



Lyme Disease



What is Lyme Disease?

Lyme disease is a bacterial illness caused by the bacteria *Borrelia burgdorferi*. Humans can become infected when bitten by an [Ixodes scapularis](#) tick (black-legged or deer tick).

How is Lyme Disease spread?

Lyme disease is spread through the bite of an *Ixodes scapularis* tick. The tick attaches to a host animal (wild or domestic) such as a deer, field mouse, or bird that may be infected. Once the tick releases itself carrying the bacteria, it attaches to a new host which could be a human. The tick must be attached for 24 hours or more to transfer the bacteria to its new host.

How is Lyme Disease treated?

If you have been bitten by a tick and/or develop symptoms, see your doctor immediately. Antibiotics can be given to kill the bacteria and may help prevent complications.

How can Lyme Disease be prevented?

- Avoid areas that are tick infested, moist, brushy, wooded or overgrown with low lying vegetation.
- Wear light colored clothing that covers arms and legs so that ticks can be easily seen and removed. Tuck pant legs into socks or boots.
- Apply insect repellent containing DEET to clothing and exposed skin or permethrin to clothing.
- If working or playing in wooded or grassy areas, check your skin at least once daily.
- If a tick is found, remove it as soon as possible by firmly gripping the body close to the skin with a pair of tweezers and pull straight out. Cleanse the area with soap and water.
- After removal, keep tick in a sealed container with moist paper towel and contact the health department or submit a picture to the [Michigan Department of Health and Human Services](#) for tick identification.

Symptoms of Lyme Disease:

Early Signs and Symptoms (3 to 30 days after tick bite):

- Fever, chills, headache, fatigue, muscle and joint aches, and swollen lymph nodes may occur in the absence of an [Erythema Migrans \(EM\)](#) rash (bull's-eye rash):
 - Begins at the site of a tick bite after a delay of 3 to 30 days (average is about 7 days)
 - Expands gradually over several days reaching up to 12 inches or more across
 - May feel warm to the touch but is rarely itchy or painful
 - Sometimes clears as it enlarges, resulting in a target or "bull's-eye" appearance
 - May appear on any area of the body and affects about 80% of infected people.

Later Signs and Symptoms (days to months after tick bite):

- Severe headaches and neck stiffness
- Additional EM rashes on other areas of the body
- Facial palsy (loss of muscle tone or droop on one or both sides of the face)
- Arthritis with severe joint pain and swelling
- Intermittent pain in tendons, muscles, joints, and bones
- Heart palpitations or an irregular heart beat (Lyme Carditis)
- Episodes of dizziness or shortness of breath
- Inflammation of the brain and spinal cord or nerve pain
- Shooting pains, numbness, or tingling in the hands or feet

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CDC Public Information 

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