyme Disease. Tests to assess the heart, a spinal tap, or a brain scan may be done if the infection is more widespread.

## How is Lyme Disease treated?

Anyone who has been bitten by a tick should be watched closely for at least 30 days. Treatment with appropriate antibiotics in the early stages of Lyme Disease usually results in rapid and complete recovery. Pain medications such as aspirin or ibuprofen may be prescribed for joint stiffness.

## How can you avoid getting Lyme Disease?

- ❖ Take precautions to avoid direct contact with ticks and be extra careful during warmer months;
- ❖ Avoid wooded or bushy areas or areas with high grasses and leaf litter. Walk in the center of trails;
- ❖ Tuck pant legs into socks. Wear light colored clothing to make spotting ticks easier;
- ❖ Check yourself and your pets frequently during and after your walk or hike;
- ❖ When walking or hiking in wooded or grassy areas, spray all exposed skin with insect repellent with DEET. The maximum DEET concentration recommended for infants and children is 30%. You may treat clothing such as boots, pants, and socks with a product that has permethrin. It remains protective for several washings; and
- ❖ After returning home, remove your clothes and thoroughly inspect all skin surfaces, including your scalp. Ticks that carry Lyme Disease are very small and hard to see. Shower soon after coming indoors to wash off any unseen ticks.

References: <http://www.cdc.gov/Lyme/>; <http://www.ncbi.nlm.nih.gov/pubmedhealth/PMH0002296/>; [Lyme Disease: What parents should know](#)