

## **Brucellosis**

### **What is brucellosis?**

Brucellosis is a disease caused by the bacteria *Brucella*. The bacteria are mainly passed among animals such as sheep, goats, cattle, swine, and others. Humans can become infected after coming into contact with infected animals or animal products.

### **Who gets brucellosis?**

In the U.S., brucellosis is uncommon, with between 100 and 200 cases occurring each year. An average of one to two cases of brucellosis is reported each year in Virginia, and the cases are usually associated with eating unpasteurized, imported dairy products (such as cheeses). Illness may also occur in people who work with infected animals, such as slaughterhouse workers, farm workers, or veterinarians.

### **How is brucellosis spread?**

Human infections generally occur in one of three ways: eating or drinking unpasteurized milk or milk products (such as cheeses); having the bacteria enter the body through skin wounds or mucous membranes (through close contact with infected animals); or through breathing in the organism (uncommon, but can occur among laboratory workers).

People can become infected by handling the tissues, blood, urine, vaginal discharges, aborted fetuses, or placentas of infected animals. Person-to-person spread of brucellosis is extremely rare but can occur through sexual contact with an infected person, by having infected tissues transplanted into the body, or by the bacteria passing from an infected mother to her infant during breastfeeding.

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

Brucellosis causes a flu-like illness with fever, chills, headache, body aches, and weakness. The fever may go up and down over a 24-hour period (another name for brucellosis is 'undulant fever'). Other symptoms may include weight loss, loss of appetite, vomiting and prolonged tiredness. Serious infections of the central nervous system or lining of the heart may occur. Brucellosis can also cause long-lasting (chronic) symptoms including fever, joint pain, and tiredness.

### **How soon do symptoms appear?**

Symptoms usually appear one to two months after exposure, but the time period could range from five days to several months or longer.

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

Early diagnosis and treatment of brucellosis is important. Blood tests are usually required to diagnose the disease. Knowing information about an ill person's exposure to animals or animal products can help healthcare providers make the diagnosis.

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

Treatment usually consists of taking antibiotics for three weeks or longer. It is very important to take the medication for the whole time, even if the symptoms go away. Otherwise, patients may experience a relapse that might be harder to treat. Depending on the timing of treatment and severity of illness, recovery may take a few weeks to several months.

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

Make sure that all milk and milk products (e.g., butter, whipped cream, soft cheeses) that you consume have been pasteurized. Wear disposable or rubber gloves and coveralls if handling internal organs of animals, assisting at the birth of a calf, or handling a newborn calf. Afterwards, disinfect rubber gloves and wash coveralls in hot soapy water. Disinfect the area when cleaning up after assisting a cow with delivery. Burn or bury any aborted fetuses from a cow. There is no vaccine available for humans.

### **Could *Brucella* be used for bioterrorism?**

*Brucella* is classified as a Category B bioterrorism agent by the Centers for Disease Control and Prevention (CDC). Category B agents are the second highest priority agents for bioterrorism (behind Category A agents) because they would be relatively easy to disperse and could cause many people to become seriously ill or die. Release of *Brucella* as a bioterrorism agent would probably be in the form of an aerosol. The U.S. used *Brucella* when its biological weapons program was active, but the weapons were destroyed in 1969 when the program was stopped. Other countries are suspected to have *Brucella* in a form that could be used as a weapon.

### **How can I get more information about brucellosis?**

- 1) If you have concerns about brucellosis, contact your healthcare provider.
- 2) Call your local health department. A directory of local health departments is located at <http://www.vdh.virginia.gov/LHD/index.htm>.
- 3) Visit the Centers for Disease Control and Prevention website at <http://www.cdc.gov/brucellosis/index.html>.