

Ticks Commonly Found in Missouri

Missouri is home to a large population of ticks, which means tick-borne diseases can pose an increased risk for individuals who work or play outside. At least six (6) different types of tick-borne diseases have been reported in Missouri residents; these diseases include Rocky Mountain spotted fever, ehrlichiosis, tularemia, Lyme disease, and disease caused by Heartland and Bourbon virus. The majority of cases occur during the months of May, June, and July. Symptoms of each disease typically includes headache, sudden fever, and body aches; symptoms can begin within two weeks of being bitten by an infected tick. Not all ticks are infected, therefore, a tick bite does not necessarily mean you will get a disease. Taking precautions such as using insect repellent, wearing protective clothing, avoiding infested areas, and checking for ticks after being outdoors reduces the chance for tick-borne diseases.

**Not all ticks are the same
and each tick can transmit a
different disease.**



Deer Tick



Lone Star Tick



American Dog Tick

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DEER TICK OR BLACKLEGGED TICK (IXODES SCAPULARIS)-

Although only the size of a sesame seed, deer ticks are best known for transmitting Lyme Disease. They live two-three years and must have three blood meals to survive each phase of life. Deer ticks are very slow feeders and will feed for three-five days. They must attach to their host for at least 24 hours to transmit the Lyme Disease bacterium. Deer and rodents are actually the preferred hosts of deer ticks. Rodents are typically the source of the Lyme Disease bacteria that ticks pass along to other hosts. Deer ticks are found in the woods and areas with overgrown vegetation.



Transmits: [Lyme disease](#), [anaplasmosis](#), [ehrlichiosis](#) (*Ehrlichia muris euclairensis*), [babesiosis](#), [Borrelia miyamotoi](#), and [Powassan disease](#).

Comments: The greatest risk of being bitten exists in the spring, summer, and fall. However, adults may be out searching for a host any time winter temperatures are above freezing. Stages most likely to bite humans are nymphs and adult females.

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LONE STAR TICK (*AMBLYOMMA AMERICANUM*)-

The Lone Star Tick easily distinguished from any other tick by the pronounced white dot or star in the center of its back, is most active from April through the end of July. The distribution, range and abundance of the lone star tick have increased over the past 20-30 years. Lone star ticks are very aggressive feeders, known to travel far distances in search of a host and often are found on dogs and cats, which is how they find their way indoors. The lone star tick can transmit Rocky Mountain spotted fever and ehrlichiosis. Southern Tick Associated Rash Illness (STARI) can occur after the bite of the lone star tick. The symptoms (rash, headache, fatigue) are similar to Lyme Disease but can be cured with an oral antibiotic. STARI is not known to cause neurological complications like Lyme Disease.



Transmits: *Ehrlichia chaffeensis* and *Ehrlichia ewingii* (which cause human [ehrlichiosis](#)), [Heartland virus](#), [tularemia](#), and [STARI](#).

Comments: A very aggressive tick that bites humans. The adult female is distinguished by a white dot or “lone star” on her back. Lone star tick saliva can be irritating; redness and discomfort at a bite site does not necessarily indicate an infection. The nymph and adult females most frequently bite humans and transmit disease.

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AMERICAN DOG TICK (DERMACENTOR VARIABILIS)- The American Dog Tick is a 3-host tick, targeting smaller mammals as a larva and nymph and larger mammals as an adult. Although it is normally found on dogs, this tick will readily attack larger animals, such as cattle, horses, and even humans. American dog ticks are typically brown to reddish-brown in color with gray/silver markings on their back. They overwinter in the soil and are most active from mid-April to early September. Like the lone star tick, these ticks can transmit Rocky Mountain spotted fever to both humans and dogs.

Transmits: [Tularemia](#) and [Rocky Mountain spotted fever](#).

Comments: The highest risk of being bitten occurs during spring and summer. Dog ticks are sometimes called wood ticks. Adult females are most likely to bite humans.



Different Types of Ticks found in the United States



Blacklegged Tick



Brown Dog Tick



Rocky Mountain Wood Tick



Lone Star Tick



Groundhog Tick



Soft Tick



American Dog Tick



Gulf Coast Tick



Western Blacklegged Tick

The most common symptoms of tick-related illnesses are:

- Fever/chills: With all tickborne diseases, patients can experience fever at varying degrees and time of onset.
- Aches and pains: Tickborne disease symptoms include headache, fatigue, and muscle aches. With Lyme disease you may also experience joint pain. The severity and time of onset of these symptoms can depend on the disease and the patient's personal tolerance level.
- Rash: [Lyme disease](#), [southern tick-associated rash illness \(STARI\)](#), [Rocky Mountain spotted fever \(RMSF\)](#), [ehrlichiosis](#), and [tularemia](#) can result in distinctive rashes:
 - In Lyme disease, the rash may appear within 3-30 days, typically before the onset of fever. The Lyme disease rash is the first sign of infection and is usually a circular rash called [erythema migrans](#) or EM. This rash occurs in approximately 70-80% of infected persons and begins at the site of a tick bite. It may be warm, but is not usually painful. Some patients develop additional EM lesions in other areas of the body several days later.
 - The rash of (STARI) is nearly identical to that of Lyme disease, with a red, expanding "bull's eye" lesion that develops around the site of a lone star tick bite. Unlike Lyme disease, STARI has not been linked to any arthritic or neurologic symptoms.
 - The rash seen with Rocky Mountain spotted fever (RMSF) varies greatly from person to person in appearance, location, and time of onset. About 10% of people with RMSF never develop a rash. Most often, the rash begins 2-5 days after the onset of fever as small, flat, pink, non-itchy spots (macules) on the wrists, forearms, and ankles and spreads to the trunk. It sometimes involves the palms and soles. The red to purple, spotted (petechial) rash of RMSF is usually not seen until the sixth day or later after onset of symptoms and occurs in 35-60% of patients with the infection.
 - In the most common form of tularemia, a skin ulcer appears at the site where the organism entered the body. The ulcer is accompanied by swelling of regional lymph glands, usually in the armpit or groin.
 - In about 30% of patients (and up to 60% of children), ehrlichiosis can cause a rash. The appearance of the rash ranges from macular to maculopapular to petechial, and may appear after the onset of fever.

Tickborne diseases can result in mild symptoms treatable at home to severe infections requiring hospitalization. Although easily treated with antibiotics, these diseases can be difficult for physicians to diagnose. However, early recognition and treatment of the infection decreases the risk of serious complications. So see your doctor immediately if you have been bitten by a tick and experience any of the symptoms described here.

Resources

“Tick Borne Diseases of the United States.” *Centers for Disease Control and Prevention*, Centers for Disease Control and Prevention, 19 Jan. 2018, www.cdc.gov/.

“Tick Borne Diseases.” *Mosquito Squad of Greater Saint Louis*, Mosquito Squad of Greater Saint Louis, 2018, stlmosquitocontrol.com/.