



## Brucellosis

### 1.0 Introduction

Brucellosis is an infectious disease caused by various species of the bacteria *Brucella*, which mainly infects cattle, swine, goats, sheep and dogs. Brucellosis is found globally, and is a reportable disease in most countries. The disease causes flu-like symptoms. Person to person transmission is rare.

### 2.0 People at Risk

*Brucella* carriers include cattle, sheep, goats, pigs, and dogs, among other animals. The bacteria can be spread when people come in contact with infected animals or animal products. Occupational exposures to *Brucella* is greater in slaughter house workers, meat-packing employees, veterinarians, farm and livestock workers, and other laboratory workers in contact with animals.

### 3.0 Transmission

**Ingestion**-The most common way to be infected with *Brucella* is by eating or drinking unpasteurized/raw dairy products. When sheep, goats, cows, or camels are infected, their milk becomes contaminated with the bacteria.

**Inhalation**-Brucellosis can be contracted by breathing in the *Brucella* bacteria. This route is of greater risk in laboratories that work with the bacteria. Lab animal workers working with sheep, cattle, goats, and pigs are at increased risk. Slaughterhouse and meat-packing employees exposed to the bacteria have become infected.

**Dermal**-The bacteria can also enter wounds in the skin/mucous membranes through contact with infected animals. This poses a problem with workers who have close contact with animals or animal excretions (newborn animals, fetuses, and excretions that may result from birth).

### 4.0 Symptoms

Brucellosis can cause a wide range of signs and symptoms, some of which may present for prolonged periods of time. The initial symptoms typically manifest in the first 2-4 weeks, (the incubation period can be highly variable).

Symptoms can include:

- Fever
- Sweats
- Malaise
- Anorexia
- Headache
- Pain in muscles, joints, and/or back
- Fatigue

Later signs and symptoms may persist for longer periods of time, and may never go away or reoccur. These include:

- Recurrent fevers
- Arthritis
- Swelling of the testicle and scrotum area
- Swelling of the heart (endocarditis)
- Neurologic symptoms (in up to 5% of all cases)
- Chronic fatigue
- Depression
- Swelling of the liver and/or spleen

## 5.0 Prevention, Diagnosis, and Treatment

**Prevention**-People who handle animal tissues should protect themselves by using proper PPE including rubber gloves, goggles, gowns or aprons. Thoroughly clean instruments and equipment after each use

**Diagnosis**-Brucellosis is diagnosed by sampling and testing blood, bone marrow or other body fluid. A blood test can be performed to detect antibodies against the bacteria.

**Treatment**-Once Brucellosis has been diagnosed it can be treated with antibiotics. Recovery may take a few weeks to several months. Death from Brucellosis is rare, occurring in no more than 2% of all cases.

## 6.0 Resources

[CDC Brucellosis link:](#)

For further information related to possible zoonotic disease exposure, or further related resources, please contact UT Occupational Health Nurse Bryan Cranmore RN, COHN at [bcranmore@utk.edu](mailto:bcranmore@utk.edu), or for urgent response the OHP nurse can be reached at 865-755-8924

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