

## Tularemia

### What is tularemia?

Tularemia is a bacterial disease that can cause a variety of symptoms, depending on how the organism enters the body. It is caused by the bacterium *Francisella tularensis*, which is found in the environment, in wild animals (particularly rabbits, hares, and rodents), and in arthropods (e.g., ticks and deer flies in the U.S. and mosquitoes in other countries). About 200 human cases of tularemia are reported each year in the United States.

### Who gets tularemia?

Anyone can get tularemia, but it is thought of as a disease that mostly affects rabbit hunters and people (especially children) who have had tick bites in areas where the disease occurs.

### How is tularemia spread?

Tularemia cannot be spread from one person to another. The disease can be spread in a variety of ways. The skin, eye, mouth and throat of hunters may be exposed to the bacteria while skinning or dressing wild animals, especially rabbits or hares. Handling or eating uncooked meat from infected animals, handling pelts and paws of animals, drinking contaminated water, or getting bitten by certain arthropods may also transmit the disease. Another possible, but rare, route of exposure is by inhaling infected aerosols, such as dust from contaminated soil, hay or grain.

### What are the symptoms of tularemia?

Tularemia causes different symptoms depending on where the bacteria enter the body. Tularemia can cause swollen and painful lymph glands, inflamed eyes, sore throat, ulcers in the mouth or on the skin, and pneumonia-like illness. Early symptoms almost always include the abrupt onset of fever, chills, headache, muscle aches, joint pain, dry cough and progressive weakness. Pneumonia may be a complication of infection and requires prompt diagnosis and specific treatment to prevent death.

### How soon after exposure do symptoms appear?

Symptoms usually appear 3 to 5 days after exposure to the bacteria, but can take from 1 to 14 days to develop.

### 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. For this reason, it is important to share with your health care provider any likely exposures, such as tick and deer fly bites, or contact with sick or dead animals. Laboratory tests of specimens taken from the affected part(s) of the body can help confirm the diagnosis.

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### **What is the treatment for tularemia?**

Early treatment with an antibiotic is recommended.

### **How can tularemia be prevented?**

1. Avoid the bites of arthropods (most commonly ticks and deerflies). Wear insect repellent while outside in areas where there are lots of bugs.
2. Avoid drinking, bathing, swimming, or working in untreated water where wild animals are known to be infected.
3. Avoid touching wild rabbits or other potentially infected animals. If contact cannot be avoided, use rubber gloves when handling animals. Cook the meat of wild rabbits and rodents thoroughly before eating it.
4. Wear proper personal protective equipment and use appropriate containment if working with tularemia in a lab setting.

A vaccine for tularemia is not currently available in the United States. If you suspect you have been exposed to tularemia, contact your doctor immediately.

### **Can tularemia be used for bioterrorism?**

Experts are concerned that tularemia could be used as a bioweapon because *F. tularensis* is very infectious (a small number of organisms can cause disease). If tularemia was used as a weapon, the bacteria would likely be made airborne, causing severe respiratory illness in people.

### **How can I get more information about tularemia?**

- 1) If you have concerns about tularemia, contact your healthcare provider.
- 2) Call your local health department. A directory of local health departments is located at <http://www.vdh.virginia.gov/LHD/index.htm>.
- 3) Visit the Centers for Disease Control and Prevention website at <http://www.cdc.gov/Tularemia/>.