

# Tularemia (*Francisella tularensis*)

## DISEASE IN ANIMALS

Tularemia is a bacterial disease isolated from a wide variety of mammals, birds, biting insects, reptiles and amphibians, but is most frequently reported in rodents and rabbits. The organism can survive for months in moist environments. It is present throughout the U.S, but most common in western states particularly in Oklahoma, Missouri & Arkansas.

**Reporting:** Wild rabbit and rodent mortality should be reported to the county wildlife officer. Tularemia is not officially reportable in domestic animals, but notification of the Ohio Department of Agriculture (ODA) at (614) 728-6220 or (800) 300-9755 and [local health department](#) (LHD) is warranted because of human health risk and bioterrorism potential.

**Transmission:** Tularemia is transmitted by biting insects (hard ticks, deer flies, and mosquitos), direct contact and respiratory secretions among rodents and rabbits (tissue, feces, etc) and by ingestion of infected animals or contaminated water.

**Clinical signs:** Clinical manifestations are very diverse depending on route of exposure. Infection is most commonly characterized by a general febrile illness, abscesses or pneumonia. Cats are more susceptible than dogs. Other findings in cats may include oral or lingual ulcers, marked depression, anorexia, icterus lymphadenopathy, hepatomegaly and splenomegaly. Some animals may show no signs of illness prior to death. Sheep and goat outbreaks are usually associated with heavy tick burdens.

**Diagnostics:** In-house necropsy and testing is NOT recommended when tularemia is suspected. *Francisella tularensis* is a Select Agent and must be handled in a Biosafety Level 3 lab. Contact the Ohio Animal Disease Diagnostic Lab for assistance.

### **Case classification:**

- Suspected: a clinical case with signs consistent with tularemia.
- Probable: a clinically suspect case with laboratory evidence from a screening or unvalidated test.
- Confirmed: a case that meets confirmatory testing criteria determined by a state or federal diagnostic laboratory.

## DISEASE IN HUMANS

**Reporting:** Report immediately via telephone any human case or suspected case and/or a positive laboratory result to the LHD where the patient resides. If unknown, report immediately to the LHD within the jurisdiction of the health facility or ODH

**Human illness:** Symptoms vary with exposure. The onset of tularemia is usually abrupt, with fever, headache, chills and rigors, lymphadenopathy, generalized body aches (often prominent in the lower back), coryza and sore throat. A pulse-temperature dissociation has been noted in as many as 42 percent of patients. A dry or slightly productive cough and substernal pain or tightness frequently occurs with or without objective signs of pneumonia. Nausea, vomiting and diarrhea may occur. Sweats, fever, chills, progressive weakness, malaise, anorexia and weight loss characterize the continuing illness.

**Personal protection:** There are multiple modes of transmission from animals to humans, including bites, unapparent skin lesions and mucous membrane or aerosol exposure. Suspect animals should be isolated. Vector, contact, and droplet precautions should be taken when handling ill and exposed animals. Laboratories are at particular risk of aerosol exposures.

## FOR MORE INFORMATION

### **Disease in Animals**

[ODA Division of Animal Industry](#)

[Iowa State University Center for Food Security and Public Health Animal Disease Factsheets](#)

[AVMA Zoonosis Updates](#)

[OIE Manual of Diagnostic Tests](#)

[ABCs of bioterrorism for veterinarians, Category A agents, JAVMA pdf](#)

### **Disease in Humans**

[ODH Infectious Disease Control Manual](#)

[CDC Bioterrorism Agents / Tularemia](#)