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Canine Brucellosis:

Veterinarians are Important to Reducing the Risk

Canine Brucellosis, caused by *Brucella canis*, is a significant cause of infectious abortion and reproductive failure in dogs and is a source of great economic losses in kennels. In addition, *B. canis* is a zoonotic organism that causes a public health risk. Consequently, the expertise of veterinarians provides them a critical role in the One Health approach to preventing and managing the disease.

Brucella canis organisms are shed in aborted material, post-abortion vaginal discharge, semen, urine and milk, and they easily cross mucous membranes. Besides venereal transmission, oral-nasal contact with infected fluids or tissues, fomites, and aerosolized material are common modes of transmission. Consequently, spayed or neutered as well as “virgin” animals may easily become infected through contaminated environments, a fact to be mindful of when dealing with random source dogs of unknown origin and history.

Although the exact prevalence of the disease is not known, the incidence of *B. canis* infection in the dog breeding industry is on the rise. The disease is readily transmitted between breeding kennels, largely due to management practices that allow the frequent trade and sale of breeding stock without employing effective testing and quarantine protocols.

Increased awareness and improved diagnostic testing abilities may have made the disease more recognizable. The disease in humans is often misdiagnosed and is underreported.

The disease is considered a lifelong infection in dogs. Clinical signs of canine brucellosis are extensive and variable and depend on the sex and age of the dog affected. In females the disease commonly causes abortion between 45 and 55 days of gestation. Other signs include failure to conceive and infertility, and decreased puppy survivability. Males develop epididymitis, orchitis, testicular swelling or atrophy, and sperm abnormalities. Non-specific signs seen in both sexes may include uveitis, meningioencephalitis, spinal arthritis, weight loss, poor hair coat, listlessness, swollen lymph nodes and behavioral changes. Some infected dogs remain asymptomatic but serve as a source of infection for other animals and people.

B. canis infection is a reportable disease in Wisconsin. Wisconsin approved labs report any positive *B. canis* result directly to DATCP but other laboratories do not. Consequently, the veterinarian is the party responsible for reporting positive results to the State Veterinarian’s office within one day of the diagnosis. Any positive screening test will be considered to be positive unless a follow-up confirmatory test shows the result to be a false positive result.

Laboratory confirmed positive test results in a dog breeding facility will result in a quarantine being placed on the facility. Disease eradication from the facility requires quarantine, testing, and euthanasia of infected dogs. All dogs on the premises are tested at 4 to 6 week intervals until all dogs on the premises have tested negative for brucellosis on two consecutive tests.

Laboratory confirmed positive test results in a privately owned household pet dog may result in euthanasia of the pet or the pet placed under a life-long quarantine to the premises combined with neutering, treatment and periodic repeat testing.

In order to prevent brucellosis in a kennel, breeding dogs should be purchased from known brucellosis-free kennels. All newly acquired dogs should be isolated and tested twice at least 4-6 weeks apart before they are incorporated into the breeding group. All breeding dogs in a facility should be tested yearly at the same time. Dogs bred outside the facility should be tested 2-4 times per year. Females should be tested at least 3 weeks prior to onset of heat.

Veterinary involvement is crucial in a well-managed breeding facility. Veterinarians can assist clients in developing general animal husbandry and disease control plans, proper cleaning and disinfection procedures, and in evaluating kennel layout/organization and flow to track and monitor potential disease spread.

The Dog Sellers and Shelters Program requires all licensees to provide a Certificate of Veterinary Inspection for every dog that is sold or adopted, as well as to provide adequate veterinary care. These requirements provide an excellent opportunity for veterinarians to work with breeders, sellers, shelters and rescues in developing good management, husbandry and biosecurity programs which will in turn ensure that puppies and dogs sold to the public are healthy and well-socialized.