

# Brucellosis

## Frequently Asked Questions

### What is brucellosis?

Brucellosis (brew-sell-oh-sis) is an infectious disease caused by the *Brucella* bacteria. These bacteria are primarily passed among animals, and they cause disease in humans and animals, including sheep, goats, cattle, deer, elk, camels, pigs, and dogs. Brucellosis can cause long-lasting or chronic symptoms that include fever that comes and goes, joint pain and tiredness.

### Who gets brucellosis?

Brucellosis is not common in the United States, where approximately 100 cases occur each year. Brucellosis can be very common in countries where animal disease control programs have not reduced the amount of disease among animals. Although brucellosis can be found worldwide, it is more common in countries that do not have good public health and domestic animal health programs, such as Mediterranean countries (Portugal, Spain, Southern France, Italy, Greece, Turkey, and North Africa), South and Central America, Eastern Europe, Asia, Africa, the Caribbean, and the Middle East.

### How do people get brucellosis?

People become infected by coming in contact with animals or animal products that are contaminated with these bacteria. People are generally infected in 1 of 3 ways:

- Eating or drinking something that is contaminated with the *Brucella* bacteria
- Breathing in the organism (inhalation)
- Being exposed to bacteria through skin wounds

The most common way to be infected is by eating or drinking contaminated milk products. When sheep, goats, cows, or camels are infected, their milk is contaminated with the bacteria. If the milk is not pasteurized, these bacteria can be spread to people who drink the milk or eat cheeses made from the infected milk. Unpasteurized cheeses, called "village cheeses," represent a particular risk.

Inhalation of *Brucella* organisms is not a common route of infection, but it can be a threat for people in certain occupations, such as those working in laboratories where the organism is cultured. Inhalation is often responsible for a significant percentage of cases in slaughterhouse employees.

Contamination of skin wounds is a source of exposure for veterinarians and workers in slaughterhouses or meat packing plants. Hunters may be infected through skin wounds or by ingesting the bacteria after cleaning deer, elk, moose, or wild pigs that they have killed.

Veterinarians may become infected with *Brucella* from accidental injection or contact with an attenuated strain of *B. abortus* called RB51 that is used to vaccinate cattle against brucellosis. Human infection can also occur from consumption of raw (unpasteurized) milk from vaccinated cows.

### Am I at risk for brucellosis if my dog is diagnosed with the disease?

*Brucella canis* is the species of *Brucella* that primarily infects dogs. It can spread to people through unprotected contact with bodily fluids (urine, blood, reproductive fluids), or materials from a birth or miscarriage from an infected dog. People who work or live with infected dogs should be careful and use proper hygiene after contact with the animal.

People with weakened immune systems (cancer patients, people with HIV/AIDS, or transplant patients) and pregnant people are at higher risk of infection and should avoid contact with infected dogs and talk to a doctor if they think they were exposed.

### **What are the symptoms of brucellosis?**

Symptoms usually begin 1 to 2 months after exposure to the bacteria, but can range from 5 days to several months.

Symptoms include:

- Persistent or recurring fever
- Sweating
- Chills
- Tiredness
- Weight loss
- Headache
- Body aches
- Joint pain and/or arthritis

Severe infections of the central nervous system or lining of the heart may occur. Neurologic symptoms may occur acutely in up to 5% of the cases. In the chronic forms of brucellosis (lasting 6 weeks or longer), symptoms include recurrent fever, arthritis and testicular swelling in males.

### **How is brucellosis diagnosed?**

If a health care provider suspects brucellosis, blood samples should be tested.

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

Antibiotics are used to treat brucellosis. (NOTE: It is very important to finish your antibiotics even if you begin to feel better, unless otherwise directed by your health care provider.)

### **Should a person infected with brucellosis be excluded from work or school?**

Brucellosis is not easily spread from person to person. People infected with brucellosis do not need to be excluded from work or school.

### **How can brucellosis be prevented?**

- Do not drink raw or unpasteurized milk.
- Do not eat dairy products, including cheese or ice cream, made from unpasteurized milk.
- Avoid contact with flesh, blood, urine, and aborted fetuses from infected animals.
- Hunters and animal handlers should use rubber gloves when handling animals, animal tissues or bodily fluids.

### **Where can I get more information on brucellosis?**

- Your health care provider
- Your local health department
- NJ Department of Health [www.nj.gov/health](http://www.nj.gov/health)
- Centers for Disease Control & Prevention [www.cdc.gov](http://www.cdc.gov)

This information is intended for educational purposes only and is not intended to replace consultation with a health care professional. Adapted from Centers for Disease Control and Prevention