

# Lyme Disease

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## What is Lyme disease?

Lyme disease is caused by the bacterium *Borrelia burgdorferi* and is transmitted to humans through the bite of infected blacklegged ticks. Lyme disease can spread to joints, the heart, and the nervous system.

## How can people get Lyme disease?

People who spend time outdoors in tick-infested environments are at increased risk of exposure which can occur whenever the temperature at ground level is warm enough for ticks to be active. Ticks can attach to any part of the human body but are often found in hard-to-see areas such as the groin, armpits, and scalp. In most cases, the tick must be attached over 24 hours or more before the Lyme disease bacterium can be transmitted.

Most humans are infected through the bites of immature ticks called nymphs. Nymphs are tiny (less than 2 mm) and difficult to see; they feed during the spring and summer months. Adult ticks can also transmit Lyme disease bacteria, but they are much larger and may be more likely to be discovered and removed before they have had time to transmit the bacteria. Adult *Ixodes* ticks are most active during the cooler months of the year.

## Who is most affected by Lyme disease?

Males and females of all ages can get Lyme disease but children less than 16 years old and adults more than 40 years old appear to be at higher risk.

## What are the symptoms of Lyme disease?

Early symptoms usually begin within a month of exposure. Arthritis, cardiac, and neurologic complications may take weeks or months to appear in untreated persons. Early symptoms of Lyme disease are similar to the symptoms of the flu and include:

- Headache
- Fatigue
- Fever
- Stiff neck or muscle/joint/neck pain
- Tiredness
- Slowly expanding “bull’s eye” rash (erythema migrans)

Effects that may result from chronic or **long-term** exposure to Lyme disease are:

- Meningitis
- Facial palsy (loss of muscle tone on one or both sides of the face)
- Heart abnormalities
- Arthritis

## What is the treatment for Lyme disease?

Lyme disease is treated with oral or injectable antibiotics. Lyme disease is more easily treated when detected early. Exposed persons should monitor their health and promptly see a healthcare provider if signs and symptoms consistent with Lyme disease (such as bull’s eye rash) develop. Remember an infected tick must be attached for more than 24 hours to transmit to humans.

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### Calhoun County Public Health Department

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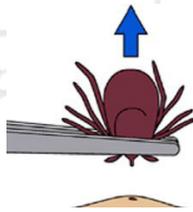
## How can I reduce the risk of Lyme disease exposure?

Avoid areas with many ticks. Ticks prefer wooded and bushy areas with high grass and a lot of leaf litter. Ticks that transmit Lyme disease are most active in these conditions. If you are in areas where ticks may be present, the following precautions may reduce the risk of acquiring Lyme disease:

- Walk in the center of the trail to avoid overgrown grass, brush, and leaf litter.
- Apply insect repellents containing 0.56% permethrin or 20-30% DEET. Follow the manufacturer's directions on the label.
- Wear clothing that covers the arms, legs, and feet whenever you are outdoors.
- Wear light-colored clothing to spot ticks easily.
- Bathe or shower as soon as possible after coming indoors (preferably within 2 hours) to wash off and more easily find tick that are crawling on you.
- Check yourself, your children, and your pets thoroughly for ticks. Carefully inspect areas around the head/hair, neck, ears, under arms, inside the belly button, behind the knees, and in the groin-area. Look for what may appear like a new freckle or speck of dirt.
- Examine gear. Ticks can ride home on clothing and day packs, then attach to a person later. Tumble clothes in a dryer on high heat for an hour to kill remaining ticks.

## What should I do if I am bitten by a tick?

If you find a tick attached to your skin, promptly remove it. Grasp the tick using fine-tipped tweezers as close to the skin as possible. With a steady motion, pull the tick straight out. Do NOT twist or jerk. If tweezers are not available, grasp the tick with a piece of tissue. Wash your hands and apply antiseptic to the bite.



Monitor the bite and be alert for early symptoms of Lyme disease particularly “flu-like” symptoms or rash over the next month or so. If you develop symptoms, call your doctor.

Avoid folklore remedies such as “painting” the tick with nail polish or petroleum jelly, or using heat to make the tick detach from the skin. Your goal is to remove the tick as quickly as possible – not waiting for it to detach.

## How do I get more information on Lyme disease?

Calhoun County Public Health Department  
Phone: (269) 969-6341

Michigan Department of Community Health

Website: <http://www.michigan.gov/emergingdiseases/0,1607,7-186-25890---,00.html>

Centers for Disease Control and Prevention

Website: <http://cdc.gov/lyme/>

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Updated 4/17/12

This fact sheet is meant to provide general health information and is not intended to be medical advice or otherwise take the place of your doctor's orders or to diagnose your specific health problems. Check with your doctor if you have any questions or concerns about your health.

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