



Guidance for Owners of Dogs Diagnosed with Canine Brucellosis

If your dog has been diagnosed with canine brucellosis, please review this guidance document closely. The diagnosis and management of this disease requires careful consideration and discussion with your veterinarian. Important considerations to discuss include your dog's quality of life, the health risks associated with owning a dog with brucellosis, and the long-term care, requirements, monitoring, and financial commitment associated with life-long management of canine brucellosis.

WHAT IS CANINE BRUCELLOSIS?

Canine brucellosis is an infectious disease caused by the bacteria *Brucella canis*. Infected dogs can spread the disease to other dogs and in some cases to people, particularly if proper risk reduction measures are not taken. There is no reliable cure for the disease in dogs. While some dogs may improve with treatment, relapses are common. The infection is considered life-long in dogs and can lead to severe health consequences resulting in a poor quality of life. Dogs at higher risk of brucellosis include those that have not been spayed or neutered, are free roaming, stray, or involved in breeding programs.

WHAT ARE THE CLINICAL SIGNS OF CANINE BRUCELLOSIS IN DOGS?

In **female dogs**, the most common symptoms are reproductive problems, including stillborn puppies. The disease is transmitted from mother to puppies, resulting in puppies that are either born sick or that develop illness months to years later.

In **male dogs**, the bacteria can cause infertility and inflammation of the prostate gland and testicles. Infected male and female dogs may also have eye inflammation, lameness, enlarged lymph nodes, and lethargy.

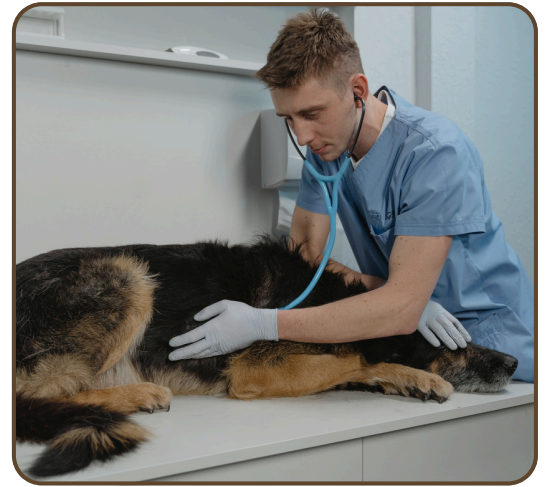
Dogs can also develop diskospondylitis - infection and inflammation of the spinal discs and bones of which can cause back pain, fever, neurologic problems and long term poor quality of life. Some infected dogs may have no obvious clinical signs but can still spread the disease.



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HOW IS CANINE BRUCELLOSIS SPREAD?

Transmission to dogs and humans occurs when infectious material comes into contact with skin wounds or mucous membranes. Puppies may become infected before, during, or after birth by an infected mother. The highest concentrations of *Brucella canis* bacteria are found in reproductive and birthing fluids and tissues, including fetuses, vaginal discharge and semen. Urine, blood, saliva, milk, and feces from an infected dog can also contain bacteria and are capable of transmitting the infection. Materials contaminated with these fluids, including clothing, shoes, veterinary or animal husbandry equipment, crates, bedding, and towels, can also serve as a source to spread the bacteria.



IS CANINE BRUCELLOSIS TREATABLE IN DOGS?

Canine brucellosis is difficult to treat and there is no proven cure for infected dogs. Treatment with certain antibiotics can sometimes make a dog feel better. However, relapse is common, and therefore, infection is considered to be a concern for the life of the dog. Infected dogs may periodically shed the bacteria, even when they appear well. This creates an ongoing disease risk to humans and other dogs. For this reason, and for quality-of-life reasons, euthanasia of dogs with brucellosis is strongly recommended.

If euthanasia is not pursued and an owner decides to keep a dog with brucellosis and attempt treatment, the owner and all household members must understand that the disease is not curable, and the dog poses an ongoing disease risk.

BRUCELLA CANIS INFECTION IN HUMANS:

People who handle infected dogs, their tissues, or contaminated materials are at increased risk of exposure and infection with brucellosis. This includes veterinary staff, laboratory workers, dog breeders, kennel staff, and people who work with stray or imported animal from countries where canine brucellosis is more common, such as Mexico. Symptoms in humans may include fever, headache, fatigue, weight loss, muscle and joint pain, meningitis or organ involvement (e.g., heart, spleen, liver). Some infected people may also show no symptoms. People at higher risk for severe disease include children, pregnant people, individuals with co-morbidities and those that are 65 years of age or older.

Diagnosis of people that may have been infected with *Brucella canis* is challenging. There are no tests available for humans to determine if an exposure has occurred (i.e. no serologic tests to check for antibodies). Diagnosis is most commonly made by blood culture, and a negative culture does not guarantee the infection is not there. Treatment in humans involves taking long-term antibiotics and, in some cases, surgery. Post exposure prophylaxis with antibiotics may be indicated for certain people.



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REQUIRED RISK-REDUCTION MEASURES:

If your dog remains in the home, owners and all household members must abide by the following precautions to reduce risk of transmission for the remainder of the dog's life:



- Dog must be spayed/neutered.
- Dog should not be kept in the same household as someone at high risk for developing serious illness. This includes:
 - Children under 5 years of age
 - Adults over 65 years of age
 - Pregnant women
 - People who are immunocompromised
- Clean up pet waste immediately and use appropriate disinfectants. Use gloves while cleaning up pet waste and wash your hands with soap and water afterwards. It is strongly encouraged that dogs urinate in sunny, dry areas where the bacteria are unlikely to survive.
- Avoid contact with the infected dog's blood, urine, feces, and reproductive fluids. Make sure these materials do not get into mucus membranes or breaks in the skin. Wash hands after handling the dog. Clean and disinfect contact surfaces using 1% sodium hypochlorite (household bleach), quaternary ammonium disinfectants (e.g., Roccal™), phenolic compounds (e.g., Lysol™), or 70% ethanol. Allow disinfectants to have a minimum contact time of 10 minutes.
- If the ownership of the dog is transferred to another person or organization, the owner must inform those individuals of the dog's brucellosis diagnosis.
- Keep the infected dog confined and isolated on the owner's property except when the dog is receiving veterinary care. It is the owner's responsibility to advise any veterinary hospital, at the time an appointment is made, that the dog has tested positive for brucellosis.
- The dog should not have contact with any individuals other than veterinary staff and household members.
- If the dog must go off the property, it must be on a secure leash and be under the control of a responsible adult at all times. The dog should not be taken into public areas, such as dog parks, dog clubs, doggy day care, dog shows or trials, boarding kennels, or dog classes.
- If other dogs have been in contact with the infected dog, their owner should consult their veterinarian about testing. Any exposed dogs that show signs of brucellosis (e.g., fever, reproductive problems, eye problems, back pain) should be examined promptly by a veterinarian, and the veterinarian should be informed that the dog may have been exposed to a dog with brucellosis.

We understand this is a difficult and sensitive situation as your dog is a beloved and important member of your family. If you have any questions or need additional guidance about these disease risk reducing actions, please consult with your veterinarian.

