

## Lyme testing and Lyme disease

**Q.** Recently my dog tested positive on a 3-way test for heartworm, Ehrlichia, and Lyme disease. He is asymptomatic for Lyme disease, but my veterinarian wants to put him on Doxycycline for 30 days. Any suggestions?

**A.** I have received many inquiries from clients, veterinary technicians, and veterinarians about how to treat asymptomatic dogs who test positive with the IDEXX SNAP® 3Dx™ test. This in-house assay reacts to antibodies that the dog produces following infection with *Borrelia burgdorferi*, the causal agent (bacteria) that causes Lyme disease (Borreliosis). The ELISA technology behind the test is sound, and it is a useful screening tool to identify patients who have been infected.

### What are the advantages of this test?

1. the test quickly identifies dogs who have been infected with *B. burgdorferi*
2. the test does not react to antibodies resulting from a vaccination

### What are the limitations of the SNAP® test?

1. the test does not indicate if *Borrelia* bacteria are still present
2. the test does not identify when the infection occurred
3. the test does not measure the severity of an infection
4. the test does not measure the magnitude of the dog's immune response

This quick test then is a tool for identifying patients who may need to be treated for Lyme disease. The decision to treat depends on the patient's history, clinical signs, blood tests and urinalysis. Previous response to antibiotic therapy, age, and concurrent disease(s) should also be considered.

If the dog has acute signs of Lyme disease such as fever, malaise, lameness, arthralgia, anorexia, depression, or lymphadenopathy, by all means stop the progression of the bacteria. Doxycycline antibiotic administered early in the course of the disease can be very effective, even miraculous. For dogs who were exposed to *Borrelia*, mounted an immune response, and now show no signs of disease, I question the effectiveness of doxycycline so late in the disease cycle.

### Antibiotics against *Borrelia burgdorferi*

Doxycycline has some limitations as a therapeutic agent in chronic Lyme disease. This antibiotic is bacteriostatic, not bacteriocidal. That is, it stops the replication of bacteria but does not destroy existing cells. Thus it is most effective when bacteria are synthesizing protein and actively dividing. Second, doxycycline can irritate the throat, esophagus, and stomach. It can be taken with soft food such as baby food or a little butter to help the dog swallow the tablet.

I often wonder if we give enough credit to a dog's ability to fight infection. If the only means to fight infections are antibiotics, then veterinarians are in a good position to prescribe and sell a lot of medication. However don't neglect the fundamental ways we can support our dog's resistance to disease. Feed a varied diet of fresh, whole foods! Nutrition is intimately connected with immune competence and dogs will not feel their best on a monotonous diet of commercial pet food.

William K. Kruesi, D.V.M., C.V.A.

### Natural Medicines for Lyme disease

For individuals who are allergic to tetracycline antibiotics or who have chronic signs of Lyme disease and have not responded to antibiotic therapy, I prescribe an herbal medicine and a homeopathic remedy.

The patients are monitored with Lyme IgM and IgG titers. Declining titers and clinical improvement suggest the infection has been cleared and re-exposure has not occurred.

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