

6 August 2015

CVO Bulletin to Veterinarians: Brucellosis (*B. suis*) in dogs

Brucella suis is a zoonotic disease that may be transmitted by contact with infected feral pigs and infected pig hunting dogs. *Brucella suis* infection of dogs was regarded as rare however testing in 2014 identified eight dogs in NSW that were test positive and an additional 25 dogs have tested positive as of 3 August 2015.

WHS reminders for Veterinarians and Veterinary Staff

Veterinarians should regularly review their risk management systems, including the use of PPE by persons exposed to pig dogs, pig dog tissues or body fluids to minimise the risk of transmission of *Brucella suis* to humans or uninfected animals.

Veterinarians should be aware of the following points to help protect themselves and their staff from Brucellosis:

- Pig hunters and their dogs may travel long distances to hunt for pigs, so dogs in areas other than northern NSW may be infected with *B. suis*.
- Dogs may be infected despite not having been used in hunting or fed raw pig meat. E.g. vertical transmission, close contact, mating.
- Dogs allowed to scavenge in areas with feral pigs may be infected.
- *Brucella* organisms are known to have an affinity for reproductive organs and to cause infertility or abortion. Reproductive organs, reproductive fluids/discharges and aborted foetuses from infected dogs may contain high numbers of infective bacteria.
- Bacteraemia may result in infection at various sites including joints and spinal disks.
- Dogs that are infected/infectious may initially be serologically negative to *Brucella* because they have not had time to mount an antibody response.
- Pregnant women may be at higher risk of infection.

How dogs are infected

Brucella suis is known to infect feral pigs in northern NSW. Pig hunting dogs can become infected during pig hunting or by being fed raw pig meat and other raw pig products.

It is suspected that young dogs with no pig hunting history have been infected around the time of birth and that infection may be transmitted by breeding dogs at mating. Dogs that wander and scavenge on dead pigs could also be infected.

Sample Collection and Packaging

Submit fresh tissue samples from affected sites for bacterial culture along with serological samples. There is no value in submitting fixed tissues for histopathology for *B. suis* diagnosis.

Whole blood or a serum sample is acceptable for serology. At least 1 ml of serum is required.

Tissue samples must be submitted fresh, double bagged/potted (with at least 1 hard container), with clear identification that the package contains 'Brucella Exclusion Tissue' (e.g. a piece of paper immediately visible when package is opened).

For suspect animals undergoing castration/spay;

- For males, both testicles should be removed (closed castration) and submitted fresh.
- For females, the whole, fresh reproductive tract should be submitted.

Any aborted pups, material and membranes should be submitted whole and fresh.

Joint fluid can be collected from suspect joints using a needle and syringe but **MUST** be transferred to a yellow top container and clearly identified as joint fluid. A minimum of 0.25 ml of joint fluid is required. Never put joint fluid in a blood tube as this could put laboratory staff at risk of being infected with the organism.

Testing and diagnosis of Brucellosis in dogs

Brucella serological testing detects antibodies and is conducted by doing a screening Rose Bengal Test (RBT). Positives and inconclusive results are then tested with the more specific Complement Fixation Test (CFT).

Dogs that test negative on the RBT which have a clinical picture and history strongly suggestive of *Brucella suis* infection are also tested with CFT.

Dogs with inconclusive results on both tests should be retested in 6 weeks.

Dogs with a clinical picture and history strongly suggestive of infection with *Brucella suis* that test negative to both tests should also be retested in 6 weeks.

The department will pay the laboratory fees for testing dogs suspected of *Brucella suis* infection as well as close (same owner) in-contact dogs of confirmed cases. The department will pay for transport of the specimens if the department preferred couriers are used. Any additional costs are the responsibility of the dog owner. For more information on preferred couriers see Laboratory Submissions at <http://www.dpi.nsw.gov.au/biosecurity/animal/info-vets>

Further information

- [NSW Health brucellosis factsheet](#)