



1N303 LaFox Rd, La Fox, IL 60147
FVEP@foxvalleyequine.com
(630) 365-5600

***Borrelia Burgdorferi* (Lyme disease)**

Definition

Lyme disease is a bacterial infection caused by a spirochete bacteria called *Borrelia Burgdorferi*. This bacteria is transmitted to horses by the bite of an infected tick, specifically the deer tick. *Borrelia Burgdorferi* is maintained in the environment within the white footed mouse, grey squirrel, and deer populations. When a deer tick feeds on one of these animals carrying *Borrelia Burgdorferi*, the tick itself becomes infected with the bacteria. Deer ticks are prevalent over a wide portion of the United States, particularly the midwest, east, and west coasts. Because of the large geographical area that deer ticks reside, there is a high potential for horses to be exposed to *Borrelia Burgdorferi*. Horses infected with the bacteria cannot transmit it to other horses or humans.

Clinical Signs

Clinical signs of Lyme disease in the horse are fairly non specific and inconsistent. Shifting leg lameness, muscle stiffness, lethargy, uveitis, abortion, loss of appetite, swollen joints, weight loss, neurologic deficits, cutaneous lesions, and fever have been reported. Many horses infected with *Borrelia Burgdorferi* do not develop clinical signs of disease.

Diagnosis

Diagnosis of Lyme disease is challenging. In certain areas of the United States where *Borrelia Burgdorferi* is prevalent, upwards of 50% of horses are exposed to the bacteria and develop elevated titers (antibodies produced by the horse that are specific to *Borrelia Burgdorferi*). Titers can remain elevated for months to years. The majority of horses who have been exposed with resultant elevated titers remain clinically healthy and never develop clinical signs. As little as 10% of exposed horses in fact do develop clinical signs. However, serology (measuring the horse's level of antibodies specific to *Borrelia Burgdorferi*) continues to be widely used as a tool to aid in the diagnosis of a suspected case of Lyme disease. Compatible clinical signs along with ruling out other potential causes of the horse's clinical signs are the other key components used in making a diagnosis of Lyme disease.

Treatment

If a horse resides in a Lyme endemic area, shows clinical signs compatible with Lyme disease, other potential causes of the clinical signs have been ruled out, and the horse has elevated titers to *Borrelia Burgdorferi*, treatment with antibiotics is recommended. IV oxytetracycline or oral doxycycline are commonly used antibiotics.

Prevention

While there is no equine approved Lyme vaccine, a canine labeled Lyme vaccine is often administered off-label to horses residing in Lyme endemic areas. This vaccine may provide some level of short-term protection. If it is decided to vaccinate a horse, it is recommended to administer the vaccine to coincide with levels of peak tick activity such as the early spring. Other measures that can be taken to help prevent Lyme disease include mowing tall pastures, controlling mouse populations on the farm, administering tick repellents, and routinely removing any ticks attached to the horse.