The benefit of the Lyme Multiplex assay at Cornell is its unique ability to support diagnosis, treatment and vaccination based on the immune response of each individual dog or horse.

— Bettina Wagner, DVM and horse owner

The incidences of both symptomatic and asymptomatic Lyme infection in dogs in our practice area have been steadily increasing over the past several years. We have found the Lyme Multiplex test to be a very valuable diagnostic tool to help guide us in management of our Lyme positive patients.

— Brian Collins, DVM

When my dog was diagnosed with Lyme disease, he was experiencing chronic lameness. It was a relief to have quantitative values from the Lyme Multiplex test as evidence that the treatment was a success.

— Cassandra Guarino, PhD

FOR MORE INFORMATION
Dogs: bit.ly/LymeTestDogs
Horses: bit.ly/LymeTestHorses
Talk to your veterinarian

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NYS VETERINARY DIAGNOSTIC LAB

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Cornell’s Lyme Multiplex assay provides a unique tool to determine the stage of Lyme disease infection, treatment outcomes, and vaccination status in dogs and horses. This fully quantitative test is only available at Cornell University through the NYS Veterinary Diagnostic Laboratory.

Frequently Asked Questions

What causes Lyme disease?
Lyme disease is caused by infection with the bacterium *Borrelia burgdorferi*. The bacteria are transmitted to humans and animals through the bite of infected blacklegged ticks, such as deer ticks.

What are the symptoms of Lyme disease?
Dogs can display several forms of Lyme disease, but the most common symptoms are lameness, swollen lymph nodes, joint swelling, fatigue, and loss of appetite. In addition, serious kidney complications have been associated with Lyme disease in dogs.

Clinical signs of Lyme disease in horses include shifting-leg lameness, generalized stiffness, hypersensitivity to touch, weight loss, and poor performance. Sometimes, the bacteria can infect the central nervous system, leading to neurologic symptoms.

When do clinical signs of Lyme disease occur?
Only 5-10% of infected animals are expected to show clinical signs of Lyme disease. These signs typically occur at the chronic disease stage and as early as 2-5 months after infections, although it is possible for signs to develop much later.

How is Lyme disease diagnosed?
Your veterinarian will observe your animal in order to confirm clinical signs of disease. If clinical signs correspond to Lyme disease, your veterinarian will order a serologic test such as the Lyme Multiplex assay.

What are antibodies?
Antibodies are proteins produced by an animal’s immune system in response to a foreign substance such as bacteria or viruses. Antibodies recognize and bind to the bacteria and help to eliminate the infection.

What does the Lyme Multiplex assay measure?
The Lyme Multiplex assay quantifies antibodies directed against specific proteins on the surface of *B. burgdorferi* at three different stages of the bacterial life cycle. This antibody profile can indicate whether an animal has been recently infected or is chronically infected with *B. burgdorferi*. It can also be used to monitor protective antibodies after vaccination.

How is the Lyme Multiplex assay different from the assay my veterinarian can perform?
Your veterinarian can perform a quick assay in-house that checks for antibodies against only one *B. burgdorferi* surface protein. The in-house assay cannot detect early infection, cannot determine vaccination status, and does not quantify the amount of antibodies your animal is producing. Quantifying antibodies is an important measure for successful treatment and to confirm cure from Lyme disease.

If my animal is positive on the assay, should he/she be treated for Lyme disease?
If your animal is displaying clinical signs of Lyme disease and is positive on the Lyme Multiplex assay, it is advisable to discuss treatment options with your veterinarian. If your animal appears healthy, discuss the risks and benefits of treatment and develop a monitoring plan with your veterinarian.

How can we know treatment was successful?
If your animal is successfully treated, antibody levels will decrease by 40% or more after 6-8 weeks if it is in the early stage of infection, or after 3 months if the infection is in the chronic stage.

Can an animal on treatment get re-infected?
Yes, infected ticks can also feed on animals while they are being treated. However, the ongoing treatment will likely prevent re-infection.

Can my animal get infected despite being vaccinated?
Yes. Some animals have been infected despite vaccination. The most common reasons are low or short-lasting vaccine antibodies in the individual animal. It is advisable to monitor the vaccine response annually to ensure the animal develops sufficient antibodies in response to vaccination. Vaccine antibodies can be quantified with the Lyme Multiplex assay as early as two weeks following vaccination or anytime afterwards.