

TICKborne disease info

<https://www.cdc.gov/ticks/tickbornediseases/tickID.html>

<https://storymaps.arcgis.com/stories/d46ce3a154bf4d97bc9ba3933cd2a325>

Spotted Fever Rickettsiosis (Including Rocky Mountain Spotted Fever)

RMSF is most often transmitted by the American dog tick in the Eastern, Central and Western United States; by the Rocky Mountain wood tick in the Rocky Mountain states; and by the brown dog tick in the Southwestern United States, along the U.S.-Mexico border. RMSF can be rapidly fatal if not treated within the first 5 days of symptoms. Before tetracycline antibiotics were available, case fatality rates ranged from 20–80%. (CDC)

Most people who get sick with SFR will have a fever, headache, and rash. SFR can be deadly if not treated early with the right antibiotic.

Heartland virus

Heartland virus belongs to a group of viruses called phleboviruses. Heartland virus is less commonly reported than other tickborne diseases, but cases have been identified in Missouri and other states. Overall, the virus causes low numbers of infections around the world. The Lone Star tick (*Amblyomma americanum*) is believed to be a vector of Heartland virus in the United States.

People infected with Heartland virus will have non-specific signs and symptoms that may include fever, fatigue, decreased appetite, headache, arthralgia, myalgia, nausea, diarrhea and laboratory test results that could include leukopenia, thrombocytopenia, and mild to moderate elevation of liver enzymes.

Ehrlichiosis

Ehrlichiosis is most frequently reported from the southeastern and south-central United States, from the East Coast extending westward to Texas. The areas from which most cases are reported correspond with the known geographic distribution of the lone star tick (*Amblyomma americanum*), which is associated with transmission of both *E. chaffeensis* and *E. ewingii*. In 2019, four states (Missouri, Arkansas, North Carolina, and New York) accounted for nearly half of all reported cases of *E. chaffeensis* ehrlichiosis. Since 2009, >115 cases of ehrlichiosis caused by *E. muris eauclairensis* have been identified in patients in the Upper Midwest. The tick responsible for transmitting this new subspecies of *Ehrlichia* is *Ixodes scapularis*, and the clinical presentation is generally similar to those associated with infections caused by *E. chaffeensis* and *E. ewingii*.

People with ehrlichiosis will often have fever, chills, headache, muscle aches, nausea, vomiting, or diarrhea. Infection is treatable with antibiotics.

Tularemia

Tularemia is a highly infectious bacterial disease caused by *Francisella tularensis*. *F. tularensis* can infect both people and animals. People can become infected in several ways including: tick and deer fly bites, skin contact with infected animals, drinking contaminated water, inhaling contaminated aerosols or agricultural/landscaping dust, or through laboratory exposures.

Symptoms of infection can vary depending on the route of entry. Generalized illness can include fever, chills, headache, malaise, fatigue, anorexia, myalgia, chest discomfort, cough, sore throat, vomiting, diarrhea, and abdominal pain. Infection is treatable with antibiotics. Rabbits, hares, and rodents are especially susceptible to tularemia and often die in large numbers during outbreaks. In the United States, naturally occurring infections have been reported from all states except Hawaii.

Lyme Disease

Lyme disease is a bacterial disease caused by *Borrelia burgdorferi* and rarely, *Borrelia mayonii*. It is transmitted to humans through the bite of infected blacklegged ticks (*I. scapularis*).

Typical symptoms include fever, headache, fatigue, and a characteristic skin rash called erythema migrans (EM). If left untreated, infection can spread to joints, the heart, and the nervous system.

Missouri is considered a low incident state for Lyme disease. Most cases of Lyme disease are reported from the Northeast and Upper Midwest.

Anaplasmosis

Anaplasmosis is a bacterial disease caused by *Anaplasma phagocytophilum*. These bacteria are spread to people by tick bites primarily from the blacklegged tick (*Ixodes scapularis*) but also the western blacklegged tick (*Ixodes pacificus*).

Anaplasmosis is most commonly reported in the Northeastern and upper Midwestern states. This infection is not commonly identified in Missouri residents.

People with anaplasmosis will often have fever, headache, chills, and muscle aches. Infection is treatable with antibiotics.