



What Is Lyme Disease?

Lyme disease is a bacterial infection caused by *Borrelia burgdorferi*, which spreads to mammals through the bite of infected Ixodes ticks, also known as deer ticks or blacklegged ticks. The disease was first discovered in humans in Lyme, Connecticut, in the 1970s, and the first known case in horses was reported in the late 1990s.

Lyme disease is most common in areas where *Ixodes scapularis* (Eastern U.S.) and *Ixodes pacificus* (Western U.S.) ticks live, with the highest prevalence in the Northeast.



Clinical Signs

Clinical signs of Lyme disease in horses vary and are still being researched. Some of the more well-documented signs include:

- Eye inflammation (uveitis).
- Skin infections at the tick bite site.
- Neurologic disease (neuroborreliosis).
- Nuchal bursitis (poll evil).

Other signs such as lameness, back soreness, shifting leg lameness, and behavioral changes have also been reported, but they are not consistently replicated in research trials.



Diagnosis

Diagnosing Lyme disease involves looking at your horse's history, clinical signs, and lab work. Blood tests can detect antibodies against *Borrelia burgdorferi* help determine if your horses has been exposed. Common diagnostic tests include:

- Western blot assay
- ELISA test
- Fluorescent bead-based multiplex assay

Your veterinarian will interpret test results along with your horse's clinical signs and vaccination history, as previous vaccination can affect antibody levels.



Treatment and Management

There is no definitive treatment protocol for Lyme disease in horses, and its diagnosis should be one of exclusion, as many clinical signs overlap with other conditions. If Lyme disease is suspected, treatment may include:

- Intravenous oxytetracycline
- Oral doxycycline or minocycline
- Cephalosporins in select cases

Your veterinarian will monitor your horse's response to treatment with

quantitative antibody tests. A reduction of antibody titers by more than 50% indicates a positive response, as does improvement of clinical signs.

There is no guaranteed way to prevent Lyme disease, but you can take steps to reduce your horse's risk:

- Tick control: Apply topical tick repellants and check your horse regularly for ticks.
- Pasture management: Keep pastures mowed and clear out brushy areas that support tick hosts like mice.
- Vaccination: Although no USDA-approved Lyme vaccine exists for horses, some veterinarians use canine vaccines off-label. These vaccines require boosters every six months.



When to Call Your Vet

If your horse develops an infected tick bite, unexplained inflammation, behavioral changes, hypersensitivity, soreness, stiffness, or lameness, contact your veterinarian. A thorough diagnostic workup is necessary to rule out other conditions before initiating Lyme disease treatment.