

# Test for this Hidden Killer Before Breeding

By Susan Chaney

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Brucellosis could easily be called the AIDS of the dog world. Although not as common, it is more easily spread, is always fatal to puppies carried by an infected bitch and has no cure.

The disease starts with the bacteria *Brucella canis*, which a dog or bitch can spread within two to three weeks of exposure.

## Bacteria Spreads Easily

“The information that needs to get out more is that *B. canis* is not just spread by sexual contact,” says Kara Kolster, D.V.M., of Springfield Veterinary Center in Glen Allen, Va. “It is spread in saliva, urine and most body fluids, and can live in the environment for a long time,” explains the board-certified reproductive specialist, who did her residency in theriogenology at the Virginia-Maryland Regional College of Veterinary Medicine.

“This means that dogs can be exposed at a dog show, the dog park, just about anywhere, and they don’t have to come into direct contact with another dog to be exposed. *B. canis* is also spread in chilled or frozen semen. So, just because you have a maiden bitch or one who has always been bred by AI, it does not mean that you don’t need to test.

“Not enough breeders realize what a serious problem it is,” she says.

## Testing Is Imperative

Every bitch should be tested before each breeding. It only takes one exposure to the bacteria to contract it. “I recommend testing males every six months if being used at stud regularly,” Kolster says. “A negative brucellosis test is also generally required when freezing semen.”

Most bitches show no clinical signs of infection, except perhaps swollen lymph glands, until a litter fails to develop, aborts or is born. Soon after birth, all the puppies will die. “*B. canis* causes essentially 100 percent abortion, stillbirth or birth of weak, non-surviving puppies,” Kolster says.

Dogs sometimes are more readily identified as infected earlier than bitches because, after exposure, they may have acute inflammation of the testes, known as orchitis, or epididymitis, swelling of the tube that runs along the back of each testis.

“However, once this initial inflammation has subsided, they can also be asymptomatic,” Kolster says. The Merck Veterinary Manual recommends brucellosis testing for any dog with an inflamed testis or epididymis.

A culture of dogs’ blood diagnoses brucellosis.

## Infection Is a Death Sentence

“The recommendation for treatment is still euthanasia,” Kolster says. “All dogs in an affected kennel are tested, and positive dogs euthanized until the entire kennel population tests negative for three consecutive months.”

Merck says long-term therapy with “a combination of streptomycin or gentamicin and tetracycline has been successful in many cases.” However, Kolster says treatment is “not recommended because those animals continue to shed bacteria and spread disease. They’re also still susceptible to clinical signs from other organ systems, for example, uveitis [swelling and irritation of the eye’s middle layer] and diskospondylosis [bone growth over degenerated intervertebral disks]. With long-term antibiotics, they can reach the point where they will test negative, but that doesn’t mean they have recovered. It just means they are carrying the disease and are capable of spreading it, but you don’t know it.”

Brucellosis in dogs is a reportable condition in very few states, so “it’s hard to accurately determine the incidence of disease,” Kolster says. How prevalent brucellosis is depends on where you live. It’s “endemic in the Southeast,” she says, and less common in other parts of the

U.S. She has heard anecdotal reports that the disease is on the rise, but hasn't seen any "hard evidence" of that. "It may be that we're just becoming more aware of it."

Infection has caused up to a 75 percent reduction in the number of pups weaned in some breeding kennels, according to Merck.

No canine brucellosis vaccine exists, and Kolster is unaware of anyone working on one. Diligent testing is the only protection against the disease.

### **People Are At Risk Too**

Although rare, brucellosis can spread to breeders, kennel workers or anyone exposed to infected urine, saliva, aborted puppies, vaginal secretions, sperm, etc. Usually this would happen via contamination of mucous membranes or skin abrasions, according to Iowa State University's Center for Food Safety & Public Health.

The center reports about 30 human cases since the 1960s. However, in the '70s and early '80s, *B. canis* was found in the blood of hospital patients in Mexico, Germany, U.S. military populations, Florida and Oklahoma. People with brucellosis have recurrent fevers and flu-like symptoms. Most recover, with a mortality of rate from under 2 percent to 5 percent.

More typically, people are infected by *Brucella* species that affect cattle, sheep, goats and pigs.

### **Eradicating Bacteria Is a Tough Job**

If a breeder has even a single case of brucellosis, kennels, runs, and anything the infected dog may have touched must be disinfected. According to the ISU Center for Food Safety, *B. canis* is "readily killed by most commonly available disinfectants including hypochlorite solutions, 70 percent ethanol, isopropanol, iodophores, phenolic disinfectants, formaldehyde, glutaraldehyde and xylene. However, organic matter and low temperatures decrease the efficacy of disinfectants. Ethanol, isopropanol, iodophores, substituted phenols or diluted hypochlorite solutions can be used on contaminated skin."

The center further recommends housing dogs in individual cages until all remnants of *B. canis* are eradicated from the kennel, as well as quarantining new dogs until they can be definitively tested as not infected.

*Editor's note: This article was inspired by notes taken by Lorraine Shore of Immer Treu ("Always Faithful") German Pinschers at a 2010 canine breeders' symposium hosted by the Society for Theriogenology in Seattle. She urges any breeder with an opportunity to attend a similar symposium to do so.*

Tags: [Best in Show Daily](#), [BISD](#), [brucella canis](#), [brucellosis](#), [Iowa State University Center for Food Safety & Public Health](#), [Kara Kolster](#), [Springfield Veterinary Center](#), [Susan Chaney](#)

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