

Brucellosis Fact Sheet

1. **What is brucellosis?** - Brucellosis is an infectious disease caused by a bacterium. These bacteria are primarily passed among animals producing disease in many. Various *Brucella species* affect sheep, goats, cattle, deer, elk, pigs, dogs, and several other animals. Humans become infected by coming in contact with animals or animal products that are contaminated with these bacteria. In humans brucellosis can cause a range of symptoms similar to the flu that may include fever, sweats, headaches, back pains, and physical weakness. Severe infections of the central nervous system or lining of the heart may occur. Brucellosis can also cause long-lasting or chronic symptoms that include recurrent fevers, joint pain, and fatigue.
2. **How common is brucellosis?** - Brucellosis is not very common in the United States, where 100 to 200 cases occur each year. However, since the symptoms are non-specific, additional cases may be recognized or diagnosed. Brucellosis is very common in countries where animal disease control programs have not reduced the amount of disease among animals.
3. **Where is brucellosis usually found?** - Although brucellosis can be found worldwide, it is more common in countries that do not have good standardized and effective public health and domestic animal health programs. Areas currently listed as high risk are the Mediterranean Basin (Portugal, Spain, Southern France, Italy, Greece, Turkey, North Africa), South and Central America, Eastern Europe, Asia, Africa, the Caribbean, and the Middle East. Unpasteurized cheeses, sometimes called "village cheeses," from these areas may represent a particular risk for tourists.
4. **How is brucellosis transmitted to humans, and who is likely to become infected?** - Humans are generally infected in one of three ways: eating or drinking something that is contaminated with *Brucella*, breathing in the organism (inhalation), or having the bacteria enter the body 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 transmitted to persons who drink the milk or eat cheeses made with it. Inhalation of *Brucella* organisms is not a common route of infection, but it can be a significant hazard for people in certain occupations, such as those working in laboratories where the organism is cultured. Inhalation is often responsible for cases in slaughter-house employees. Contamination of skin wounds may be a problem for persons working in slaughterhouses or meat packing plants or for veterinarians. Hunters may be infected through skin wounds or by accidentally ingesting the bacteria after cleaning deer, elk, moose, or wild pigs that they have killed.
5. **Can brucellosis be spread from person to person?** - Direct person-to-person spread of brucellosis is extremely rare. Mothers who are breast-feeding may transmit the infection to their infants. Sexual transmission has also been reported. For both sexual and breast-feeding exposures, if the infant or person at risk is given preventive treatment for brucellosis, their



risk of becoming infected will probably be eliminated within 3 days. Although uncommon, transmission may also occur via contaminated tissue transplantation.

6. **Is there a way to prevent infection?** - Yes. Do not consume unpasteurized milk, cheese, or ice cream especially while traveling in high risk areas. If you are not sure that the dairy product is pasteurized, don't eat it. Hunters and animal herdsman should use rubber gloves when handling the internal organs of animals. There is no vaccine available for humans.
7. **My dog has been diagnosed with brucellosis. Is that a risk for me?** - *Brucella canis*, which infects dogs, has occasionally been transmitted to humans, but the vast majority of dog infections do not result in human illness. Although veterinarians exposed to blood of infected animals are at risk, pet owners are not considered to be at risk for infection. This is partly because it is unlikely that they will come in contact with blood, semen, or placenta of the dog. The bacteria may be cleared from the animal within a few days of treatment; however re-infection is common and some animal body fluids may be infectious for weeks. Immunocompromised persons (cancer patients, HIV-infected individuals, or transplantation patients) should not handle dogs known to be infected with *B. canis*.
8. **How is brucellosis diagnosed?** - Brucellosis is diagnosed in a laboratory by finding *Brucella* organisms in samples of blood or bone marrow. Also, blood tests can be done to detect the body's immune response against the bacteria. If this method is used, two blood samples should be collected 2 weeks apart to look for a three-fold or larger rise in antibody levels.
9. **Is there a treatment for brucellosis?** Yes, but treatment can be difficult. Doctors can prescribe effective antibiotics. Depending on the timing of treatment and severity of illness, recovery may take a few weeks to several months. Mortality is low (<2%), and is usually associated with infections involving the heart.
10. **For more information:** <http://www.cdc.gov/nczved/divisions/dfbmd/diseases/brucellosis/>

This fact sheet provides general information. Please contact your physician and/or veterinarian for specific clinical information related to you or your animal.