

What is brucellosis?

Brucellosis is an infectious disease caused by the bacteria, *Brucella*. It spreads from animals to people.

How is brucellosis spread?

Most commonly, people are infected by eating raw or unpasteurized dairy products. The bacteria can spread through the air or through direct contact with blood and body fluids of infected animals. Animals that may be infected with *Brucella* bacteria include cattle, swine, goats and sheep. Infections may also be found in bison, elk, caribou and some species of deer.

What are the signs and symptoms of brucellosis?

Signs and symptoms of brucellosis may include fever, joint pain, muscle pain and fatigue. Some symptoms may recur. Recurring symptoms may include: fevers, arthritis, swelling of the testicle and scrotum area, swelling of the heart (endocarditis), brain, spinal cord and nervous system symptoms, chronic fatigue, depression and swelling of the liver and/or spleen.

How long after infection do symptoms appear?

Symptoms of brucellosis may show up anytime from a few days to a few months after you've been infected. Symptoms may disappear for weeks or months and then return. Some people have chronic brucellosis

and experience symptoms for years, even after treatment.

Who is most at risk?

Brucellosis is more common in countries that do not have 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), Mexico, South and Central America Eastern Europe, Asia, Africa, the Caribbean and the Middle East.

People who work with animals or who come into contact with infected blood are at higher risk of brucellosis. Examples include: veterinarians, dairy farmers, ranchers, slaughterhouse workers, hunters and microbiologists.

People who consume unpasteurized dairy products such as raw milk are at greater risk of brucellosis infection.

Women who are pregnant and have been exposed to brucellosis should talk with their healthcare provider. Laboratory tests and a short course of antibiotics may be recommended.

What type of health problems are caused by brucellosis?

Infection of the heart's inner lining, arthritis, inflammation and infection of the testicles, inflammation and infection of the spleen and liver, central nervous system infections can result from brucellosis.

How is brucellosis diagnosed?

Healthcare providers usually confirm a diagnosis of brucellosis by testing blood or bone marrow for the *Brucella* bacteria or by testing blood for antibodies to the bacteria. To help detect complications of brucellosis, your healthcare provider may order additional tests, including:

- X-rays. X-rays can reveal changes in your bones and joints.
- Computerized tomography (CT) scan or magnetic resonance imaging (MRI). These imaging tests help identify inflammation or abscesses in the brain or other tissues.
- Cerebrospinal fluid culture. This checks a small sample of the fluid that surrounds your brain and spinal cord for infections such as meningitis and encephalitis.
- Echocardiography. This test uses sound waves to create images of your heart to check for signs of infection or damage to your heart.

How is brucellosis treated?

Treatment for brucellosis is intended to relieve symptoms, prevent a relapse of the disease and avoid serious illness. Antibiotics are usually given for at least six weeks, and your symptoms may not go away completely for several months. The disease may also return and become chronic.

How can brucellosis be prevented?

The best way to prevent brucellosis infection is to avoid consuming: undercooked meat, and unpasteurized dairy products, including: milk, cheese and ice cream. Pasteurization is when raw milk is heated to a high temperature for a short period of time. This heating process destroys harmful bacteria that may make the milk unsafe to consume. If you are not sure that the dairy product is pasteurized, do not eat it.

People who handle animal tissues (such as hunters and animal herdsman) should protect themselves by using rubber gloves, goggles, gowns or aprons. This will help ensure that bacteria from potentially infected animals do not get into eyes or inside a cut or abrasion on the skin.

Where can I get more information?

- Your personal healthcare provider
- [Centers for Disease Control and Prevention](#)
- [Mayo Clinic](#)

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