**What is *Brucella canis*?**

It is a gram-negative aerobic coccobacillus- a bacterium

**How does it cause infection?**

The bacterium penetrates mucous membranes especially those of the vagina (during reproduction), oral cavity and conjunctiva (eye membrane)

The minimum infective dose is for dogs is 100,000 organisms to the conjunctiva (10,000,000 oral)

The highest concentration of *Brucella* will be in vaginal discharge and semen- the most likely sources of infection

It is naturally transmitted during oestrus, abortion or during breeding-So

oronasal contact with aborted materials most commonly leads to infection

Semen and urine from male dogs can also have *Brucella*

***Good news?***

It is relatively short lived outside the body AND is readily inactivated by common disinfectants

**What can it cause in the dog?**

*Brucella* causes reproductive infection – abortion, infertility and reproductive loss. Like other blood-borne infections, *Brucella* can localise in the intervertebral disc causing discospondylitis or cause eye infection, kidney or meningoencephalitis. Dogs can have lameness, large lymph nodes and spleen and ‘look shabby’.

**Are some dogs riskier?**

Purebred dogs in breeding kennels. Any sexually mature, reproductively active, dog is susceptible. Even dogs not reproductively active can contract the disease if exposed to infected bodily fluid or aborted materials. Feral and stray dogs are the predominant reservoirs.

Dogs with reproductive discharges and fevers coming to the hospital, are more likely to have this disease than other dogs.

**Can I catch it?**

Human infections are uncommon but can be ‘flu-like’. So – yes, it is transmissible or zoonotic

**How?** Direct contact with infected dogs or by exposure to infected animal by products (**aborted material, seminal fluid, vaginal discharge, urine**). New patients with unknown medical histories, have the potential to bring *Brucella* into the hospital.

For veterinary staff, the highest risk is with aborted material in breeding. The highest bacterial load is found in foetal material and the vaginal discharge of the bitch after abortion.

Even though the dog may be spayed or neutered, it still can shed bacteria in secretions and urine. Pregnant women, children, and immunosuppressed individuals are at heightened risk of zoonotic infection, so should avoid contact with suspect dogs considered “high risk”. Good hygiene, including frequent hand washing, is paramount.

**What is AMVS doing to detect these cases and why now?**

*Brucella* was very rare traditionally in the UK, but we are now seeing more cases due to pets travelling from countries where it is more common – pet adoptions, pet passports, breeding.

***We are testing with a patient- side serological test-***

1. ***All dogs that were born outside of the UK***
2. ***All dogs that travel out of the UK for breeding***
3. ***Any dog that may have been at risk for mating out of the UK (eg an unsupervised entire dog)***

If these dogs are negative, we continue with usual procedures.

**If we have a positive serology result or we still clinically suspect?**

Tests are not always accurate so we confirm positive results (or keep

testing if we suspect disease) with a further PCR or APHA confirmatory test.

If an animal is routine, it will likely go home while waiting confirmation. If a

negative result returns- we then continue usual procedures.

If we have a *sick patient* then we provide it the care it needs. The dog will be hospitalised.

The dog will be located in the Isolation ward and we use PPE (gloves, apron, mask and eye protection) to avoid urine and reproductive secretions. Diagnostic investigation and management will be made in light of risks and the patient managed as an infective individual.

**How is the serology testing happening?**

If our referring vets have not previously tested the dog then we are first testing the dog before any catheters are placed or other blood tests or investigations made.

The dog will have blood taken, and be placed in a cage and the test will be run in the lab. If negative- then we ‘Carry On’ as normal.

If a vet has a clinical suspicion of Brucella infection and it is leaking urine or reproductive fluid it will be placed in isolation at admission.

**What happens if Brucella is Confirmed?**

*Brucella canis* is a notifiable disease. A positive laboratory diagnosis of *B. canis* must by law be reported to the Animal & Plant Health Agency.

It is a difficult bacterium to get rid of even with neutering and antibiotic treatment. This is a lifelong disease. The vet in charge will counsel the owner as to what their options are, and what it means to have a positive dog at home including risks, transmission to dogs and people and how to manage the home environment.

**If I am worried I am Infected?**

Speak with your GP and specifically say you may have been exposed to a dog with Brucella canis and worried about infection. It is not common, has very vague clinical signs and your GP will need to order specific tests for *Brucella canis.*