



January 2011

Tularemia

(Rabbit Fever, Deer Fly Fever, Ohara Disease, Francis Disease)

Tularemia

Tularemia, often called rabbit fever or deer fly fever, mainly affects wild animals such as rodents, rabbits, muskrats and beavers. The disease is most commonly transmitted to humans through the bite of an infected tick. Tularemia is caused by the bacterium *Francisella tularensis*.

Symptoms of tularemia

Symptoms of tularemia depend on how the person became infected with the tularemia bacteria. If the person got tularemia through the bite of an infected insect, there will often be an inactive sore at the site of the bite and swelling of the nearby lymph nodes. If the person swallowed the bacteria in contaminated food or water, there may be abdominal pain, diarrhea and vomiting. If the person inhaled the bacteria, he or she may develop pneumonia, chest pain, bloody sputum and difficulty breathing. Most patients with tularemia experience a sudden onset of high fever, chills, muscle pain and headache.

Symptoms usually appear three to five days after exposure to the bacteria but can take as long as 14 days to appear.

How tularemia spreads

The bacteria that cause tularemia can be found in wild mammals (e.g., rabbits, hares, muskrats, voles); domestic animals (e.g., sheep, cattle, cats); blood-sucking arthropods that bite these animals (e.g., ticks, deer flies, mosquitoes); and water and soil contaminated by infected animals.

Tularemia is highly contagious. Humans can become infected with the tularemia bacteria through one of the following ways:

- The bite of an infected tick, deer fly or mosquito
- Exposure to contaminated water
- Drinking contaminated water

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- Contact with blood or tissue from the carcass of an infected animal with a person's broken skin, eyes or throat tissue (this can happen while skinning or dressing an infected animal, or performing postmortem examination to determine the cause of death)
- Handling or ingesting insufficiently cooked meat of an infected animal
- Handling or cleaning the infected animal, its toys, cage or feeding equipment
- Inhaling dust from contaminated soil, grain or hay (as few as 10 to 50 bacteria can cause disease)
- Animal bites (e.g., from a coyote, squirrel, skunk, hog, cat or dog) if the animal's mouth was contaminated from eating an infected animal

Preventing tularemia

- Try to avoid being bitten by ticks, flies and mosquitoes by wearing protective clothing and by using insect repellents containing DEET
- Avoid drinking, bathing, swimming or working in untreated water in areas where wild animals are known to carry tularemia
- Take care when gardening. Home gardeners and professional landscapers should consider wearing a face mask when excavating the soil, clearing weeds or brush, or mowing lawns.
- Handle animals carefully. If you hunt or handle wild rabbits or hares, wear gloves and protective goggles, and wash your hands thoroughly with soap and hot water after touching the animal. Cook all wild meat thoroughly, and avoid skinning or dressing any animal that appeared ill before death.
- Teach children not to handle sick or dead animals
- Protect your pets. Livestock and pets can contract tularemia if they eat part of a diseased rabbit or are bitten by an infected tick. To help keep your pets safe, avoid letting them outside unsupervised, provide them with a flea and tick collar, and don't let them come in close contact with wild or dead animals.
- If working in a laboratory, wear facemasks and rubber gloves when handling cultures or infective material and perform the work in a biologic safety cabinet

Treating tularemia

Tularemia can be effectively treated with antibiotics. Long-term immunity usually follows recovery from tularemia, however, reinfection has been reported.

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