

# Brucellosis

## Reporting Obligations

Brucellosis is designated as a disease of public health significance and is reportable under the *Ontario Health Protection and Promotion Act*. Report all suspect and confirmed cases **immediately by phone** to the health unit.

## Epidemiology

### Aetiologic Agent:

Brucellosis is caused by the bacterium *Brucella*. *Brucella* species are small, nonmotile, gram-negative coccobacilli. The species that infect humans include *B. suis*, *B. abortus*, *B. melitensis*, and rarely *B. canis*.

Brucellosis is a potential bioterrorism agent.

### Clinical Presentation:

Onset of symptoms may be acute or insidious; it is a systemic infection characterized by continued intermittent or irregular fever, headache, weakness, sweating, chills, arthralgia, depression, weight loss or generalized aching. Localized infections of organs, including the liver and spleen may be present. Physical findings include lymphadenopathy, hepatosplenomegaly, and occasionally arthritis. Serious complications include meningitis, endocarditis, and osteomyelitis.

### Modes of transmission:

Transmission occurs through ingestion of raw milk and unpasteurized dairy products from infected animals, through direct contact of breaks in the skin and mucous membrane with infected animal tissue and their discharges and from fetuses and placentas. Airborne inhalation in laboratories and abattoirs has also been reported.

### Incubation Period:

The incubation period is variable, and difficult to ascertain; usually 5 - 60 days, commonly 1-2 months, occasionally several months.

### Period of Communicability:

There is no evidence of person-to-person communicability.

## Risk Factors/Susceptibility

- Consumption of raw/unpasteurized milk or milk products
- Animal contact (pets, farm animals, petting zoo)
- Contact with aborted animal fetuses or birth products (i.e., placenta)
- Occupational (laboratory workers, veterinarians, animal, or animal product handler)
- Travel outside province in the last 60 days

## Diagnosis & Laboratory Testing

Any of the following will constitute a confirmed case of Brucellosis with clinically compatible signs and symptoms:

- Isolation of *Brucella* sp. from an appropriate clinical specimen (e.g., blood, tissue, bone marrow)
- A significant (i.e., fourfold, or greater) rise in *Brucella* agglutination titre between acute and convalescent serum specimens obtained 2 or more weeks apart and tested at the same laboratory

### TESTING INFORMATION & REQUISITION

## Treatment & Case Management

Treatment is under the direction of the attending physician and depends on clinical symptoms and age of the case; antibiotics are usually prescribed for six weeks to prevent recurring infection. For hospitalized cases, routine practices are recommended, and contact precautions are indicated for people with draining wounds and or lesions.

Public Health staff will be involved to investigate cases of brucellosis to determine the source of infection.

## Patient Information

### PATIENT FACT SHEET

## References

1. [Ministry of Health, Infectious Diseases Protocol - Ontario Public Health Standards, 2022.](#)

## Additional Resources

1. Heymann, D.L. Control of Communicable Disease Manual (21st Ed.). Washington, American Public Health Association, 2022.
2. [PHO. "Brucellosis", Dec 2022.](#)