
Brucellosis

Frequently Asked Questions

1. What is brucellosis?

Brucellosis is infection with *Brucella* bacteria in humans or animals. The following *Brucella* species can cause human infection: *Brucella abortus*, *B. melitensis*, *B. suis*, and *B. canis*. *Brucella* species were named after David Bruce, a military physician who discovered the bacterium *Brucella melitensis* on the island of Malta around 1902 in infected soldiers. Brucellosis is formerly known as Mediterranean fever, Malta fever or undulant fever.

2. Who can get brucellosis?

Brucella species usually cause infection in animals. Human infection is accidental, and usually happens to people who are exposed to infected animals or animal products (e.g. unpasteurized milk). *Brucella* species that are able to infect people have different animal hosts as follows: *B. abortus* (cattle), *B. melitensis* (goat, sheep, camel, occasionally cattle), *B. suis* (swine), and *B. canis* (dogs). Persons who slaughter animals, or drink unpasteurized milk or eat partially cooked or uncooked meat are at most risk. Persons who work in abattoirs (slaughter-houses) are also at risk.

3. Where does brucellosis occur in South Africa?

Human brucellosis was formerly widespread in South Africa (in the early and mid 1900s), but veterinary control measures have limited human infection. Human brucellosis is now rare, but may be under-diagnosed or not reported. Two cases were identified by the NICD in 2011. Brucellosis in animals is strictly controlled through State Veterinary Services. Outbreaks of *B. abortus* in cattle have been reported in most parts of South Africa. The last occurrence of *B. melitensis* in domestic animals (sheep, goats and cows) was in 1999. In a survey done in Kwa-Zulu Natal in 2008, less than 2% of domestic animals had evidence of past infection with *Brucella* species

4. How is brucellosis transmitted?

Brucellosis infection is acquired through ingestion or direct contact such as touching, splashes onto mucous membranes, or inhalation (breathing in) of contaminated animal products. Infection with *Brucella* species is not passed from person to person.

5. How does brucellosis affect animals?

Brucella species cause uterine, mammary gland and testicular infection in mammals. *Brucella* species are transmitted amongst animals through breeding. Infected animals

present with *Brucella* present with recurrent abortions, or give birth to infected young. The milk of infected female animals is contaminated with *Brucella* species

6. **What are the signs and symptoms of brucellosis?**

Brucellosis can begin suddenly, or develop slowly. Incubation period is 2–4 weeks (range, 5 days to 5 months). Symptoms are non-specific and include profuse sweating mostly during the night, fever, extreme tiredness, aches in bones and joints, especially the lower back, hip or knee joints. Persons with brucellosis usually have a history of exposure to animals or animal products, or drink unpasteurised milk. A history of abortions amongst animals to which the person has been exposed is highly suggestive of brucellosis.

7. **How is brucellosis diagnosed?**

The presence of antibodies against *Brucella* species, or a rising titre of antibodies, is highly suggestive of brucellosis. A positive culture from blood, or infected tissue for *Brucella* species is confirmatory evidence of brucellosis.

8. **How is brucellosis treated?**

Brucellosis can be treated with antibiotics. A combination of two or three specific antibiotics is recommended to prevent a relapse of the disease and to reduce treatment failure. Doxycycline, rifampin, and aminoglycosides are recommended. Patients are treated for 6 weeks with doxycycline and rifampicin simultaneously with daily aminoglycoside injections for 2 weeks.

9. **How brucellosis be prevented?**

Brucella species are sensitive to heat, pasteurization, sunlight and commonly used disinfectants. *Brucellae* may survive for up to 40 days in animal excretions or soil as long as environmental conditions are moist. To prevent human infection, pasteurise all milk. Avoid eating undercooked meat. Persons who work with animals or animal products should wear appropriate personal protective clothing and observe appropriate infection control including hand washing.