

# Facts About Tularemia

## History

Tularemia, often called “rabbit fever,” was first described in Japan in 1837. It was named after Tulare County, California where Dr. Edward Francis described it in 1911 during the investigation of a plague-like illness in ground squirrels. Tularemia currently occurs throughout North America and in many parts of Europe and Asia. Though an uncommon disease in Colorado, about 200 human cases of tularemia are reported each year in the United States. Cases have been reported in every state except Hawaii; however, most cases are reported in rural areas of south-central states (Missouri, Arkansas, Oklahoma, Tennessee). The frequency of reported cases has decreased in the last 50 years and there has been a shift from winter disease (typically from exposure to rabbits during hunting) to summer disease (more likely caused by tick and deer fly bites).

## Cause and Treatment

The causative bacterium *Francisella tularensis* is found worldwide in over a hundred species of wild animals, birds and insects. The bacteria is maintained in rabbits and rodents and is most commonly transmitted to people through the bite of infected ticks and deerflies or by handling infected sick or dead animals (i.e. skinning rabbits). Less common methods of transmission include inhaling airborne bacteria, eating infected rabbits or drinking food or water contaminated with urine from an infected animal.

In humans, the incubation period (interval between exposure and appearance of symptoms) is usually 3 to 5 days, but can range from 1 to 14. The signs and symptoms people develop depend on how they are exposed to tularemia. If the bacteria is introduced into the skin symptoms would include fever, a non-healing skin ulcer (at the sight of infection), swollen and painful lymph glands. When ingested tularemia causes a gastrointestinal illness with sore throat, mouth sores, abdominal pain and diarrhea. If the bacteria are inhaled, pneumonia can develop with symptoms that include abrupt onset of fever, chills, headache, muscle aches, dry cough, and progressive weakness. People with pneumonia can develop chest pain, difficulty breathing, bloody sputum, and respiratory failure.

Treatment with antibiotics is effective during the early stages of disease. If diagnosis and appropriate treatment are delayed, life-threatening complications may follow. Medical care should be obtained as soon as symptoms appear. Providing a doctor with any history of exposure to potentially infected animals or recent insect bites is very important in evaluating the risk from tularemia.

## Control and Prevention

### ***Individual Precautions:***

- DO NOT feed or entice any rodent or rabbit species into your yard, back porch or patio
- Eliminate rodent harborage such as piles of lumber, broken cement, trash and weeds around your home or recreational cabin
- Make sure that houses and outbuildings are as rodent-proof as possible. Keep foundations in good repair and eliminate overhanging trees from roof and windows
- When camping or hiking, do not linger in rodent-infested areas. Do not catch, play with or attempt to hand feed wild rodents
- Avoid contact with all sick and dead rodents and rabbits. Look for the presence of blow flies or dead animal smell as evidence of animal die-offs. Report such areas to local or state health departments or to the appropriate campground office
- While hiking, prevent insect bites by using insect repellent containing DEET on your skin, and treat pants, socks, shoe tops, arms and legs with insect repellants containing permethrin.
- Conduct "tick checks" every two to three hours if spending a lot of time outdoors where ticks are plentiful. All ticks attached to the body should be removed immediately. Using a pair of tweezers, slowly pull the tick straight out, no twisting, then wash hands thoroughly after removal.
- If you hunt or trap rabbits, protect your hands with rubber, plastic, or latex gloves while skinning or handling these animals. Wash your hands using soap and warm water after handling animal carcasses.
- Be sure to cook wild rodent and rabbit meat food thoroughly before eating.
- Note any change in the behavior of your pets (especially rodents, rabbits, and hares) or livestock, and consult a veterinarian if they develop unusual symptoms. Do not handle suspiciously sick pets without gloves and face protection
- Remember the incubation period of 3 to 5 days and consult a physician if sudden unexplained illness occurs within that period after activities in the outdoors

## Summary

**Factors to remember:** Illness from tularemia can be treated successfully and cured if it is diagnosed early in its course. If precautions are taken, the probability of an individual contracting tularemia, is quite low. Prevention is important, as tularemia cannot be eliminated from our natural environment. Laboratory diagnostic support and additional information is available through the Colorado Department of Public Health & Environment, Disease Control & Environmental Epidemiology Division that may be reached at 303-692-2700.