No Lyme Disease Found in Kittitas County

Ticks

Extensive tick collection in Kittitas, Chelan, Douglas and Okanogan Counties were conducted for 3 years. These ticks were tested for Lyme disease. None of the ticks were infected. In Washington State the only counties with ticks infected with *Borrelia burgdorferi*, the bacteria that causes Lyme disease, were Clallam and Mason Counties.

**TICK FACTS:**
Ticks crawl until they find a suitable spot to feed, then burrow their mouthparts into the skin for a blood meal. Ticks feed anywhere from several minutes to weeks depending on their life stage, type of host, and species of tick.

Western black-legged ticks on a finger. From left to right: nymph, adult male, and adult female. Photo: California Department of Public Health

During feeding infected ticks can transmit disease to their hosts. Ticks that transmit Lyme disease can take 3 or more days to feed fully. If the tick is infected, the chances of transmission increases with time, from 0% at 24 hours, 12% at 48 hours, 79% at 72 hours and 94% at 96 hours. This is the reason it is important to conduct tick checks after working or recreating in tick infected areas, removing any ticks you find promptly (instructions below).

**LYME DISEASE**
The chances that you might get Lyme disease from a single tick bite depend on the type of tick, where you acquired it, and how long it was attached to you. Many types of ticks bite people in the U.S., but only blacklegged ticks transmit the bacteria that cause Lyme disease. Furthermore, only blacklegged ticks in the highly endemic areas of the northeastern and north central U.S. are commonly infected. Western black-legged ticks tested from our area were not infected with *Borrelia burgdorferi* the bacteria that causes Lyme disease.

**Western blacklegged tick** (*Ixodes pacificus*)
The western blacklegged tick can transmit the organisms responsible for causing anaplasmosis and Lyme disease in humans. Wild rodents and other mammals are likely reservoirs of these pathogens. Larvae and nymphs feed on birds and small rodents, while adult ticks feed on deer and other mammals. Both adult and nymphal ticks are known to transmit disease to humans.

In the states without infected ticks that spread Lyme disease, infections are usually the result of travel to a state where the disease is common, especially states in the northeast and upper Great Lakes regions. Ticks transmit diseases other than Lyme disease, so you should know how to protect yourself no matter where you live.

**Reported Cases of Lyme Disease -- United States, 2012**

1 dot placed randomly within county of residence for each confirmed case

**Signs and Symptoms of Lyme Disease**

- Red, expanding rash called erythema migrans (EM)
  - Rash occurs in approximately 70-80% of infected persons\(^1\) and begins at the site of a tick bite after a delay of 3-30 days (average is about 7 days).
• Rash gradually expands over a period of several days, and can reach up to 12 inches (30 cm) across. Parts of the rash may clear as it enlarges, resulting in a “bull's-eye” appearance.
• Rash usually feels warm to the touch but is rarely itchy or painful.
• EM lesions may appear on any area of the body.
• Fatigue, chills, fever, headache, muscle and joint aches, and swollen lymph nodes. Some people may get these general symptoms in addition to an EM rash, but in others, these general symptoms may be the only evidence of infection.

Erythema migrans (EM) or "bull's-eye" rash

Some people get a small bump or redness at the site of a tick bite that goes away in 1-2 days, like a mosquito bite. This is not a sign that you have Lyme disease. It is an allergic reaction.


http://www.cdc.gov/lyme/stats/index.html

Possible Tick Risks in Kittitas County:
**Tick-borne Relapsing Fever**

Disease caused by Borrelia bacteria like the bacteria that causes Lyme Disease. Therefore, the Lyme Disease test may be positive, but you may have been infected with tick-borne relapsing fever if you did not travel to an area where Lyme disease is endemic.

Relapsing fever is characterized by episodes of fever lasting several days, followed by an interval without fever, followed by another episode of fever. This process can recur from 1 to 4 times. Along with fever, patients may experience generalized body aches, muscle pain, joint pain, headache, nausea, vomiting, anorexia, dry cough, light sensitivity, rash, neck pain, eye pain, confusion, and dizziness. If you suspect that you have relapsing fever, see your health care provider.

![Tick bite diagram]

Four to eight cases in WA each year

Map= Cases of Tick-borne Relapsing Fever - United States, 1990 - 2011

Most cases occur in the summer months when more people vacationing and sleeping in rodent-infested cabins. Nevertheless, it can also occur in the winter months. Fires started to warm a cabin are sufficient to activate ticks resting in the walls and woodwork.
Borrelia bacteria that cause TBRF are transmitted to humans through the bite of infected "soft ticks" of the genus Ornithodoros. Soft ticks differ in two important ways from the more familiar "hard ticks" (e.g., the dog tick and the deer tick). First, the bite of soft ticks is brief, usually lasting less than half an hour. Second, soft ticks do not search for prey in tall grass or brush. Instead, they live within rodent burrows, feeding as needed on the rodent as it sleeps.

http://www.cdc.gov/relapsing-fever/distribution/

**TICK PARALYSIS**

Tick paralysis is a rare disease thought to be caused by a toxin in tick saliva. The condition often occurs in children less than eight-years-old; however, anyone bitten by ticks can be at risk. The first symptom is weakness in the arms and legs, two to seven days following a tick bite. Hours to days later, patients become unable to move their arms and legs. If not treated, patients may become unable to speak or even breathe. How badly a person is affected depends on the number of ticks and how long they remain attached. Tick paralysis is fatal in about 10% of untreated patients.

A tick must be attached to the skin and feeding for tick paralysis to occur. Most northwest cases follow the bite of the Rocky Mountain wood tick. Rocky Mountain wood tick (*Dermacentor andersoni*)

Twelve cases of tick paralysis have been reported in Washington from 1990 through 2011. See [Tick Paralysis Case Report, CDC](http://www.cdc.gov/relapsing-fever/distribution/).
Locating and removing the attached tick(s) is the only necessary treatment. Ticks are often found attached on the scalp, particularly at the hairline. In most cases, normal muscle function returns within hours of removing the tick. 
http://www.cdc.gov/ticks/symptoms.html

**Rocky Mountain Spotted Fever**

Initial symptoms of Rocky Mountain spotted fever may include fever, nausea, vomiting, muscle pain, lack of appetite, and severe headache. A rash generally, but not always, appears a few days later. Abdominal pain, joint pain, and diarrhea can also occur. Each year, zero to three cases of Rocky Mountain spotted fever are identified in Washington. The bacteria that causes Rocky Mountain spotted fever is transmitted by the bite of an infected American dog tick, *Dermacentor variabilis*, or Rocky Mountain wood tick, *D. andersoni*. These ticks are found throughout the state and prefer woodland areas, medium height grasses and shrubs between wetlands and woods, and sunny or open areas around woods. They are especially common in eastern Washington. Learn more about [Rocky Mountain Spotted Fever, CDC](http://www.cdc.gov/ticks/symptoms.html).

**American dog tick** (*Dermacentor variabilis*)

The American dog tick is the most commonly identified species responsible for transmitting *Rickettsia rickettsii*, which causes [Rocky Mountain spotted fever](http://www.cdc.gov/ticks/symptoms.html) in humans. The American dog tick can also transmit [tularemia](http://www.cdc.gov/ticks/symptoms.html). Larvae and nymphs feed on small rodents. Dogs and medium-sized mammals are the preferred hosts of adult *D. variabilis*, although it feeds readily on other large mammals, including humans.

**Tularemia**

A tick bite is one way people can get tularemia. Symptoms of tularemia following a tick bite include sudden fever, headache, swollen lymph nodes, and a skin ulcer near the bite. One to 10 cases of tularemia are reported each year in Washington - only some of these are due to tick bites. Ticks that can transmit tularemia in Washington are the American dog tick, *Dermacentor variabilis*, and the Rocky Mountain wood tick, *D. andersoni*. These ticks are found throughout the state and prefer woodland areas, medium height grasses and shrubs between wetlands and woods, and sunny or open areas along the edge of woods. Find out more at [Tularemia, CDC](http://www.cdc.gov/ticks/symptoms.html).
OTHER TICKBORNE DISEASES IN WA:

**Anaplasmosis**

Symptoms of anaplasmosis include headache, fever, chills, and muscle aches. No human cases have been reported in Washington; however, anaplasmosis has been diagnosed in numerous dogs in our state. Western black-legged ticks, *Ixodes pacificus*, can carry the bacteria that cause anaplasmosis and are found living in forested or brushy areas in the western part of the state. Learn more about [Anaplasmosis, CDC](http://www.doh.wa.gov/CommunityandEnvironment/Pests/Ticks.aspx).

**Babesiosis**

Symptoms of babesiosis include fever, chills, fatigue, muscle pain, and anemia. Since 1990, only cases have been reported as contracting the disease in Washington. The western black-legged tick, *Ixodes pacificus*, is considered the vector of this disease in Washington. This tick is found in forested or brushy areas of western Washington. See [Babesiosis, CDC](http://www.doh.wa.gov/CommunityandEnvironment/Pests/Ticks.aspx).

Preventing Tick Bites

**Avoid Direct Contact with Ticks**
- Avoid wooded and bushy areas with high grass and leaf litter.
- Walk in the center of trails.

**Repel Ticks with DEET or Permethrin**
- Use repellents that contain 20 to 30% DEET (N, N-diethyl-m-toluamide) on exposed skin and clothing for protection that lasts up to several hours. Always follow product instructions. Parents should apply this product to their children, avoiding hands, eyes, and mouth.
- Use products that contain permethrin on clothing. Treat clothing and gear, such as boots, pants, socks and tents with products containing 0.5% permethrin. It remains protective through several washings. Pre-treated clothing is available and may be protective longer.
- Other repellents registered by the Environmental Protection Agency (EPA) may be found at [http://cfpub.epa.gov/oppref/insect/](http://cfpub.epa.gov/oppref/insect/).

**Find and Remove Ticks from Your Body**
- Bathe or shower as soon as possible after coming indoors (preferably within two hours) to wash off and more easily find ticks that are crawling on you.
- Conduct a full-body tick check using a hand-held or full-length mirror to view all parts of your body upon return from tick-infested areas. 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 into the 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. [https://www.cdc.gov/lyme/prev/on_people.html](https://www.cdc.gov/lyme/prev/on_people.html)

**How to remove a tick**

1. Use fine-tipped tweezers to grasp the tick as close to the skin's surface as possible.
2. 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.
3. After removing the tick, thoroughly clean the bite area and your hands with rubbing alcohol, an iodine scrub, or soap and water. Avoid folklore remedies such as "painting" the tick with nail polish or petroleum jelly, or using heat to make the tick detach from the skin. Your goal is to remove the tick as quickly as possible— not waiting for it to detach.

[https://www.cdc.gov/ticks/removing_a_tick.html](https://www.cdc.gov/ticks/removing_a_tick.html)

**Create a Tick-Safe Zone Through Landscaping**

You can make your yard less attractive to ticks depending on how you landscape. Here are some simple landscaping techniques that can help reduce tick populations:

• Clear tall grasses and brush around homes and at the edge of lawns.
• Place a 3-ft wide barrier of wood chips or gravel between lawns and wooded areas and around patios and play equipment. This will restrict tick migration into recreational areas.
• Mow the lawn frequently and keep leaves raked.
• Stack wood neatly and in a dry area (discourages rodents that ticks feed on).
• Keep playground equipment, decks, and patios away from yard edges and trees and place them in a sunny location, if possible.
• Remove any old furniture, mattresses, or trash from the yard that may give ticks a place to hide. 
  http://www.cdc.gov/lyme/prev/in_the_yard.html
• Ticks found on you, a family member, or a pet can be submitted for identification using the Tick Identification Submission Form (PDF). Note these ticks will only be identified, not tested for bugs that cause disease.  http://www.doh.wa.gov/CommunityandEnvironment/Pests/Ticks/TickPhotoGallery.aspx