



Lyme (Borrelia burgdorferi) Exposure: Common Questions and Answers

My dog has a positive Lyme test? What does that mean and what should we do?

A positive "+" C6 antibody test as used in Idexx "4DX" test detects the presence of antibodies to the Lyme organism and is consistent with your dog having been successfully transmitted the bacterial organism *Borrelia burgdorferi* that is responsible for causing the various maladies associated with Lyme disease. Fortunately, only 5 - 10% of infected dogs ever become ill from Lyme (*Borrelia*) exposure. It is important that veterinarians communicate to dog owners that the administration of antibiotics to healthy patients with Lyme exposure has not been shown to provide any benefit in warding off future Lyme associated illness. In addition to needless expense for owners, and antibiotics potentially having their own adverse side effects, unnecessary administration of antibiotics may lead to the development of antibiotic resistance which may further complicate therapy in the true "Lyme-ill" patient. In the absence of any evidence of detectable disease antibiotic treatment is not indicated in the Lyme positive dog. Fortunately, many dogs can successfully eliminate or subdue Lyme (*Borrelia*) infection on their own. Lyme infection indicates tick exposure and consideration of comorbid

What are the symptoms of active Lyme disease?

Lyme infection most classically presents as a sudden onset of multiple or single limb arthritis/synovitis that is often accompanied with fever, malaise, inappetance, pain and swollen joints. Other far less common manifestations of Lyme (*Borrelia*) infection include: myocarditis, (inflammation of the heart muscle; with possible associated cardiac arrhythmias), neuritis (inflammation within the nervous system) and Lyme Nephritis (Lyme kidney disease) which is often fatal. Though Lyme arthritis is typically quite evident, these other less common forms of Lyme disease may be subclinical and not demonstrate any overt outward signs of disease. Lyme nephritis can be particularly sinister as progressively severe kidney damage may initially only be evidenced by weight loss only to later emerge into a rapidly fatal form of kidney failure. Early detection of protein loss in the urine can aid veterinarians in the early detection of Lyme nephritis and in turn often improves the prospects for successful management of this devastating form of Lyme disease.

How is Lyme disease treated?

Typically, Lyme ill patients are treated with the antibiotic Doxycycline though Amoxicillin has been demonstrated to be effective as well. Other alternative antibiotic considerations may include Clavamox, Azithromycin or Tetracycline. Antibiotics are typically administered for the duration of 30 days time. The far more common arthritic form of Lyme disease typically demonstrates marked improvement within the first 48 - 72 hours of antibiotic administration. Should your dog develop one of the other less common forms of Lyme related illness other supportive treatment modalities may also be indicated.

If my asymptomatic dog tested positive for Lyme exposure but later developed "Lyme-like" symptoms should my pet then be treated with antibiotics?

There are many different diseases that may mimic the signs of Lyme disease in dogs. Should subsequent illness suggestive of Lyme disease befall your pet immediate veterinary evaluation is indicated. Pending the results of a veterinary professional's assessment and diagnosis antibiotics may be prescribed at that time. Again it is important to remember that only 5 - 10% of all "Lyme Positive" dogs ever become ill from *Borrelia* exposure.

Monitoring and Surveillance:

In accordance with the ACVIM's recommendations, serial monitoring of urine samples is strongly recommended in all Lyme positive patients to assess for early detection of Lyme Nephritis (Lyme kidney disease). This devastating form of Lyme disease is best managed with early intervention to help avoid fatal outcomes.

Recrudescence (recurrent Lyme disease):

Recrudescence or re-emergence of Lyme disease is considered rare but occur at times in some patients. Scientists are unsure if this reflects repeat infection or re-emergence of symptoms from reactivation of latent forms of *Borrelia* retained within the patient. Treatment is often the same as acute infection.