

LYME DISEASE FACT SHEET

What is Lyme disease?

Lyme disease is an infectious disease caused by a bacterium known as a spirochete. People get Lyme disease when a tick infected with the Lyme disease bacterium attaches and feeds on them. Lyme disease was first recognized in the northeastern United States in the 1970s. Lyme disease has been reported from many areas of the country, including California.

What are the symptoms of Lyme disease?

Lyme disease can affect many body systems. Lyme disease can start as a mild flu-like illness and, over time, develop into severe chronic health problems. The early stages of the disease can include a red, expanding skin rash (called erythema migrans or EM), chills and fever, headache, swollen lymph nodes, muscle and joint pain, weakness of some muscles in the face, and heart irregularities. The EM rash appears up to 30 days after the bite of an infected tick. One or more EM rashes can occur, not necessarily at the tick bite. The rash can precede, accompany, or follow flu-like symptoms. The rash may not be noticed in some instances due to skin tone or occurrence on the body in locations difficult to see. Occasionally, an allergic reaction to the tick bite can occur on the skin and may be mistaken for an EM. The allergic reaction is different from an EM rash because it happens within minutes to hours after the tick bite and does not spread.

If left untreated, arthritis or nervous system signs can develop in some Lyme disease patients. Arthritis is most likely to appear as bouts of pain and swelling, usually in one or more large joints, especially the knees. Nervous system abnormalities can include numbness, tingling, or pain in the arms and legs, or difficulties in memory and the ability to concentrate.

Lyme disease can be successfully treated with antibiotics, especially in the early stages.

How does a person get Lyme disease?

An infected western blacklegged tick, *Ixodes pacificus*, can transmit the bacteria that cause Lyme disease to people in California.

The tick has three life stages: larva, nymph, and adult. The larvae and nymphs feed on the blood of small rodents, rabbits, lizards, birds, and occasionally large mammals. Adults feed on the blood of large mammals, principally deer.

Both nymphs and adults of the western blacklegged tick can transmit the infection to humans. Nymphs likely play a greater role in transmission of Lyme disease to humans because they are small (<1mm or about the size of a poppy seed) and thus difficult to see. Also, in some areas of California, a higher percentage of nymphal ticks carry the Lyme disease organism than adult ticks. An infected tick must be attached and feeding for at least 24 hours before it can transmit the bacteria that can cause Lyme disease.

Can Lyme disease be passed to the fetus (baby) of a pregnant woman?

If a pregnant woman is diagnosed with Lyme disease and is not treated, the placenta may become infected and lead to possible stillbirth. If the mother is appropriately treated with antibiotics by her healthcare provider, no serious effects to the fetus have been found. For pregnant women with Lyme disease, treatment is similar to that of non-pregnant women, although certain antibiotics are not used because they can affect fetal development.

Additionally, there are no reports of Lyme disease transmission from breast milk.

Where is the risk of getting Lyme disease greatest in California?

The western black-legged tick has been found in 56 of the 58 counties in California. It is common in the humid north coastal areas and on the western slope of the Sierra Nevada range. Ticks prefer cool, moist areas and can be found on wild grasses and low vegetation in both urban and rural areas. Adult ticks climb to the tip of vegetation along trails and wait for a host to brush against them. Nymphs are found in low, moist vegetation such as leaf litter and on logs. Adults are most active from fall through early spring and the nymphs are active primarily in the spring and early summer months.

What can be done to keep from being bitten by ticks?

- Avoid areas where ticks are known to occur.
- Stay in the middle of trails; avoid grassy areas, contact with logs, tree trunks and fallen branches or tree limbs in forests.
- Use an EPA registered repellent for use against ticks. Repellents with at least 20% DEET are effective and can be applied to the skin and clothing. Always follow directions on the container.
- Apply permethrin to clothing (only) to kill ticks.
- Thoroughly check yourself and others for ticks during and up to three days after activities in tick-infested areas.
- Shower soon after returning from tick habitat.
- Before washing, place clothing worn while in tick habitat in a hot dryer for 10 minutes to kill ticks crawling on clothing.
- Keep grass along trails, buildings, and camping areas mown.

How should attached ticks be removed?

- **Note: Prompt tick removal can prevent disease transmission.**
- Using tweezers, grasp the tick's mouthparts as close to the skin as possible.
- Gently pull the tick straight out, using a firm steady motion.
- Wash your hands and the bite site with soap and water. Apply an antiseptic to the bite site.
- See your Healthcare Provider if you develop any symptoms, especially a rash, within 30 days of the tick bite.

Where can I get more information on Lyme disease?

Visit [California Department of Public Health's Lyme disease webpage](http://www.cdph.ca.gov/HealthInfo/discond/Pages/LymeDisease.aspx) (<http://www.cdph.ca.gov/HealthInfo/discond/Pages/LymeDisease.aspx>).

Visit the [U.S. Centers for Disease Control and Prevention Lyme disease website](http://www.cdc.gov/lyme/)
(<http://www.cdc.gov/lyme/>).