

Common tick-borne diseases in Nebraska:

Tularemia

- Tularemia is a disease of animals and humans caused by the bacterium *Francisella tularensis*. Humans can become infected through several routes, including tick and deer fly bites, skin contact with infected animals, ingestion of contaminated water, or inhalation of contaminated dusts or aerosols.

Spotted Fever Rickettsia including Rocky Mountain Spotted Fever (RMSF)

- Spotted fever rickettsia, including RMSF, are a group of tick-borne disease caused by the bacterium in the genus *Rickettsia*. They are transmitted to humans through the bite of infected tick species.

Ehrlichiosis

- Human ehrlichiosis is caused by at least three different ehrlichial species in the United States: *Ehrlichia chaffeensis*, *Ehrlichia ewingii*, and a third species called *Ehrlichia muris euclairensis*. In Nebraska, the first two species are known to occur. Ehrlichiae are transmitted to humans through the bite of an infected tick.

Most common symptoms of tick-related illnesses:

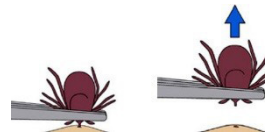
- **Fever/chills:** Patients can experience fever at varying degrees and time of onset.
- **Aches and pains:** Tick-borne disease symptoms include headache, fatigue, and muscle aches. The severity and time of symptom onset may depend on the disease and the patient's personal tolerance level.
- **Rash/skin ulcers:** Rocky Mountain Spotted Fever (RMSF), ehrlichiosis, and tularemia can result in distinctive rashes and/or ulcers. Not all infected individuals will develop a rash.
- **If you become sick and have been exposed to ticks, be sure to tell your doctor about your exposure to ticks.**

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.



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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Nebraska

Tick Identification, Information and Tick-Borne Diseases

NEBRASKA

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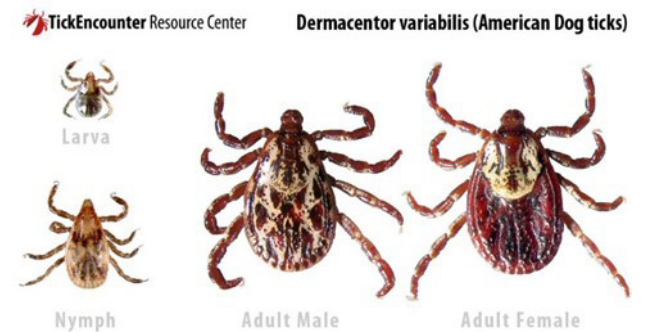
DEPT. OF HEALTH AND HUMAN SERVICES

Nebraska Department of Health & Human Services
301 Centennial Mall South, Lincoln, Nebraska 68509
(402) 471-2937

American dog tick (*Dermacentor variabilis*)



Highest risk of bites occurs during spring and summer. Dog ticks are sometimes called wood ticks. Adult females are most likely to bite humans. Transmits tularemia and Rocky Mountain Spotted Fever.



Brown dog tick (*Rhipicephalus sanguineus*)



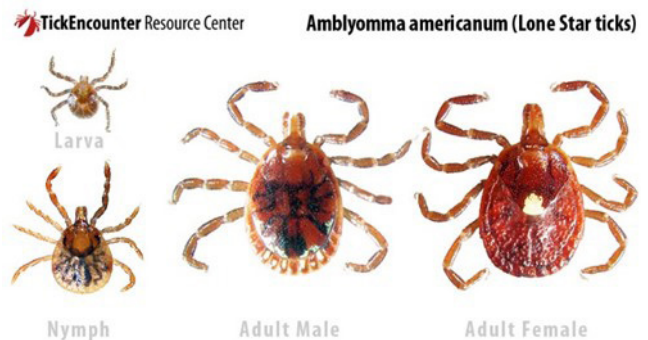
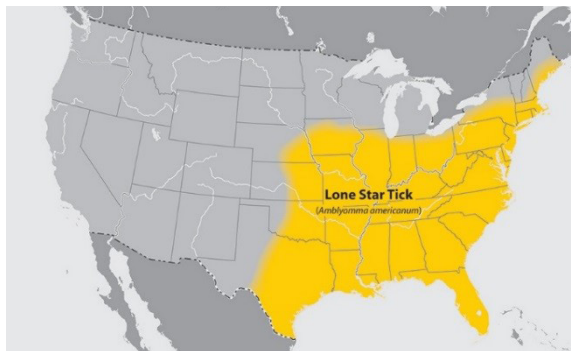
Dogs are the primary host for the brown dog tick in each of its life stages, but the tick may also bite humans or other mammals. Transmits Rocky Mountain Spotted Fever (in the southwestern U.S. and along the U.S.-Mexico border).



Lone star tick (*Amblyomma americanum*)



Very aggressive feeder; nymph & adult females are most likely to bite humans. Lone star tick saliva can be irritating; redness and discomfort at a bite site does not necessarily indicate an infection. Transmits ehrlichiosis, tularemia, and STARI.



Rocky Mountain wood tick (*Dermacentor andersoni*)



Adults feed primarily on large mammals, and are most commonly associated with pathogen transmission to humans. Larvae and nymphs feed on small rodents. Found at elevations of 4,000 to 10,500 feet. Transmits Rocky Mountain Spotted Fever, Colorado tick fever, and tularemia.

