

Leptospirosis Associated Equine Recurrent Uveitis

Answers to your Important Questions

What is Leptospirosis Associated Equine Recurrent Uveitis (LAERU)?

Let's start by breaking down some terminology.

Uveitis- inflammation of the uvea. Resulting in cloudiness of the eye, pain, and potential blindness. Also known as "Moon Blindness". Caused by trauma, infection, or corneal disease.

Uvea- part of the eye containing the iris, ciliary body, and choroid. It keeps the lens of the eye in place, maintains fluid in the eye, and keeps things in the blood from entering the inside of the eye (blood-ocular barrier).

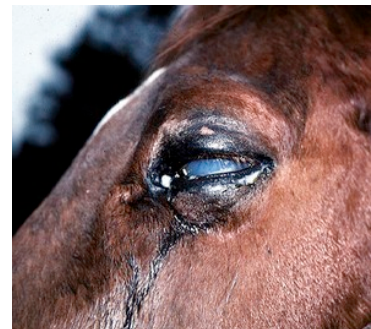
Recurrent Uveitis- inflammation of the uvea that sporadically reoccurs throughout a horse's life time. Each time there is a reoccurring episode, the damage to the eye is made worse, eventually leading to permanent damage and potential blindness.

Leptospirosis- bacteria found in the environment shed in the urine of wildlife and livestock. Horses usually are exposed when grazing pastures or drinking from natural water sources.

LAERU- Recurrent Uveitis in horses caused by Leptospirosis.

What are the clinical signs of Uveitis?

Uveitis can come on very suddenly. A lot of times horses present with severe pain in the eye, tearing, squinting, and rubbing face. The eye itself is cloudy, white or blue in color. Sometimes the signs are not as dramatic. The color change of the eye may progress slowly. In these cases, horse owners may mistake the changes for cataracts.



What do I do if I think my horse has Uveitis?

Call your veterinarian to request an appointment. Uveitis is typically treated with anti-inflammatories and/or steroids. However, it is imperative to rule out trauma, ulcers, or other eye diseases before starting these treatments. Your veterinarian will do this by performing a thorough eye exam and staining the eye for ulcers.



How do I know if my horse has Leptospirosis?

Leptospirosis is caused by a spirochete bacteria, just like the bacteria that cause Lyme Disease and Syphilis. Similar to these diseases, Leptospirosis infects the body systemically (through the blood) and then causes disease in several areas of the body. Also like Lyme and Syphilis, Leptospirosis can go undiagnosed for long periods of time.

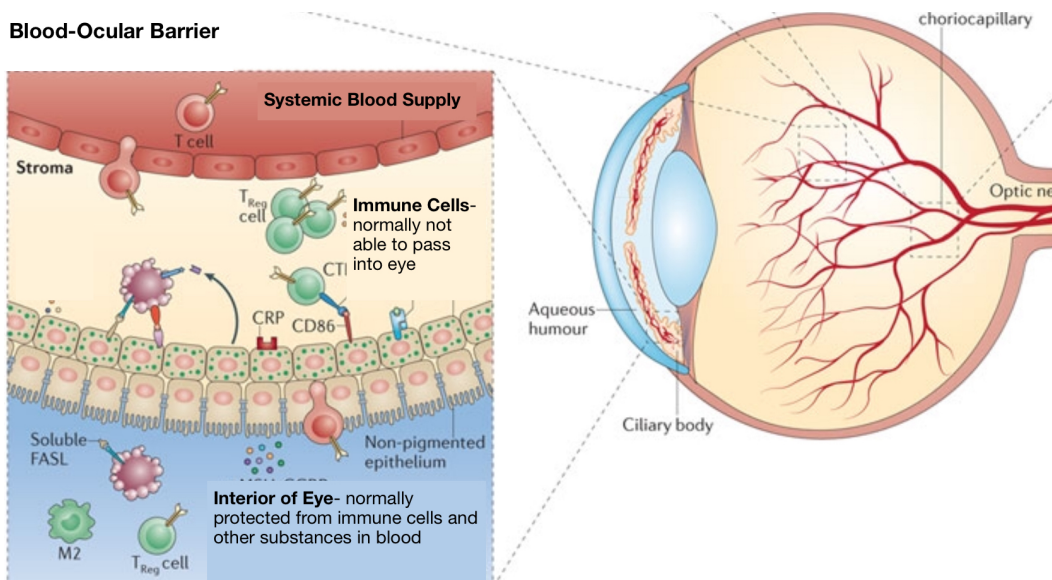
When a horse is infected with Leptospirosis causing bacteria, they typically show very mild clinical signs such as: mild fever, lethargy, decreased appetite. These are what veterinarians refer to as the “ADR” or “ain’t doing right” symptoms. They are not severe, are very ambiguous, and do not lead to an obvious diagnoses. Usually these symptoms are not reported by horse owners because they go away on their own before the vet is ever called out to examine.

Very rarely, Leptospirosis causes severe and acute kidney failure or liver disease. These cases would show signs of increased drinking and urinating, jaundice (yellow discoloration of gums and skin), severe lethargy, not eating, dehydration, and death. These cases are very rare.

Because the typical signs of Leptospirosis are so mild, rarely is it diagnosed when the horse is initially infected. The horse tends to get over these mild symptoms on their own and the Leptospirosis goes dormant and undetected for a long period of time while it multiplies in the body and populates different organ systems, such as the eye. If a horse is going to develop uveitis from a Leptospirosis infection, it tends to occur months after the initial infection.

How does Leptospirosis cause ERU?

During the dormant period, the Leptospirosis bacteria multiply and accumulate in the eye, causing inflammation and infection in the uvea, or uveitis. Damage to the uvea results in the breakdown of the blood-ocular barrier. Normally the eye is a secluded environment, protected from the systemic immune system by the blood-ocular barrier. If this barrier is damaged, immune cells from the blood are able to infiltrate the interior of the eye. The immune system does not recognize normal substances inside the eye, and begins to attack it as if it is foreign. This process is called an auto-immune reaction. This auto-immune reaction inside the eye is what causes the reoccurring episodes of uveitis. A horse may go weeks or months between episodes, however, with each episode more damage is done to the interior of the eye. Resulting in permanent damage and possible blindness.



How can LAERU be treated?

Unfortunately, there is no cure at this time for ERU, we can only treat symptomatically during active episodes. The standard treatment for painful uveitis episodes is:

1. **Atropine ophthalmic ointment**- this is used to dilate the pupil to decrease pain and scar tissue from inflammation
2. **Dexamethasone or Prednisolone** ophthalmic solution- used to decrease inflammation
3. **Oral or injectable Flunixin (Banamine)** - used to treat pain and decrease inflammation

This basic protocol may differ based on your veterinarian's preference. However, these medication should never be given without the direction of a veterinarian.

In chronic cases that continue to worsen and cause pain for the horse, removal of the eye or euthanasia of the horse may be the only humane options.

Does the Vet need to come out for every episode, or can I just restart treatment?

Your veterinarian should come out to re-examine the eye for each new episode to perform a thorough exam and stain the eye to make sure there are no ulcers on the cornea. This is extremely important because if there is an ulcer on the cornea, treating with steroids can make it drastically worse.

Do not begin any treatment on the eye without direction from your veterinarian.

What is the likelihood that my horse will go blind?

Studies have shown that about 60% of ERU cases will eventually go blind in the affected eye.

Does LAERU occur in one or both eyes?

LAERU can occur in one eye or both eyes. However, in cases where one eye is chronically affected, it is very rare for the other to develop uveitis as well.

Is there a way to prevent LAERU in my horse?

There is a new vaccine on the market for preventing Leptospirosis in horses, however, it does not guarantee prevention of LAERU at this time. Discuss with your veterinarian if this is an option for your horse.

Keeping livestock and wildlife out of pastures, keeping horses away from ponds, rivers, streams, etc., and decreasing rodent populations in barns are all helpful ways to prevent LAERU. However, these management practices are not always practical in our area of the country. Because of this, it is important to discuss with your veterinarian a possible plan to help decrease exposure in your horse's environment.