

## Lyme Disease

Lyme disease is an illness of humans and animals that is caused by the organism *Borrelia burgdorferi* and spread through tick bites. We have thought for years that the ticks in North Carolina were not carrying the *B. burgdorferi* organism. Most cases of Lyme disease were being diagnosed in patients north of Richmond, Virginia. New information indicates that there is more risk of Lyme disease in this area than was previously thought. Luckily, there is a vaccination available to help prevent Lyme disease.

The Raleigh News and Observer reported on March 18, 2010 that 2 cases of Lyme disease had been reported in Wake County residents who had not left the county for 1 month before they contracted the infection. It was also reported that similar cases of Lyme disease had been documented in several other North Carolina counties<sup>1</sup>. This is a big change in our understanding of the geographic distribution of this disease!

In some animals that are bitten by a tick carrying *B. burgdorferi*, an immune response to the organism is able to prevent disease. This is not always the case, however, and the development of Lyme disease can cause serious long term health problems. Clinical Lyme disease is thought to manifest in dogs about 2 to 6 months after tick exposure. Fever is one of the first signs of Lyme disease. We also see shifting leg lameness, swollen joints and lymph nodes, and general lethargy. Some patients may develop chronic arthritis, kidney disease, meningitis, and myocarditis. As you can see, not only does Lyme disease manifest in many different ways, it can also cause problems for the rest of an animal's life.

Diagnosis of Lyme disease may be very difficult. We look at clinical signs and changes on a bloodwork panel to suggest that it should be a concern; however there is no particular change that tells us for sure. From there, we may consider testing the blood, cerebrospinal fluid, and joint fluid for antibodies to the *B. burgdorferi* organism. Unfortunately, in many cases we may be unable to diagnose Lyme disease with certainty OR we may be presented with an animal with vague symptoms that do not necessarily bring Lyme disease to mind.

Lyme disease is treated with antibiotics. Typically, we treat with antibiotics for at least 30 days; however there are some cases in which we have a hard time clearing all of the bacteria and must treat for a significantly longer period. In addition, inflammatory changes caused by the body's response to the bacteria often cause chronic problems that can't be solved by antibiotics. Kidney disease and arthritis are just two examples of inflammatory damage that must be managed for years after infection.

The Lyme disease vaccine is very helpful to prevent clinical disease. In addition, it is a great idea to keep your pet on a good flea and tick preventative and do daily "tick checks" if possible. Please feel free to give us a call to find out more about vaccinating for Lyme disease.

### References:

Quillin, Martha and Anne Blythe. "Lyme Disease found in Wake." [The News and Observer](#) 18 March 2010.