


Blacklegged tick (*Ixodes scapularis*)

Most active in spring, summer, and fall, but adults may seek out hosts any time temperatures are above freezing. Nymphs & adult females are most likely to bite humans.

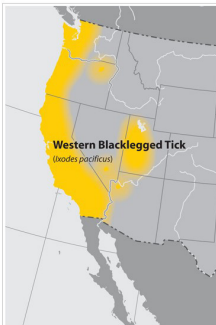
 TickEncounter Resource Center *Ixodes scapularis* (Blacklegged ticks or Deer ticks)



Western blacklegged tick (*Ixodes pacificus*)

Nymphs often feed on lizards, and other small animals, so rates of infection are usually low (~1%) in adults. Nymphs & adult females are most likely to bite humans.

 TickEncounter Resource Center *Ixodes pacificus* (Western-Blacklegged Tick)

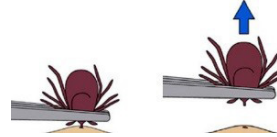


Preventing tick bites:

- Before spending time outdoors, apply repellents that contain 20-30% DEET on exposed skin and clothing, and/or treat clothing and gear with repellents containing 0.5% permethrin.
- Avoid wooded and brushy areas with high grass and leaf litter, and walk in the center of trails.
- Examine your entire body, as well as gear and pets, after returning indoors. Promptly remove any attached ticks.

Safe tick removal:

- Use fine-tipped tweezers to grasp the tick as close to the skin's surface as possible.
- Pull upward with steady, even pressure. Don't twist or jerk the tick (this can cause the mouth-parts to break off and remain in the skin). If this happens, remove the mouth-parts with tweezers. If you are unable to remove the mouth easily with clean tweezers, leave it alone and let the skin heal.
- After removing the tick, thoroughly clean the bite area and your hands with rubbing alcohol, an iodine scrub, or soap and water.
- Dispose of a live tick by submersing it in alcohol, placing it in a sealed bag/container, wrapping it tightly in tape, or flushing it down the toilet. Never crush a tick with your fingers.



Lyme Disease

What you should know...



Centers for Disease Control and Prevention, <http://phil.cdc.gov/phil/>

For more information on ticks and tick-borne diseases, please visit:

TickEncounter Resource Center (University of Rhode Island)
<http://tickencounter.org/>

Centers for Disease Control and Prevention
<http://www.cdc.gov/ticks/>

Nebraska Department of Health & Human Services
<http://dhhs.ne.gov/>

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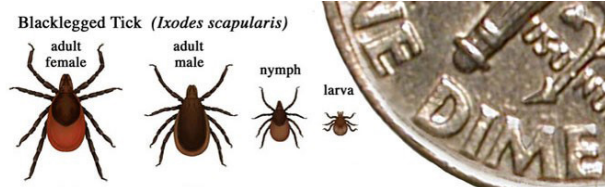
Lyme disease transmission:

The Lyme disease bacterium, *Borrelia burgdorferi*, is spread to humans and other animals through the bite of infected ticks.

- The blacklegged tick (*Ixodes scapularis*) spreads the disease in the northeastern, mid-Atlantic, and north-central United States.
- The western blacklegged tick (*Ixodes pacificus*) is responsible for the spread of Lyme disease on the Pacific Coast.
- The map shows potential distribution range of the black-legged tick. Nebraska is on the edge of its known range. To date, established populations have been reported in several counties located in eastern Nebraska. However, most cases of Lyme disease in Nebraska are the result of travel to areas where the blacklegged tick or western blacklegged tick have been historically present, primarily the upper Midwest and Northeast United States.

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, a tick must be attached for at least 36 to 48 hours before the Lyme disease bacterium can be transmitted.

Most humans are infected through the bites of immature ticks (nymphs), due to the fact that they are tiny (about the size of a poppy seed) and difficult to see; they primarily feed during the spring and summer months. Adult ticks may also transmit Lyme disease bacteria, but because they are larger (about the size of a sesame seed), they are more likely to be discovered and removed before they have had time to transmit the bacteria. Adult *Ixodes* ticks are most active during cooler months.



Signs & symptoms of (untreated) Lyme disease:

Untreated Lyme disease can produce a wide range of symptoms, depending on the stage of infection. These include fever, rash, facial paralysis, and arthritis. Seek medical attention if you observe any of these symptoms and have had a tick bite, live in an area known for Lyme disease, or have recently traveled to an area where Lyme disease occurs.

Early signs & symptoms (3-30 days after tick bite):

- Fever, chills, headache, fatigue, muscle and joint aches, and swollen lymph nodes.
- Erythema migrans (EM) rash:
 - Occurs in 70-80% of infected persons.
 - Begins at the site of a tick bite after a delay of 3-30 days (average is ~7 days).
 - Expands gradually over a period of days reaching up to 12 inches across.
 - May feel warm to the touch but is rarely itchy or painful.
 - May clear as it enlarges, resulting in a target or “bull’s-eye” appearance.
 - May appear on any area of the body.

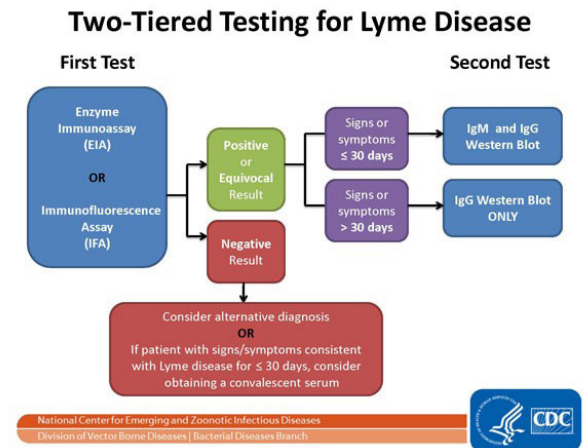
Later signs & symptoms (days to months after tick bite):

- Severe headaches and neck stiffness.
- Additional EM rashes on other body parts.
- Arthritis with severe joint pain and swelling, particularly the knees and other large joints.
- Facial or Bell’s palsy (loss of muscle tone or droop on one or both sides of the face).
- Intermittent tendon, muscle, joint & bone pain.
- Heart palpitations or an irregular heartbeat (Lyme carditis).
- Episodes of dizziness or shortness of breath.
- Inflammation of the brain and spinal cord.
- Nerve pain, or shooting pains, numbness, or tingling in the hands or feet.
- Problems with short-term memory.

Diagnosis and testing:

Lyme disease is diagnosed based on:

- Signs and symptoms.
- A history of possible exposure to infected blacklegged ticks.
- Laboratory blood tests are helpful if performed correctly and with validated methods, but are not recommended for patients who do not have symptoms typical of Lyme disease.



Treatment:

Patients treated with proper antibiotics in the early stages of Lyme disease usually experience a quick and full recovery. Antibiotics commonly used for oral treatment include doxycycline, amoxicillin, or cefuroxime axetil.

Patients with certain neurological or cardiac forms of illness may require intravenous treatment with drugs such as ceftriaxone or penicillin.

In a small percentage of cases, symptoms can last for more than 6 months. Although sometimes called “chronic Lyme disease”, the proper name is “Post-treatment Lyme Disease Syndrome” (PTLDS). Most PTLDS patients recover fully when treated with a few weeks of oral antibiotics.