



Lyme Disease: a Good Reason to Get Ticked Off

Fall is coming, and so is the next wave of deer ticks. The inevitable result of Summer's end these days is the return of the threat of Lyme Disease, a debilitating and occasionally even life-threatening condition quite common in the Briarcliff and Ossining area. While most people have heard of it and some have even been affected by it personally, many still do not understand what Lyme disease is, what it is caused by, how it is spread, and what it can do to their pets.

The organism that causes Lyme disease is called *Borrelia burgdorferi*, and there must be at least one person who knows why. A microscopic organism classified as a bacterium, the same classification as say Staph, Strep and E. coli, more familiar names, *Borrelia* lives eventually in the gut of several species of deer ticks, *Ixodes* in this area. When it senses a blood meal by the host tick, the bacteria migrate to the salivary glands where they are then injected into the new host, you, your neighbor, or your dog. This migration takes at least 24 hours, which is why it is important that attached ticks be removed as quickly as possible.

A couple of asides: first, they are called deer ticks because as adults, deer are their preferred dining. They won't, however, hesitate to switch allegiances if your dog is a lot closer than a deer. Second, the stage of the deer tick that is most incriminated in the spread of Lyme disease is either the nymph or larva, sometimes as small as a typewritten period (.). These ticks are most often found parasitizing field mice, the white-footed variety in our area, and it is from the mice that the ticks actually become infected with *Borrelia*. I mention this because efforts to eradicate the disease from our area are often aimed at controlling mouse populations, or destroying ticks in the mouse nests. This was tried several years ago on the local Rockefeller estate with what I understood at the time to be only limited success, probably because of its size.

The disease in dogs has two major forms, acute and chronic. In cats, while we do see the occasional case, it appears to be much less frequent presumably because their constant grooming removes most of the ticks in under the 24-hour window of infection.

Acute Lyme in dogs is painful. One or several joints are involved, and they hurt to the point that the most stoic dogs will limp. We have had several cases where the dogs could not even walk, though modern pain relieving medications can sometimes get them up and moving within hours. Some cases

require X-rays and even analysis of the joint fluid to establish the diagnosis. Blood tests for the disease in our area are frequently of little value without other evidence of Lyme, as so many dogs have had some exposure that they test positive even if they have overcome a natural infection and are now disease free. This form of the disease responds extremely well to antibiotics if the diagnosis is timely and treatment begun right away.

Much more devastating is the chronic form of the disease, which itself has two forms: cardiac and renal. The latter is a form of kidney disease whereby the microscopic filters of the kidney no longer can keep certain proteins called albumin from being lost in the urine. Blood proteins can then drop to dangerous and even life-threateningly low levels. While this form of the disease is not curable, early diagnosis by urinalysis, blood work, and ultrasonography can sometimes lead to control of the protein loss for at least a period of time. For reasons that are still being researched, Labrador Retrievers and to a lesser degree, Golden Retrievers seem particularly sensitive to this disease known as glomerulonephritis of Lyme disease origin. The cardiac form causes the heart muscle to become over-excitabile, and can lead to potentially fatal arrhythmias. While this can be caused by many conditions, Lyme disease has proved to be one of them in a small percentage of infected dogs.

Ultimately, prevention of Lyme disease will prove to be one of the most important steps we can take in preserving the health of our canine friends. Good flea and tick protection is the first line of defense. A spot on product that is not absorbed into the body is my preference in any dogs with potential exposure. There is a very effective collar with amitraz as the active ingredient. However, in multiple dog households or if there are children around, I strongly advise against its use. It is highly toxic if ingested and is rapidly fatal. Finally, a time-tested vaccine against Lyme disease is available; it has been the center of controversy for countless years, but has led to the sharpest reduction of infection in comparison to all other preventative measures, and I believe the controversy is unfounded.

If you suspect your pet has been infected with the Lyme disease organism, is showing signs of lameness with no injury, pain, possibly fever or loss of appetite, a veterinarian should be consulted. Eradication of this debilitating disease from our area is unlikely, so vigilance will save lives.