

# Canine Infertility -- A Silent Threat - Mycoplasma Infection

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*Ed Note: Dr Brown is a Canine Reproduction Specialist*

A controversial and little known organism can cause reproductive problems in dogs and bitches. There are several genera that for our purposes will be considered as mycoplasma; they include Mycoplasma, Ureaplasma, and Acholeplasma. These very small organisms are found on mucous membrane tissues such as conjunctiva of the eye, respiratory tract in the trachea and lungs, and the genital tract in bitches and the testes, prostate, and epididymus in the stud dog. They may even be found in the urinary tract and in abscesses.

The controversy begins with the acknowledgement that many of these organisms can be found in clinically normal individuals. With normal immune responses, they can be kept under control. However, with stress, cancer, or other disease processes, these small free-living microorganisms can cause disease of mucous membranes.

We are concerned with the development of reproductive tract disease in both dogs and bitches. Clinical disease in bitches can be seen with "misses" after a normal breeding, very small litters, and weak and early puppy death. Stud dogs will exhibit decreased sperm production that if left untreated will result in aspermia (a total lack of sperm). Because neither the bitch or the stud appear sick, the onset of this condition is insidious and may only be found after several reproductive failures.

How is this disease passed from one to another? Remember that the organism is present on mucous membranes so it can be passed by breeding, but more importantly, it can be passed from casual contact drinking out of the same water bucket as an infected dog or from tear secretion or respiratory droplet transmission.

The most important information about testing is that this bacteria is very fragile outside of the hosts mucous membranes and is easily destroyed or inactivated. That means that collection of a sample for testing MUST be handled very carefully. We recommend using Cornell University for testing although there may be some local labs that can provide competent testing, too. The sample of semen or from the vaginal mucosa must be sent to the lab on a special lab medium. We use Amies medium without charcoal. The specimen should be refrigerated until the overnight courier picks it up and it should be sent on ice if you are assured that the length of time from collection to lab is under 24 hours. If it is over 24 hours, the sample should be sent on dry ice which further increases the shipping charges. Never collect the specimen on a Thursday or a Friday since the lab will not be able to adequately work with the received culture during the weekend. Growth of the culture will take up to two weeks and is reported as no growth, few mycoplasma, moderate mycoplasma, and many mycoplasma. I interpret the results as follows: many mycoplasma ALWAYS means trouble; moderate mycoplasma growth is significant if there are clinical signs, and few mycoplasma are also important if there is some breeding problem.

Treatment is accomplished with Doxycycline at a range of 3 to 5mg per pound once daily for 14 to 21 days. If the organism is still present, retreat with a higher dose for 4 to 6 weeks. An alternative therapy would be enrofloxacin or Baytril but the cost can be prohibitive in a large dog. In multiple dog kennels, ALL of the dogs should be treated including the spayed and neutered members.

There are those veterinarians that maintain that ALL dogs have the organism therefore it isn't a problem. I maintain that ALL dogs don't have it or need to have it and while it can be present without disease, with stress or some underlying cause, it can become pathogenic.

Don't ignore this microorganism in your breeding program. More than likely this caused infertility rather than heartworm prevention (20 years ago), or ethoxyquin preservative (10 years ago), or even ivermectin in the past five years.