

What is Lyme disease?

Lyme disease (LD) is caused by a cork-screw shaped bacterium called *Borrelia burgdorferi*. It is transmitted by a tick called the blacklegged tick (formerly known as the deer tick). Blacklegged ticks are rare in Ohio. The bacteria are normally found in mice, squirrels, and other small mammals without causing illness. Lyme disease affects both humans and dogs.

In 2007, 27,444 cases of Lyme disease were reported creating a national average of 9.1 cases per 100,000 population. In the 10 states where Lyme disease is most common, the average was 34.7 cases per 100,000. Most cases occur in the upper Midwest and North Atlantic states. Each year about 40 cases are reported in Ohio but many of Ohio's reported cases are actually acquired out of state.

Who is most at risk for getting Lyme disease?

People who spend time outdoors in tick-infested environments are at an increased risk of exposure. Most cases have reported an exposure to ticks or woodland/brush habitats during the months of May through August, but cases have been reported in every month of the year. Dogs or other pets frequenting tick infested areas may carry ticks home to their owners.

How is Lyme disease spread?

Lyme disease is acquired by the bite of an infected tick. Most cases are caused by immature ticks called nymphs, which are very small and may go unnoticed even when biting. Ticks must be attached for 36 to 48 hours or more before the Lyme disease bacteria are passed. No direct transmission occurs from person to person or from dog to person.

How is Lyme disease diagnosed?

Lyme disease is diagnosed by a physician based on clinical symptoms, exposure history and blood test results.

What are the symptoms of Lyme disease?

The illness usually occurs during the summer months and often starts as a roughly circular reddish rash around or near the site of the tick bite. The rash expands over several days to several weeks, becoming several inches across. The rash appears in 60-80% of the cases. Approximately 15% of people will develop multiple skin lesions. Other, general flu-like symptoms also occur: fever, headache, fatigue, stiff neck, joint and muscle pain. These may last for several weeks. If left untreated complications such as meningitis (inflammation of the lining of the spinal cord), facial paralysis or heart abnormalities may develop. Swelling and pain in the major joints, especially the knees, can recur over several months or years.

How soon do symptoms occur?

The early symptoms usually occur 3-30 days after the tick bite.

Does past infection with Lyme disease make a person immune?

Current information suggests that a person can be infected more than once.

What is the treatment for Lyme disease?

The disease is usually treated with antibiotics in the tetracycline group, administered either orally or by injection.

What can be done to prevent Lyme disease?

If you are in areas where ticks might be present, the following precautions can reduce the risk of acquiring ehrlichiosis or other tick-borne diseases:

- Wear light-colored, long pants, tuck pant cuffs into sock tops and spray pant legs and socks with insect repellent. Repellents containing 0.5% permethrin or 20-30% DEET are effective in repelling ticks. Follow application directions carefully.
- When possible, avoid walking in tall grass and weeds.
- Conduct visual "tick checks" on yourself and children every hour or two.
- Check pets for ticks before allowing them into the home.
- Carefully remove attached ticks as soon as possible.
- Keep yard and play areas well mowed to discourage ticks.

How should a tick be removed?

Although disease transmission occurs 36 to 48 hours or more after attachment, it is important to remove ticks as soon as possible after discovery.

To remove an attached tick, grasp it with tweezers as close as possible to the skin and pull with firm, steady pressure straight out. Do not twist or jerk the tick, as the mouthparts may break off. If tweezers are not available, protect fingers with rubber gloves or tissue paper.

- Do not handle ticks with bare hands.
- Do not squeeze, crush or puncture the body of the tick as it may contain infected fluids.
- After removing the tick, thoroughly disinfect the bite site and wash your hands. Place the tick in a small jar or vial with a moist piece of paper towel and sent to the Vector-borne Disease Program for identification.
- See or call your doctor if there is a concern about incomplete tick removal.

For more information, contact your local health department or the Zoonotic Disease Program at ODH by calling 614-752-1029.

For more information please visit the following websites.

CDC Public Information Guide http://www.cdc.gov/ncidod/dvbid/lyme/lyme_brochure.pdf

CDC Learn about Lyme disease <http://www.cdc.gov/ncidod/dvbid/lyme/index.htm>

ODH tick borne diseases brochure

<http://www.odh.ohio.gov/ASSETS/0CC08CA0EE5147ADA8CCAE8E75B100BA/tickborneflier.PDF>