

## Canine Brucellosis: Info for Dog Owners

Updated: 12/19/23

### What is canine brucellosis?

Canine brucellosis is a disease found in dogs and caused by the bacterium, *Brucella canis*. Infected dogs can spread the disease to people.

### Who gets brucellosis?

Dogs and people can get brucellosis.

Dogs in breeding programs, stray or free-roaming dogs that have not been spayed or neutered are at higher risk of having brucellosis.

In people, dog breeders and veterinarians are most at risk of infection because of their work with birthing puppies (whelping). Dog rescue and shelter workers and people who work in dog businesses (boarding and dog daycare facilities) are also at risk. Although less common, people can also become infected with brucellosis from their family pet.

### How is brucellosis spread?

Dog-to-dog spread of brucellosis occurs most often through breeding and by contact with vaginal discharges, semen, birthing fluids, and urine. Contact with an infected dog's blood, milk, saliva, and feces can also cause infection.

Brucellosis can spread from dogs to people through contact with an infected dog's birthing fluids and vaginal discharge while birthing puppies. Brucellosis can be spread from family pets to people through contact with urine, saliva, and other bodily fluids from an infected dog. Immunocompromised people, the elderly, children, and pregnant people are most at risk for contacting brucellosis.

### What are the symptoms?

#### In dogs

In female dogs, the most common symptoms are aborted pregnancies, stillbirth, and inability to become pregnant. Female dogs with brucellosis can deliver healthy appearing, but infected puppies. In males, the primary symptom is the inability to sire puppies. All dogs, including those that are spayed/neutered can show signs in other body systems as well. These include swollen lymph glands, eye disease, and infections of the spine causing waxing and waning back pain. However, most infected dogs appear normal and show no symptoms.

#### In people

Brucellosis in people normally causes a fever, headache, swollen lymph glands, night sweats, joint and muscle aches, fatigue, weight loss, and swollen liver and/or spleen. Without treatment, symptoms, including fever, can persist for a prolonged time. More serious signs can also occur.

### Can brucellosis be treated?

#### In dogs

Brucellosis is considered an incurable disease, but treatment may be considered to lessen clinical signs or to reduce the risk of bacterial shedding from an infected dog. Treatment includes spaying or neutering and giving antibiotics for many months. Most dogs with canine brucellosis remain infected even after extensive treatment.

## In people

Brucellosis is treatable in people but may not be curable. Treatment involves taking long-term antibiotics, but the infection often persists even with treatment.

## What are the regulations in Minnesota for dogs with canine brucellosis?

Dogs determined by the Minnesota Board of Animal Health to be infected with *Brucella canis* must be euthanized or permanently quarantined and isolated from other dogs not known to be infected.

For more information about what this means for you and your dog, contact the Board of Animal Health at 651-201-6824.

## What is advised for people exposed to an infected dog?

For exposed people with no symptoms, testing or treatment is not recommended.

People with high-risk exposures, including contact with the bodily fluids of an infected dog **and who develop symptoms** consistent with brucellosis should consult their health care provider for testing and call MDH at 651-201-5414.

## What is the guidance for dogs that have lived in a household with an infected dog?

The risk for transmission is highest for sexually intact male and female dogs living in a household with a dog infected with canine brucellosis; however even spayed or neutered dogs can become infected if exposed. It is recommended that any dog that has come in contact with an infected dog be tested. Testing littermates of a dog infected with canine brucellosis and puppies from an infected mother-dog is also recommended.

## How do you test for brucellosis?

### In dogs

A blood sample is tested for the antibodies that fight *Brucella canis*. If a dog tests positive for the antibodies on a screening test, a confirmatory test is done.

### Approved Canine Brucellosis Tests

The following tests for canine brucellosis are approved by the Board of Animal Health:

#### Screening Tests:

- Rapid slide (or card) agglutination test (RSAT)
- 2-mercaptoethanol rapid slide agglutination test (ME-RSAT)
- Tube Agglutination Test (TAT)
- Canine Brucella Multiplex Assay
- Indirect Fluorescent Antibody (IFA)

#### Confirmatory Tests:

- Agar gel immunodiffusion (AGID) test
- Polymerase chain reaction (PCR) test
- Culture- blood, urine, tissue

Screening tests should be conducted after a dog is six months of age and 12 weeks after last possible exposure. Dogs with positive screening test results should be retested using an approved confirmation test to verify results, unless clinical history supports them (positive dam or littermates).

### In people

There is currently no antibody screening test for people, so blood culture is used to diagnose *Brucella canis* infection. People who have been diagnosed with brucellosis should be referred to an infectious disease specialist for treatment.