

## What is ehrlichiosis?

Ehrlichiosis is a broad name used to describe several related bacterial diseases that affect animals and humans. Human ehrlichiosis is caused by at least three different ehrlichial species in the United States: *Ehrlichia chaffeensis*, *Ehrlichia ewingii*, and a third Ehrlichia species called *Ehrlichia muris eauclairensis*. The two former species are known to occur in Nebraska. Ehrlichiae are transmitted to humans through the bite of an infected tick. In the United States including Nebraska, the most common vector of ehrlichiosis is the lone star tick.

## What are the symptoms of ehrlichiosis?

The first symptoms usually begin 1-2 weeks after the bite of an infected tick. Tick bites are often painless and about half of infected people do not remember being bitten. Due to non-specific early symptoms, several doctor visits may occur before correct diagnosis and treatment. The following is a list of common ehrlichiosis symptoms. The number and combination of symptoms varies greatly from person to person.

- Fever
- Headache
- Chills
- Nausea, vomiting, diarrhea
- Muscle pain and/or general discomfort
- Conjunctival injection (red eyes)
- Rash (present in up to 60% of children, but less than 30% of adults)
- Confusion
- Labored breathing and/or bleeding disorders may occur in severe cases

## How is ehrlichiosis diagnosed and treated?

The diagnosis of ehrlichiosis must be made based on clinical signs and symptoms, as well as the patient's recent activity (travel, contact with high-risk areas, etc.), and can later be confirmed using specialized laboratory tests. Diagnostic tests, especially those based on the detection of antibodies, will frequently appear negative in the first 7-10 days of illness. However, ehrlichiosis can be fatal if treatment is not started early enough. Therefore, treatment should never be delayed pending the receipt of laboratory test results, or be withheld on the basis of an initial negative result. Patients who are treated early may recover quickly on outpatient medication (doxycycline, an oral antibiotic), while those who experience a more severe infection may require intravenous antibiotics, prolonged hospitalization or intensive care.

## The most effective way to prevent ehrlichiosis is to prevent 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 with a pair of fine-tip tweezers.

## For more information on ehrlichiosis, please visit the CDC ehrlichiosis ebsite:

- <http://www.cdc.gov/ehrlichiosis/>