



## **Lyme Disease**

In the past four years, we have seen a dramatic influx in this area of deer ticks. Deer ticks are now the most prominent tick in Massachusetts, and you do not have to have deer around to have deer ticks in your neighborhood. Studies have shown that if you see a tick on your dog or cat anytime after September 15<sup>th</sup> and Before May 1<sup>st</sup> that it is almost certainly a deer tick, regardless of size or color or shape.

Unfortunately when the deer ticks came to this area they brought Lyme disease with them. That is why we now test dogs annually for Lyme disease and strongly advise that they be vaccinated as well. Cats, fortunately, do not catch Lyme Disease.

### **Signs and Symptoms**

Many dogs that test positive for Lyme disease have no external signs that they have contracted the disease. Fortunately it sometimes takes months for a dog to start to experience the arthritic changes, which the disease is most noted for causing. Also, many dogs that are experiencing mild joint pain will be able to cover it up at first.

The first sign of Lyme disease in people is often a round blotchy skin rash. This does not happen in dogs, and makes diagnosing Lyme disease difficult in its early stages.

Dogs, who have had the disease for some time, will show permanent arthritic changes. Sometimes we will see kidney failure and neurologic damage as well. We have had one dog here that has died of kidney failure which we believed was the result of Lyme disease. We have a number of dogs on permanent pain medication as well.

### **Initial Diagnosis**

When our in-house test, tests positive for Lyme disease we know that that means that you dog has been exposed to the Lyme disease germ. We do NOT know, however, if the Lyme disease is active in your pet's body at the time of the test. The test actually tests for your dog's natural response to the presence of the Lyme disease bacteria, not for the Lyme disease bacteria itself. Because of this we use other factors to determine if we believe that this positive test is the result of active infection.

Many human tests are done in this manner as well. HIV testing in people does not test directly for the virus. Rabies titers in people that work with wild animals test our ability to fight off rabies if we are exposed. Certain germs are impossible to test for directly, and the Lyme bacteria are one of them.

When dogs and people produce a naturally antibody response to the Lyme Disease bacteria, that natural response actually can contribute to the problems we see in Lyme Disease, because the natural response doesn't get the germ out of the body. We vaccinate those dogs for Lyme disease, because the response from the Lyme Vaccine DOES eliminates the bacteria from the body.

## **Treatment Options**

Usually Lyme positive dogs are treated with an antibiotic called Doxycycline for about one month. If those dogs are not currently vaccinated for Lyme disease, we also vaccinate them as well (for the reasons mentioned above). Occasionally we will also offer pain medication, on a temporary or permanent basis, if they are showing signs of the disease.

Chronic Lyme disease dogs will sometimes need to be on medications for neurologic dysfunction, or special foods for kidney disease, depending on how far the disease has progressed when it was diagnosed.

## **Future Testing**

Next year, at your dog's annual visit we will retest it for Lyme disease. At that time, about 50% of the dog's we test will still test positive. That does not worry us because the test is not measuring the presence of the Lyme bacteria; it tests the dog's immune response. That immune response will linger even after the dog is cured of the disease. If we have doubts as to whether the disease is still active in your pet, we can run a specialized test, called a C-6 titer to measure if the organism is still active in the body.

Dogs that are persistently lame we will advise radiographs and perhaps a second run of antibiotics. Some of the arthritic changes are permanent.

Two months after we diagnose and start treating dogs with the Doxycycline, we will want to run a special urine test called an ERD. This is a very sensitive test for early kidney disease, and if your dog tests positive with this test we may prescribe special food for him into the future. Most incidences of kidney damage in dogs are reversible with the antibiotic therapy. That's why we wait a couple of months to test.

## **Prevention**

The best way to prevent Lyme disease in your dog is to make sure you keep them current on their vaccinations and to use a topical product like Frontline or K-9 Advantix from the months of March until November to keep ticks from attaching and spreading the disease. Both approaches are important for keeping your pet healthy and disease free.

Of all the dogs we have vaccinated for Lyme disease in the past, only about 25 out of 3000 have tested positive after they were vaccinated. That proves to us that the vaccine is extremely effective, and that's why we recommend it so highly.