

Tularemia Fact Sheet

Toledo-Lucas County Health Department | Emergency Preparedness



What is tularemia?

Tularemia is a disease of animals and humans caused by the bacterium *Francisella tularensis*. Rabbits, hares, and rodents are especially susceptible and often die in large numbers during outbreaks.

How is tularemia transmitted?

The bacterium that causes tularemia is highly infectious and can enter the human body through the skin, mouth, or lungs. Symptoms of infection vary depending on the route of entry. Transmission of tularemia from person-to-person has not been reported.

Tick or deer fly bites. In the United States, ticks that transmit tularemia to humans include the dog tick, the wood tick, and the lone star tick. Deer flies have been known to transmit tularemia in the western United States. Infections due to tick or deer fly bites take the form of glandular or ulceroglandular tularemia.



Handling infected animals. The bacteria can be transmitted to humans via the skin when handling infected animal tissue. In particular, this can occur when hunting or skinning infected rabbits, muskrats, prairie dogs and other rodents. Many

other animals have also been known to become ill with tularemia. Domestic cats are very susceptible to tularemia and have been known to transmit the bacteria to humans. Care should be taken when handling any sick or dead animal. Outbreaks of tularemia have occurred among hamsters purchased from pet stores as well. Infection due to handling animals can result in glandular, ulceroglandular and oculoglandular tularemia. Oropharyngeal tularemia can result from eating under-cooked meat of infected animals.

Other exposures. Humans can acquire tularemia by inhaling dust or aerosols contaminated with the bacteria. This can occur during farming or landscaping activities, especially when machinery (e.g. tractors or mowers) runs over infected animals or carcasses. Although rare, this type of exposure can result in pneumonia tularemia, one of the most severe forms of the disease. Water can also be contaminated with the bacteria through contact with infected animals. Humans who drink contaminated water that has not been treated may contract oropharyngeal tularemia. This mode of transmission appears to be much more common in Europe.



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What are the signs and symptoms of tularemia?

The signs and symptoms vary depending on how the bacteria enter the body. All forms are accompanied by fever, which can be as high as 104°F. The main forms of the disease are listed below:

- **Ulceroglandular:** this is the most common form of tularemia and usually occurs following a tick or deer fly bite or after handling and infected animal. A skin ulcer is accompanied by swelling or regional lymph glands, usually in the armpit or groin.
- **Glandular:** similar to ulceroglandular tularemia but without an ulcer. Also generally acquired through the bite of an infected tick or deer fly bite or from handling sick or dead animals.
- **Oculoglandular:** this form occurs when the bacteria enter through the eye. This can occur when a person is butchering an infected animal and touches his or her eyes. Symptoms include irritation and inflammation of the eye and swelling of lymph glands in front of the ear.
- **Oropharyngeal:** This form results from eating or drinking contaminated food or water. Patients with oropharyngeal tularemia may have sore throat, mouth ulcers, tonsillitis, and swelling of lymph glands in neck.
- **Pneumonic:** this is the most serious form of tularemia. Symptoms include cough, chest pain, and difficulty breathing. This form results from breathing dusts or aerosols containing the organism. It can also occur when other forms of tularemia are left untreated and the bacteria spread through the bloodstream to the lungs.



- **Typhoidal:** This form is characterized by any combination of the general symptoms.

How is tularemia diagnosed?

Tularemia can be difficult to diagnose. It is a rare disease, and the symptoms can be mistaken for other, more common, illnesses.

How is tularemia treated?

Antibiotics are used to treat tularemia. Treatment usually lasts 10 to 21 days depending on the stage of the illness and the medication used. Although symptoms may last for several weeks, most patients recover completely.

For more information:

Centers for Disease Control and Prevention (CDC):
<https://www.cdc.gov/tularemia/index.html>

The Toledo-Lucas County Health Department is committed to providing relevant and timely information during a public health emergency.

For the latest information, please visit:
www.lucascountyhealth.com



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