

PUBLIC HEALTH FACT SHEET

Tularemia

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What is tularemia?

Tularemia is a disease caused by the bacteria (germ) *Francisella tularensis*. It is a disease that occurs in both animals and humans.

Does tularemia occur in Massachusetts?

It is relatively rare in most of Massachusetts. However, there have been tularemia cases on Martha's Vineyard since 2000 and, during that time, over 85% of cases in Massachusetts have occurred in people who either have lived or worked on Martha's Vineyard. The majority of cases have been people who work outdoors, particularly landscapers.

How do people get tularemia?

It can be spread to people in different ways. Humans may get it from an infected tick. In Massachusetts, the type of tick most likely to carry the tularemia germ is the common dog tick, also called the wood tick. People can also get it after touching, handling or eating an infected animal, having contact with water or soil that has been contaminated by an infected animal or being bitten by an infected animal.

Animals most likely to be infected include rabbits and rodents such as voles, squirrels, muskrats and beavers. Although uncommon in other places, the most common source of infection on Martha's Vineyard is breathing in contaminated particles during outdoor landscaping activities.

Tularemia is not spread from person to person.

What are the symptoms of tularemia?

Symptoms will be different depending on how the germs get into your body. If the germs are spread by an infected tick bite or by touching an infected animal, symptoms may include a skin sore (ulcer) and/or swollen glands (lymph nodes).

Eating food or drinking water that has been contaminated with the germs may cause throat or intestinal pain, diarrhea and vomiting. Breathing in the germs will cause fever and a pneumonia-like illness with coughing, chest pain and/or shortness of breath.

How soon do symptoms of tularemia appear?

Symptoms usually appear between 3 and 5 days after an exposure. It can take as long as 21 days.

How is tularemia diagnosed?

It is diagnosed by laboratory tests that look for the germ in various specimens including serum, blood cultures, biopsy tissue and swabs taken from sores.

How is tularemia treated?

It can be treated with antibiotics. It is important to see your doctor right away if you think you may have tularemia.


How can tularemia be prevented?

Prevention begins with you! Take steps to reduce your chances of being bitten by any tick. Ticks are most active during warm weather, generally late spring through fall. However, ticks can be out any time that temperatures are above freezing. Ticks cling to vegetation and are most numerous in brushy, wooded or grassy habitats. They are not found on open, sandy beaches, but may be found in grassy dune areas. When you are in an area likely to have ticks, follow these simple steps to protect yourself and your loved ones:

- Use a repellent with **DEET** (the chemical N-N-diethyl-meta-toluamide) or **permethrin** according to the instructions given on the product label. DEET products should not be used on infants under two months of age and should be used in concentrations of 30% or less on older children. Permethrin products are intended for use on items such as clothing, shoes, bed nets and camping gear and should not be applied to skin. More information on choosing a repellent and how to use repellents safely is included in the MDPH Public Health Fact Sheet on Tick Repellents at www.mass.gov/dph/tick. If you can't go online, contact the MDPH at (617) 983-6800 for a copy of the Fact Sheet.
- Wear long, light-colored pants tucked into your socks or boots and a long-sleeved shirt. This may be difficult to do when the weather is hot, but it will help keep ticks away from your skin and help you spot a tick on your clothing faster.
- Stay on cleared trails when walking or hiking, avoiding the edge of trails where ticks are likely to be.
- Talk to your veterinarian about tick control options (tick collars, repellents) for your pets.

Did you know?

You don't have to be a hiker on Cape Cod to worry about ticks. In Massachusetts, you may be bitten in your own backyard. There are lots of things you can do around your own backyard to make it less inviting for ticks! Visit the MDPH Tickborne Disease Website at www.mass.gov/dph/tick for suggestions.

 **After spending time in an area likely to have ticks, check yourself, your children and pets for ticks.** Adult dog ticks are about the size of a small watermelon seed. When doing a tick check, remember that ticks like places that are warm and moist. Always check the back of the knees, armpits, groin, scalp, back of the neck and behind the ears. If you find a tick attached to your body, remove it as soon as possible using a fine-point tweezers. Do not squeeze or twist the tick's body, but grasp it close to your skin and pull straight out with steady pressure.

Other important steps you can take to reduce your chances of getting tularemia:

- Avoid contact with wild animals, their droppings or carcasses. If you notice a sick or injured wild animal, call your local animal control officer.
- Avoid attracting rodents or other wild animals near your home by keeping woodpiles off the ground and in sunny areas, fencing off any garden areas, never leaving pet food outside after your pet has eaten and securing all garbage in rodent-proof containers.
- Avoid drinking water that may have been contaminated by wild animals. If you receive your drinking water from a well, be sure it is protected from contamination by wild animals.
- Use gloves, an appropriate respirator and eye protection (e.g., goggles) when skinning or dressing wild animals. Cook wild game thoroughly before eating it and avoid cross-contamination (i.e., hands, utensils and surfaces should be thoroughly washed after handling any raw meats or meat products, and the juices from raw meats should not come into contact with any cooked or ready-to-eat foods).

Protect your pets: Pet cats and dogs can get tularemia if they have contact with an infected animal (e.g., your pet catches a rodent that is infected) or are bitten by an infected tick. Pets can become seriously ill and, in rare situations, these pets may then spread the infection to people. Keep your pet away from wild animals and check them regularly for ticks. Speak to your veterinarian if your pet shows signs of illness, such as fever, loss of appetite or lethargy.

If you perform landscaping activities on Martha's Vineyard such as lawn mowing or brush cutting, please see the MDPH Public Health Update: Tularemia on Martha's Vineyard for further advice, at www.mass.gov/dph/tick. If you can't go online, contact the MDPH at (617) 983-6800 for a copy of the Update.

Can tularemia be used for bioterrorism?

Yes. Bioterrorism is the use of any biological organism to intentionally hurt people or create fear. The U.S. Centers for Disease Control and Prevention (CDC) lists tularemia as a possible bioterrorism agent; however, it has never been successfully used in this manner.

Where can I get more information?

- Your doctor, nurse or clinic, or your local board of health (listed in the phone book under local government)
- **For questions about tularemia or other diseases spread by ticks**, contact the MDPH at (617) 983-6800 or toll free at (888) 658-2850 or online at www.mass.gov/dph/tick.
- **For questions about tick repellents**, read the MDPH Public Health Fact Sheet on Tick Repellents at www.mass.gov/dph. If you can't go online, you may ask for hard copies of MDPH fact sheets by calling the MDPH number above.
- The Centers for Disease Control and Prevention (CDC) website at www.bt.cdc.gov/