



Tularemia

Information for the Public

What is Tularemia?

Tularemia, also known as “rabbit fever,” is a potentially serious illness that occurs naturally in the United States. It is caused by the bacterium, *Francisella tularensis*, found in animals, especially rodents, rabbits, and hares.

How do people become infected with tularemia?

People can get tularemia several ways:

- By being bitten by an infected tick, deerfly, or other insect
- By handling infected animal carcasses
- By eating or drinking contaminated food or water
- By breathing in the bacteria, *F. tularensis*

Tularemia is not known to spread from person to person. People who have tularemia do not need to be isolated.

How common is tularemia?

Tularemia is a widespread disease in animals. About 200 human cases of tularemia are reported each year in the United States. Tularemia is usually a rural disease and has been reported in all U.S. states except Hawaii, although most cases occur in the south-central and western states. Nearly all cases occur in rural areas, and are caused by the bites of ticks and biting flies or from handling infected rodents, rabbits, or hares. Cases have also resulted from inhaling airborne bacteria and from laboratory accidents.

How soon do infected people get sick?

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

What are the symptoms of tularemia?

People who have been exposed to the tularemia bacteria should be treated as soon as possible. Tularemia can be fatal if the person is not treated with the right antibiotics.

Symptoms of tularemia could include:

- Sudden fever
- Chills
- Headaches
- Diarrhea
- Muscle aches
- Joint pain

- Dry cough
- Progressive weakness

What should I do if I think I have tularemia?

Consult your doctor at the first sign of illness. Be sure to let your doctor know if you are pregnant or have a weakened immune system.

How is tularemia diagnosed?

When a person has symptoms that appear related to tularemia, the healthcare worker collects specimens, such as blood or sputum, for testing in a diagnostic or reference laboratory. Laboratory test results for tularemia may be preliminary, and take less than one day. Confirmatory tests take 48 hours or longer depending on the methods used. In some circumstances, a person may be given treatment based on symptoms before the laboratory results are returned.

What should I do if I have been exposed to tularemia bacteria?

If you suspect you were exposed to tularemia bacteria, see a doctor quickly. Treatment with antibiotics for a period of 10-14 days or more after exposure may be recommended. If you are given antibiotics, it is important to take them according to the instructions you receive. You must take all of the medication you are given.

Can tularemia be effectively treated with antibiotics?

Yes. Early antibiotic treatment is recommended whenever it is likely a person was exposed to tularemia or has been diagnosed as being infected with tularemia. Several types of antibiotics have been effective in treating tularemia infections. The tetracycline class (such as doxycycline) or fluoroquinolone class (such as ciprofloxacin) of antibiotics are taken orally. Streptomycin or gentamicin are also effective against tularemia, and are given by injection into a muscle or vein. Health officials will test the bacteria in the early stages of the response to determine which antibiotics will be most effective.

Is there a vaccine available for tularemia?

A vaccine for tularemia is under review by the Food and Drug Administration and was not available in the United States when this fact sheet was published.

Who should be notified of a suspected case of tularemia?

Contact your local health department immediately so an investigation and infection control activities can begin. For a listing of local health departments see: <http://www.malphp.org/page.cfm/108/>. Your doctor should contact the local health department if they suspect you have been exposed to tularemia. The local health department will notify the Michigan Department of Community Health who will communicate with the Centers for Disease Control and Prevention. If bioterrorism is suspected, the health departments will notify the FBI and other appropriate authorities.

What can I do to prevent becoming infected with tularemia?

Tularemia occurs naturally in many parts of the United States. Use insect repellent containing DEET on your skin, or treat clothing with repellent containing permethrin, to prevent insect bites. Wash your hands often, using soap and warm water, especially after handling animal carcasses. Be sure to cook your food thoroughly and get your water from a safe source.

Note any change in the behavior of your pets (especially rodents, rabbits, and hares) or livestock, and consult a veterinarian if they develop unusual symptoms.

Can tularemia be used as a weapon?

Francisella tularensis is very infectious. A small number of bacteria (10-50 organisms) can cause disease. If *Francisella tularensis* were used as a biological weapon, the bacteria would likely be made airborne so they could be inhaled. People who inhale the bacteria can experience severe respiratory illness, including life-threatening pneumonia and systemic infection, if they are not treated. The bacteria that cause tularemia occur widely in nature and could be isolated and grown in quantity in a laboratory, although manufacturing an effective aerosol weapon would require considerable sophistication.

How long can *Francisella tularensis* exist in the environment?

Under natural conditions *Francisella tularensis* can remain alive for weeks in water and soil. Information is not available about survivability of an intentionally released aerosol form of *F. tularensis*, but a working group of experts predicts a short half-life due to radiation from the sun and other environmental factors.

Who should be treated?

- If an attack is discovered before individuals become ill, exposed persons in the incubation period of tularemia should be treated with antibiotics.
- If an attack is discovered only after individuals become ill, persons potentially exposed should begin a fever watch. Those who develop an otherwise unexplained fever or flu-like illness within 14 days of presumed exposure should begin treatment.
- Treatment of close contacts of tularemia patients is not recommended because person-to-person transmission is not known to occur.

What is Michigan doing to combat this health threat?

The Michigan Department of Community Health is working closely with physicians and laboratories to make them aware of the signs and symptoms of tularemia and to be able to identify tularemia. Increased surveillance by local health departments is incredibly important in our efforts to detect bioterrorism, investigate potential cases, and ensure that patients will be cared for properly with minimal risks. Hospitals, health care providers, and health departments throughout the state are prepared to follow the protocols and recommendations for care set by the Centers for Disease Control and Prevention to ensure patient safety.

For more information on tularemia:

- Contact your local public health department. Check <http://www.malph.org/page.cfm/108/> for your jurisdiction. A list of local public health departments is also available at http://www.michigan.gov/documents/June2003LHDLList_69658_7.pdf
- Visit the Michigan Department of Community Health website <http://www.michigan.gov/ophp>
- Visit The Centers for Disease Control and Prevention (CDC) website, <http://www.bt.cdc.gov/agent/tularemia/index.asp>
- Call the Centers for Disease Control and Prevention Public Response Service Hotline:
English: 1-888-246-2675
Español: 1-888-246-2857
TTY: 1-866-874-2646