

## **BRUCELLOSIS (UNDULANT FEVER, MEDITERRANEAN FEVER)**

### **What is brucellosis?**

Brucellosis is a bacterial infection caused by *Brucella* bacteria. There are several species of *Brucella*. Each species is commonly associated with a specific animal host; for example, *Brucella abortus* with cattle, *Brucella melitensis* with sheep and goats, *Brucella canis* with dogs, and *Brucella suis* with pigs.

### **How do people become infected with brucellosis?**

Currently, consuming unpasteurized dairy products causes most cases of brucellosis. There are occasional infections among laboratory workers handling *Brucella* cultures. Historically, most human infections were associated with direct contact with infected animals or through mucous membranes or cuts and abrasions in the skin coming in direct contact with animal fluids. Therefore, farmers, veterinarians, and abattoir workers were at highest risk.

### **How is *Brucella* maintained in nature?**

*Brucella* is found in domestic and wild animals. It causes a chronic infection that lasts for the life of the animal. The organism is usually found in the reproductive organs and causes abortion and sterility. Animals can release a large number of organisms in their milk, urine, and aborted fetuses, allowing for transmission between animals and to humans.

### **Who gets brucellosis?**

Brucellosis occurs most often in people who have contact with livestock and in people who consume unpasteurized dairy products.

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

The length of time between exposure and appearance of symptoms of brucellosis is usually one to three weeks, but can be as long as several months. The symptoms of brucellosis are nonspecific. They include fever, sweats, malaise, headache, and back pain. A recurring fever and arthritis is observed if patients go untreated for long periods. Infections that last for more than 12 months can result in infections in bones, joints, liver, kidney, spleen, or heart valves.

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

Since the symptoms of brucellosis are nonspecific, it is often difficult to diagnose. Growing the organism from a blood sample or tissue sample is the best laboratory method for diagnosis. Presence of antibodies in the blood can also indicate whether *Brucella* might be the cause of infection.

**How is brucellosis treated?**

It is necessary to treat patients with an appropriate antibiotic for prolonged periods. If therapy is discontinued too early, relapse of symptoms may occur. Best results are obtained when a combination of two or more antibiotics are used.

**How can infection with brucellosis be prevented?**

Elimination of the disease in domestic animals is the best prevention for brucellosis. Brucellosis control programs are based on vaccination and/or test-and-slaughter of infected animals. These programs have greatly reduced the incidence of animal disease in developed countries, and have resulted in a reduction in the number of human cases. Avoiding consumption of unpasteurized milk and dairy products and limiting exposure to infected domestic animals will prevent most human infections.

**Where can I find more information about brucellosis?**

The Centers for Disease Control and Prevention has information available at their website [http://www.cdc.gov/ncidod/dbmd/diseaseinfo/brucellosis\\_t.htm](http://www.cdc.gov/ncidod/dbmd/diseaseinfo/brucellosis_t.htm).

The World Health Organization also has an informational website at: <http://www.who.int/inf-fs/en/fact173.html>.