



## TULAREMIA

### What is tularemia?

Tularemia is a bacterial disease (*Francisella tularensis*) that infects both humans and animals. Although many wild and domestic animals have been infected, the rabbit is most often involved in disease outbreaks.

### Who gets tularemia?

People who spend a great deal of time outdoors are at greater risk of exposure to tularemia than people are with other occupational or recreational interests. Groups of people at risk of getting tularemia are those who come in contact with flesh or blood from infected animals, such as those in high-risk occupations (e.g., laboratory workers, farmers, veterinarians, sheep workers, hunters, trappers, or meat handlers).

### How is tularemia spread?

Tularemia is not spread from person-to-person. However, many routes of human exposure to the tularemia bacteria exist, including the following:

- Contact of the skin or mucous membranes with blood or tissue while handling, dressing, or skinning infected animals.
- Contact with meat from an infected animal.
- Contact with fluids from infected ticks or biting flies.
- Getting bitten by an infected tick or biting fly.
- Handling or eating insufficiently cooked rabbit meat. Rabbit meat can remain infective even after being frozen for several years.

Less common means of spread are:

- Drinking contaminated water.
- Inhaling dust from contaminated soil.
- Handling contaminated paws or pelts of animals.

### What are the symptoms of tularemia?

The symptoms of tularemia depend on whether the bacteria enters through the skin, gastrointestinal tract, or lungs. Tularemia is usually recognized by the presence of an ulcerative skin lesion and swollen glands. Ingesting the organism may produce a throat infection, abdominal pain, diarrhea, and vomiting. Inhaling the organism may produce a fever alone or be combined with a pneumonia-like illness.



### **How soon do symptoms appear?**

Symptoms generally appear within one to 21 days of infection, and usually within three to five days of infection.

### **Should an infected person be excluded from work or school?**

Isolation is not recommended; however, contact precautions should be taken for open lesions.

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

Certain antibiotics are effective in treating tularemia, such as streptomycin, gentamicin, or tobramycin.

### **What can a person or community do to prevent the spread of tularemia?**

- Rubber gloves should be worn when skinning or handling animals, especially rabbits.
- Wild rabbit, muskrat, and squirrel meat should be cooked thoroughly before eating.
- Avoid drinking, swimming, or working in untreated water where infection may prevail among wild animals.
- Wear light-colored clothing so ticks can easily be seen.
- Use insect repellents containing DEET on your skin or permethrin (Permanone) on your clothing. Be sure to follow the directions on the container. Carefully read the manufacturer's label on repellents before using on children.
- Do not mow over sick or dead animals.
- Use mask during mowing or landscaping activities to possibly reduce risk of inhaling bacteria.
- Remove attached ticks promptly.

### **Resources**

Centers for Disease Control and Prevention, <https://www.cdc.gov/Tularemia/>