

Tickbourne Diseases in Arizona

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Tick season in Arizona is almost year-round due to the warm climate. Due to a mild winter and warmer-than-usual spring, this year's tick population will likely be higher than usual.

Two of the more common tick-borne illnesses in humans are Rocky Mountain Spotted Fever and Lyme disease. Most cases of Lyme disease in the U.S. are caused by the bite of the Black-legged tick, *Ixodes scapularis*. In Arizona and other western states, the vector of Lyme disease is the Western Black-legged tick, *Ixodes pacificus*. To date, the only known cases of Lyme disease acquired in Arizona are from Mohave County in the Hualapi Mountains. All other cases of Lyme disease reported here involved visitors from other states.



People who are new to Arizona still need to be aware of the signs and symptoms of Lyme disease and seek treatment as necessary. Symptoms occur 3 - 30 days after tick bites and include a red expanding rash that looks like a bullseye, fatigue, chills, fever, headache, swollen lymph nodes, and muscle and joint aches.

Days to weeks after the bite, these symptoms may occur: additional rash or lesions in other areas of the body; facial or Bell's palsy (loss of muscle tone on one or both sides of the face); and severe headaches and neck stiffness due to meningitis (inflammation of the spinal cord).

Symptoms can sometimes continue for months or years after initial infection. Infection occurs approximately 36 hours after the tick is embedded in the skin. Early detection and removal of the tick is imperative to prevent the disease.

In areas of the country where Rocky Mountain Spotted Fever is endemic, the bacteria that causes this disease is transmitted by the American dog tick or the Rocky Mountain Wood tick. In Arizona the main vector of RMSF is the Brown dog tick, *Rhipicephalus sanguineus*.

Brown dog ticks are usually more closely associated with kennels. However, in certain areas, large numbers of untreated free-roaming domestic dogs have caused the population of this tick species to increase drastically. These ticks do not typically bite humans except where there are unusually high numbers and where humans live in close contact with tick infested dogs.

RMSF is a serious illness that can be fatal, even in previously healthy people. See the doctor if any signs of RMSF occur within two weeks of a tick bite.

The first symptoms of RMSF typically begin within 2 - 14 days and frequently begin as a sudden onset of fever and headache. Some people will get a rash by the sixth day, but others never get a rash, so ensure treatment is started immediately after the first sign of symptoms.

It is important to note that few people with the disease will develop all symptoms, and the number and combination of symptoms varies greatly from person to person. Initial symptoms include: Sudden onset of fever and chills; severe headache; nausea and vomiting; deep muscle pain; lack of appetite and red eyes. Later symptoms include: possible red to purple spotted rash 2 - 6 days after the fever; abdominal pain and diarrhea.

Be extra vigilant in warmer months when ticks are most active. Avoid direct contact by avoiding wooded and bushy areas with tall grass and leaf litter and walking in the center of trails.

Pets are also a target for tick bites. Ensure outdoor pets have flea and tick collars and are routinely checked for ticks. Bathe animals with approved tick shampoos available at local veterinary offices.

Use repellents that contain 20 percent or more DEET on the exposed skin for protection that lasts up to several hours. Also apply this product to children, avoiding hands, eyes and mouth. Use products that contain permethrin on clothing. Treat clothing and gear, such as boots, pants, socks and tents. It remains protective through several washings.

To find or remove ticks, bathe or shower as soon as possible after being outdoors, preferably within two hours. Conduct a full-body tick check using a hand-held or full-length mirror. Parents should check their children for ticks under the arms, in and around the ears, inside the belly button, behind the knees, between the legs, around the waist, and especially in their hair.

Examine gear and pets. Ticks can ride home on clothing and pets, then attach to a person later, so carefully examine pets, coats, and day packs. Tumble clothes in a dryer on high heat for an hour to kill remaining ticks.

Flush ticks removed from pets down the toilet or take it to the local veterinarian for testing. Humans may go to their primary care provider as soon as possible to have ticks removed and tested. If a same-day appointment is unavailable, remove the tick and request that the provider have it tested.

To remove one, use tweezers and grab the tick as close to the skin as possible. Pull upward with steady pressure, avoiding squeezing or crushing the tick. Wear gloves or wash hands immediately afterward.

Units in the field follow the Department of Defense insect repellent system. Ensure uniforms and boots are treated with Permethrin, and apply DEET to skin frequently. Contact Preventive Medicine for NSNs.

Properly wear the uniform, tucking pant legs into boots. Regularly check yourself for ticks, and bathe at every opportunity.

For more information, contact the Arizona Department of Health Services, Office of Infectious Disease Services at 1.602.364.3676, or the Centers for Disease Control and Prevention at <http://www.cdc.gov/rmsf/index.html>.

For local information contact Preventive Medicine Services, Raymond W. Bliss Army Health Center, 533.9139.