otter lake
animal care center

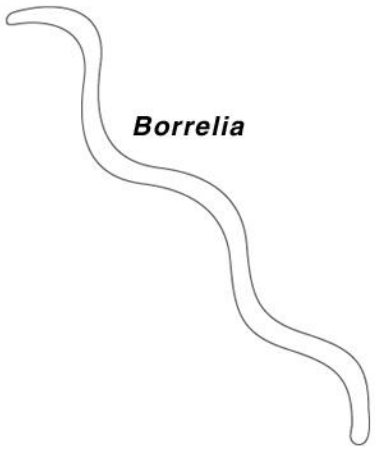
LYME DISEASE

What is Lyme disease?

Lyme disease is caused by a spirochete, *Borrelia burgdorferi*. A spirochete is a type of bacterium. It is transmitted to dogs through the bite of a tick. Once in the blood stream, the Lyme disease organism is carried to many parts of the body and is likely to localize in joints. It was first thought that only a few types of ticks could transmit this disease, but now it appears that several common species may be involved. The most common type of tick to carry Lyme disease is the Deer Tick.

Can Lyme disease also affect people?

Yes, but people do not get it directly from dogs. They get it from being bitten by the same ticks that transmit it to dogs. Therefore, preventing exposure to ticks is important for you and your dog.



What are the clinical signs?

Many people with Lyme disease develop a characteristic "bull's-eye" rash at the site of the bite within three to thirty days. For these people, the disease can be easily diagnosed at an early stage. However, symptoms of Lyme disease are more difficult to detect in animals than in people.

The characteristic rash does not develop in dogs or cats. Because the other symptoms of the disease may be delayed or go unrecognized and because the symptoms are similar to those of many other diseases, Lyme disease in animals is often not considered until other diseases have been eliminated.

Many dogs affected with Lyme disease are taken to a veterinarian because they seem to be experiencing generalized pain and have stopped eating. Affected dogs have been described as if they were "walking on eggshells." Often these pets have high fevers. Dogs may also begin limping. This painful lameness often appears suddenly and may shift from one leg to another. If untreated, it may eventually disappear, only to recur weeks or months later.

Some pets are affected with the Lyme disease organism for over a year before they finally show symptoms. By this time, the disease may be widespread throughout the body.

How is Lyme disease diagnosed?

Dogs with lameness, swollen joints, and fever are suspected of having Lyme disease. However, other diseases may also cause these symptoms. There are two blood tests that may be used for confirmation. The first is an *antibody test*. This test does not detect the actual spirochete in the blood but does detect the presence of antibodies created by exposure to the organism. A test can be falsely negative if the dog is infected but has not yet formed antibodies, or if it never forms enough antibodies to cause a positive reaction. This may occur in animals with suppressed immune systems. Some dogs that have been infected for long periods of time may no longer have enough antibodies present to be detected by the test. Therefore, a positive test is meaningful, but a negative is not.

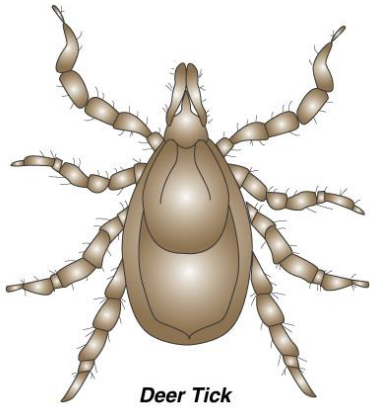
The second test is the *polymerase chain reaction (PCR) test*, a DNA testthat is very specific and sensitive. However, not all dogs have the spirochete in their blood cells. If a blood sample is tested, a false negative may occur. The best sample for PCR testing is the fluid from an affected joint.

How is Lyme disease treated?

Because the Lyme spirochete is a bacterium, it can be controlled by antibiotics. However, a lengthy course of treatment is necessary to completely eradicate the organism. The initial antibiotic selected to treat an infected pet may not be effective against the disease, especially if the infection is long-standing. In this situation, changing to another antibiotic is often effective. Occasionally, the initial infection will recur, or the pet will become re-infected after being bitten by another infected tick.

How can I prevent my dog from getting Lyme disease?

The key to prevention is keeping your dog from being exposed to ticks. Ticks are found in grassy, wooded, and sandy areas. They find their way onto an animal by climbing to the top of a leaf, blade of grass, or short trees, especially Cedar trees. Here they wait until their sensors detect a close-by animal on which to crawl or drop. Keeping animals from thick underbrush reduces their exposure to ticks. Dogs should be kept on trails when walked near wooded or tall grass areas.



Deer Tick

How do I remove a tick from my dog?

Check your pet immediately after it has been in a tick-infected area. The Deer Tick is a small tick and only about pinhead size in juvenile stage, but a little more obvious in adult phase and after feeding. If you find a tick moving on your pet, the tick has not fed. Remove the tick promptly and place it in rubbing alcohol or crush it between two solid surfaces. If you find a tick attached to your pet, grasp the tick with fine tweezers or your finger nails near the dog's skin and firmly pull it straight out. You may need another person to help restrain your dog. Removing the tick quickly is important since the disease is not transmitted until the tick has fed for approximately twelve hours. If you crush the tick, do not get the tick's contents, including blood, on your skin. The spirochete that causes Lyme disease can pass through a wound or cut in your skin.

Is there a vaccine that will protect my dog from Lyme disease?

A vaccine is now available for protecting dogs against Lyme disease. This vaccine is initially given twice, at two- to three-week intervals. Annual revaccination is also necessary to maintain immunity. The vaccine has been shown to be safe and effective. Some pets will receive the vaccine every two to three years based on the vaccine used, your pet's lifestyle and individual risk assessment. Be sure to discuss any questions you may have regarding the type and frequency of vaccination with your veterinarian.

This client information sheet is based on material written by Ernest Ward, DVM.