



## **Canine Brucellosis**

### **What is canine brucellosis?**

Canine brucellosis is an infectious disease caused by the *Brucella canis* bacterium. In the last 2 years there has been a marked increase in the number of cases of Canine Brucellosis seen in the UK. This is due to increasing numbers of untested imported dogs (primarily from Eastern and Southern Europe), some of which are infected. There is also now evidence of spread of the disease within the UK, due to mixing of dogs and breeding. Whether imported or born in the UK, *B. canis* can infect humans and cause disease, and is a threat to public health. Most veterinary practices now require all imported dogs and those who have travelled abroad to be tested negative for Brucellosis before they can be seen (except in emergency situations).

### **Clinical signs of canine brucellosis**

The disease is often silent, and in many cases may show no clinical signs. Dogs with no clinical signs can still be infectious and transmit the disease, and outwardly healthy but infected dogs are also at high risk of going on to suffer clinical disease later in their life. Some dogs will show vague symptoms such as lethargy, depression, dry skin, premature aging, lameness (particularly back pain), and generalized lymph node enlargement.

In breeding animals, the disease often causes abortion during the first pregnancy following infection and weak puppies that often die shortly after birth in subsequent pregnancies. Some puppies may appear healthy but develop overt brucellosis later in life. Dogs and bitches may also exhibit infertility and males may have swollen or painful testicles.

### **Management of infected dogs**

Brucellosis poses a threat to human health, and as such must be treated very seriously if diagnosed. Whilst treatment can be attempted, the overwhelming recommendation is for any dog diagnosed with the condition to be euthanised. Whilst this is a very upsetting course of action, it is vital to consider the zoonotic risk and human health. If infected dogs are not euthanised then they should be neutered (if not already castrated/ spayed) whilst being treated with antibiotics. Infected dogs should ideally be tested for *B. canis* regularly for the rest of their life as stress or other disease may affect their likelihood of transmitting *B. canis*, or developing clinical disease caused by *B. canis*. They should be kept away from other dogs and people for the extent of their life.

- **Euthanasia:** Once infected the only way to eliminate the risk of disease transmission is euthanasia, whether or not the dog is showing clinical signs. It is very difficult to cure an infected dog, and if it is suffering from disease caused by *Brucella canis* then euthanasia may be the only way to stop it suffering.
- **Treatment is not recommended:** If an owner chooses to treat their dog, it is attempted via several weeks of therapy with a combination of antibiotics. This is often unsuccessful at eliminating the infection, and there is no way to determine whether treatment has been successful. The bacteria can hide in areas of the body that antibiotics will struggle to reach and as such, recurrence is common despite continual use of antibiotics. The dog may remain infected, be susceptible to recurrence of illness, and be an ongoing source of infection for other dogs and humans even if outwardly healthy.
- **Neutering:** This can reduce risk of transmission, but it will not remove the bacteria from the body, and therefore will not eliminate the risk of transmission. Antibiotic treatment will be required before and after the surgery to reduce the risk to the veterinary surgeon, however it must be noted that a veterinary surgeon may refuse to perform the surgery due to the risk to their health.



## **What to do before importing a dog**

We recommend that all imported dogs are tested for brucellosis before entering the country. If a dog has been imported without being tested, it should be tested as soon as possible. Infected dogs will be an infection risk to other dogs in the UK, their owner's family, veterinarians and veterinary staff, and anyone else who encounters the dog. Any newly acquired dog suspected of being infected should be quarantined away from other dogs and people other than their owners, until testing is complete.

## **Testing dogs for canine brucellosis**

The GB National Brucella Reference Laboratory at Animal & Plant Health Agency, Weybridge recommends serological testing in most cases to obtain results with the most reliable sensitivity. Blood samples from infected dogs may not always contain antibodies for *B. canis* or its DNA, so a negative result from these tests is not a guarantee of absence of infection, and results must be considered alongside the animal's history and examination. False negative tests are more common in puppies because their immune system may not have been sufficiently developed when they were first exposed to *B. canis* to show up on later blood tests. Testing involves a blood test ideally 3 months from risk of exposure. Recently imported or recently bred dogs may need to be tested on more than one occasion to identify disease as it does not always show up on blood tests. Most first line testing is via a serology blood test which aims to detect antibodies to *Brucella canis* (an immune response), however bacterial culture or PCR (looking for DNA fragments) is frequently also used alongside the serology test.

In England, Scotland and Wales a positive laboratory diagnosis of *B. canis* must by law be reported to the Animal & Plant Health Agency.

## **Transmission of infection between dogs**

Canine brucellosis is mostly spread through mating however it can also be spread through contact with bodily fluids such as saliva, blood, urine faeces, birth material and milk. The disease can also be spread from mother to puppies within the womb or via the milk after birth. In general, dogs showing clinical signs and adult dogs are more infectious to others. Neutered animals are less infectious but still pose a risk to others.

## **How brucellosis spreads from dogs to people**

*B. canis* can infect humans, although thankfully is currently not common. Most contact with infected dogs carries a low risk of infection, but people who encounter large numbers of *B. canis* bacteria such as dog breeders, laboratory staff or veterinary surgeons are at higher risk. Whilst zoonotic spread is predominantly via direct contact of infected bodily fluids, *Brucella canis* can also be transmitted via inhaled infectious aerosols (airborne droplets containing *B. canis*), which can occur during specific veterinary and laboratory procedures involving an infected dog. Symptoms of brucellosis in people are often non-specific but most commonly include irregular fever sometimes accompanied by loss of appetite, weight loss, sweating, headaches, fatigue, back and/or joint pain. Individuals who have a compromised immune system, young children and pregnant women may be at higher risk of severe disease if they acquire the infection. People who believe they may have been exposed to *B. canis* should consult their GP and alert them of their possible exposure to a dog with *Brucella canis* specifically (as serological tests for infection with other *Brucella* species will not detect antibodies for *B. canis*).

If you are concerned about *Brucella canis* in your pet, please contact the practice on 01626 835002.