

Canine Brucellosis - O & A for Dog Owners

What is canine brucellosis?

Canine brucellosis is an infectious disease caused by the *Brucella canis* (*B. canis*) bacterium. Although other *Brucella* species can infect dogs, such as *Brucella suis* (pigs) and *Brucella abortus* (cattle), *B. canis* is the most common *Brucella* species found in dogs and will be the only bacterium discussed here.

Why is canine brucellosis important?

B. canis is a bacterium that can be transmitted to humans as well as other dogs and is a significant cause of reproductive failure in canines.

What are the signs of brucellosis in dogs?

In female dogs, brucellosis usually causes abortion between the 45th and 59th day of pregnancy. Other common reproductive symptoms include failure to conceive in an otherwise healthy dog, infertile males with abnormal semen quality and enlarged testicles that subsequently decrease in size. Non-specific symptoms for both sexes include: lethargy (decrease in activity, depressed), loss of libido, premature aging, and generalized lymph node enlargement. Pups infected prior to whelping may be born weak or appear normal and later develop brucellosis.

How do dogs get infected with canine brucellosis?

Canine brucellosis is mainly transmitted during breeding. The most common mechanism of dog to dog transmission is by nose and mouth contact with vaginal discharge from an infected female. This can occur while the female is in heat, after an abortion, or during whelping. Brucellosis may also be transmitted through semen or urine and can be shed by intact or neutered males for several years in cases of chronic infection. Puppies can become infected from their mother during pregnancy.

Can my dog be cured of brucellosis?

It is very difficult to cure an infected dog. Treatment is not recommended for dogs in a breeding kennel or for dogs that cannot be isolated and given antibiotic therapy because they may continue to be a source of infection for other dogs and humans. Treatment is expensive; several weeks of antibiotic therapy are required and success is not guaranteed. Relapse is common, even after continual use of antibiotics. Spaying/neutering of the dog can reduce transmission risk, but this procedure alone has not been proven to decrease risk of infection to others because it does not remove the bacteria from the body. Treatment is especially difficult in male dogs because the prostate gland is chronically infected. The only proven method for eradication in kennels is to test all dogs and eliminate the confirmed positives.

How can I prevent canine brucellosis in my dog?

Before breeding your dog, both the male and female dog should be examined by a veterinarian and tested for the disease. This involves a simple blood test. Breeding facilities should have all new additions tested for brucellosis before bringing them on to the premises. These dogs should also remain isolated until a second negative test is obtained 4-6 weeks later. Dogs should not be bred if they test positive for brucellosis.

If my dog has canine brucellosis, can I get sick too?

Yes. *B. canis* can infect humans, although it is not common. People who come into contact with large numbers of bacteria are at highest risk, such as dog breeders or others who assist whelping dogs. People who have a compromised immune system, young children, pregnant women, or persons with artificial heart valves are at higher risk of severe disease if they acquire the infection.

How does canine brucellosis spread to humans from dogs?

The most common way humans become infected is through contact with birthing fluids, canine abortion products, or vaginal discharges from an infected dog. *Brucella canis* can be transmitted if these infectious materials contact a person's mucous membranes or abraded skin. The organism can also be present in canine urine, feces, and nasal secretions, although typically in lower concentrations than in reproductive fluids. Nevertheless, it is likely that humans can become infected through exposure to all these materials.

The *B. canis* bacterium can survive in areas with high humidity and low temperatures with no sunlight for long periods of time. Therefore contaminated dust and dirt, water, feces, clothing, and other inanimate objects can pose a transmission risk for a prolonged period, possibly several months.

What are the symptoms of canine brucellosis in humans?

Symptoms are often mild and nonspecific. The most common signs and symptoms of human infection include a continued, intermittent, or irregular fever accompanied by headache, weakness, generalized aching and lymph node enlargement. In more severe infections, joints, bones, or heart valves may be affected. **Persons who believe they have been exposed to *B. canis* should be aware of the signs and symptoms of brucellosis and consult with their medical provider if they become ill.** It is important to know that currently available human antibody tests for brucellosis cannot detect antibodies against *B. canis*. Therefore, testing should include a blood culture (collected prior to antibiotic administration), instead of routine antibody tests.

How long after exposure would I become ill if I have been infected with *B. canis*?

Signs of illness can occur within one week to several months after exposure. On average, signs will begin within 3-4 weeks following infection.

How do I prevent myself or other dogs from getting canine brucellosis if my dog is infected? There is no vaccine available for canine brucellosis at this time. The best preventative measures include yearly testing of all breeding dogs, testing all dogs introduced for breeding, only breeding non-infected dogs, cleaning and disinfecting common areas and housing, lining yard with pea rocks to prevent moist areas, using gloves when assisting whelping dogs, and refraining from placing infected dogs in homes as pets because they can shed the bacteria in urine for long periods of time. Purchase dogs from reputable kennels only.

Protective measures such as wearing latex or rubber gloves should be taken to prevent contact with infected reproductive secretions, urine and tissues such as the placenta and aborted fetuses. When disinfecting kennel areas and runs, face masks and eye protection should be worn to prevent any

material from entering the mouth or eyes. Any newly-acquired animal or dog suspected of being infected should be placed in quarantine or other isolated facility until testing is complete.

For infected pet dogs, there are measures that owners can take to reduce the risk for humans or other dogs to acquire the infection. It should be noted that no measures short of euthanizing the infected animal should be considered absolutely effective. Control measures include:

- A three step process of neutering the dog, antibiotic treatment, and re-testing for brucellosis can be done. Repetition of treatment may be necessary, and treatment ultimately may not be successful, especially in male dogs due to persistent infection of the prostate.
- Do not breed infected dogs.
- Practice good hygiene. Wear gloves when cleaning up areas contaminated by dog feces or urine and wash hands thoroughly when done. Properly dispose of dog waste, and launder potentially contaminated clothing or dog blankets regularly. Contaminated wet areas can be dried and disinfected with a 1% bleach solution.
- Do not take the dog to public use areas such as parks, beaches, pet stores or jogging paths.
- Limit the dog's contacts to as few people as possible. Do not allow the dog to lick or "mouth" people or other dogs.