

A Discussion of Lyme Disease

According to the Centers for Disease Control and Prevention (CDC), we live in one of the highest risk areas for Lyme disease transmission in the country. Lyme disease is caused by the spirochete bacteria, *Borrelia burgdorferi*, and is transmitted through the bite of an infected tick. In our region the black-legged tick (*Ixodes scapularis*) is the common carrier of this illness.

Lyme disease can be difficult to diagnose, as symptoms can be very vague, and mimic other diseases. Blood testing is the most reliable indicator of exposure. A newer test used at Cornell University's Animal Health

Diagnostic Center (AHDC) detects the antibody levels to three outer surface proteins of the *Borrelia* organism (ospA, ospC, and ospF). Each outer surface protein indicates a different stage of antibody production, and elevations of each (or in combination with each other) indicate different levels of infection or exposure.

All of the canine Lyme vaccines produce antibodies to ospA, which is why the ospA levels in the Cornell Multiplex test are used to assess whether a horse is vaccinated at all, or adequately vaccinated. Because there is no Lyme vaccine approved for use in horses, many

An ounce of Prevention

Of course, because "an ounce of prevention is worth a pound of cure", and because ticks carry plenty of other damaging organisms besides the bacterium that causes Lyme disease, we should be focused more diligently on preventing the next tick bite. Prevention centers on recognizing when to be most vigilant in the prevalent times of the year that ticks are active.

Because ticks are more prevalent during wet seasons (April/May, and Sept/Oct.), horse owners should focus their most aggressive measure in these seasons. **Fly sprays** and topical preparations can help repel ticks, as they do flies. They should be concentrated on the jawline, throat, lower neck at the chest, pectorals, armpits, and

flanks. Many vets recommend **Frontline** spray in these locations, although it is not labeled for use in horses. **Equi-Spot** is a brand of top-spot application vial containing concentrated permethrin/pyrethrin fly repellent that is labeled for every two week use. This does seem to help repel ticks and flies, but the label demonstrates the application on the topline of the horse which conflicts with normal tick bite locations. If you bathe your horse frequently (with soap) you will wash this product off. Some horse owners have used the fly repellent **ear tags** intended for cattle - basically stringing them onto a string or hair ribbon and hanging them around their horses' necks, or attaching them to the cheek-rings of their halters. These are very inexpensive, but



A tick feeding on a host

veterinarians are comfortable with administering the canine Lyme vaccine twice a year. Obviously the canine Lyme vaccine generates antibody in the horse, because that antibody is visible using the Lyme Multiplex test. However, there is no definitive test for how protective the canine Lyme vaccine is in horses.

only mildly effective.

This past summer was not tick-heavy because of the hot, dry weather - summers that are rainy tend to foster more tick activity. Be mindful to carefully examine your horse after rainy days to remove ticks promptly. Horses at high risk for Lyme disease are those who have existing arthritis, those who have large paddock turnout, and retired horses (because they might not get examined daily). Talk to your veterinarian about methods to prevent Lyme disease, routinely testing your horse, and discuss using the canine Lyme vaccine for your horse.

Blacklegged Tick (*Ixodes scapularis*)



It is easy and affordable to pair a Cornell Lyme test with your annual Coggins test and avoid an extra needle for your horse!

Lyme Prevention Tips:

- Check your horse daily and remove ticks as soon as you find them.
- Keep pastures mowed and weeds trimmed to reduce tick habitats
- Use a topical tick preventative
- Trim your horse's tail to keep it above the grass
- Talk to your veterinarian about using the canine Lyme vaccine for your horse.



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