



Spring 2017 News Letter

Large Animal Medical Associates
38 Maple Tree Lane,
Westford, VT 05494

802-879-4288

Newsletter Index:

- Page 1 - Corneal Ulcerations
- Page 2 - What is Laminitis?
- Page 4 - Biosecurity
- Page 4 - Vitals Reference Chart

Corneal Ulceration

Dr. Steven Angelos, DVM

One of the most common eye problems that veterinarians treat in horses and other large animals is ulceration of the cornea. The cornea is the clear part of the eye that light passes through on its way to the back of the eye where the image is converted to a signal that goes to the brain for processing. There are many problems that can develop in the

cornea, but here we will just focus on ulcers. The cornea is made up of several different layers. All of the layers function together to help maintain a normal, healthy eye. In addition to being critical to letting light pass into the eye, the cornea also functions to protect the deeper structures of the eye. To do this, the eye has many nerve endings that let it know when something bad has happened. The body tells us when the eye has been injured in several ways: tearing, swelling of the eyelids, cloudiness in the cornea, and squinting are the most common external signs of a problem. These signs **SHOULD ALWAYS** be taken very seriously if they are observed by an owner.

There are many causes of corneal damage. Trauma from foreign material (hay, hair, burdock or branches) is just one of the common ones. Sometimes, the eye can be inflamed from another problem that

causes the animal to rub its eye, and then the outer layer of the cornea gets damaged secondarily from rubbing. When the outer layer of the cornea is damaged, we call it an ulcer. To make the diagnosis that an ulcer has occurred, an examination is performed and the cornea is stained

Did you know?

- Horses are "obligate nasal breathers" which means they must breathe through their nostrils and cannot breathe through their mouths.
- Dr. Cat Rukszins is the daughter of two large animal veterinarians?
- Dr. Steve Angelos has a twin brother who is also a large animal vet?





Spring 2017 News Letter

Page 2

with a special dye called fluorescein. Fluorescein is a bright fluorescent stain that only adheres to the inner layer of the cornea. When stain is applied to the cornea, we can then see where the outer layer of the cornea has been damaged. This is a picture of a corneal ulcer that has been stained with fluorescein: the bright green area is the ulcer.



If an ulcer is found, treatments will be started to speed healing as well as reduce discomfort to the patient. Antibiotics or drops are typically started to prevent infection of the cornea while the outer corneal layer grows over the ulcer. If your

veterinarian finds that the ulcers already infected with bacteria or fungus, the eye will require aggressive and intensive therapy.

To prevent ulcer in horses, it is helpful to trim low hanging branches and remove burdock from the pastures. In the fall, pay special attention to burdock in forelocks and remove them as soon as possible. Whatever the cause, it is always very important to call your veterinarian right away if you suspect a problem has developed in an animal's eye. Getting the problem diagnosed quickly and starting treatments early can make the difference between a quick recovery and loss or impairment of vision.

What is laminitis?

Dr. Catarina Ruksznis, DVM

Laminitis is a condition that can cause serious lameness in horses, ponies and donkeys. In order to understand the condition, a little background into the anatomy of the hoof is required. The hoof capsule surrounds and supports the third phalanx (P3), which is better known as the coffin bone. The coffin bone is attached to the hoof capsule through a huge number of interconnected tendrils of tissue called laminae. When a horse

develops laminitis there is inflammation within the laminae and this connection begins to break down, allowing movement of the coffin bone within the hoof. This destabilization is very painful and can cause permanent changes in the position of the coffin bone within the hoof.



What causes laminitis?

Generally, alteration of blood flow to the hoof is thought to cause injury to the laminae and result in laminitis. Laminitis is often associated with endocrine diseases, such as Cushing's Disease or Equine Metabolic Syndrome. Horses with these diseases are prone to repeat episodes and require careful management to prevent flare ups. Horses that are severely ill (septic) and/or have high fevers are also at risk. Potomac Horse Fever is particularly notorious for causing laminitis. Support limb laminitis occurs when a horse becomes non-weight bearing on one limb. The corresponding, sound limb

Did you know?



- Horses produce approximately 10 gallons of saliva a day.
- The average horse's heart weighs approximately 9 or 10 pounds.



Spring 2017 News Letter

Page 3

must then support the weight of the horse alone, placing a greater strain on the laminae. "Road Founder" can occur when a horse is worked on a hard surface - the concussion of the hoof against the ground leading to lameness. Finally, horses that are suddenly turned out on lush pasture or overeat after breaking into the grain room are at risk for developing laminitis.

How is it diagnosed?

Laminitic horses have a characteristic gait and stance which makes them easier to spot. Horses will rock backwards to take the weight off of their front feet and move carefully, with short strides. They may be reluctant to move at all and will be more painful when turning. Digital pulses will be increased and they show sensitivity to hoof testers over the toes. Radiographs (x-rays) in



more chronic cases will show movement of the coffin bone - either rotation of the tip downwards or

sinking of the bone within the hoof capsule. If there is movement of the coffin bone, the horse has "foundered".

What are the treatment options?

Horses should be immediately confined to a small stall or paddock with deep, soft footing to prevent excessive strain on the laminae. One of the best treatments for acute laminitis is cryotherapy, icing the feet and lower limbs. If appropriate icing is applied within the first few days of a laminitic episode, it has been shown to prevent founder. For horses with more chronic laminitis, pain control and managing blood flow with medications is key. Careful trimming and shoeing changes based on radiographic recommendations may be necessary to make the horse comfortable. Many do well with boots, such as Soft Rides, which provide support and extra cushion for the feet.

Can horses with laminitis recover?

Although laminitis is a very painful condition, horses that respond well to therapy and do not show major changes in coffin bone position may return to full work. That being said, some horses do experience chronic pain that prevents them from working or may even prevent them from

having a good quality of life. Research is ongoing to discover new ways to help these horses with new medical and surgical solutions.

Did you know?



- Horses have 16 muscles in each ear, allowing them to rotate their ears 180 degrees.
- The female llama can take out only half inch of its tongue from the mouth and therefore it is not able to lick the baby. Instead it nuzzles and hums on the newborns.
- Alpacas and llamas can successfully cross-breed. The offspring they create are known as huarizo, which are valued for their longer fleece.
- Goat Milk is alkaline and cow milk is acid. Goat milk is lower in cholesterol and higher in calcium, phosphorus and vitamins A.



Spring 2017 News Letter

Biosecurity

Dr. Brady Hellman, DVM

Do you know what to do to stop an outbreak of infectious disease from spreading in your barn? Some infectious diseases spread through direct contact, others through the ingestion of infected feces, and still others spread through the air in droplets. There are a few key principles you need to know to help keep the infection contained.

-Isolate infected animals.

The infected animals should be kept away from not only healthy animals, but also out of heavy traffic areas.

This will prevent the spread of disease on equipment and people as they come in close contact with the sick animals.



-Limit contact of infectious materials with healthy herd mates.

One to two staff members should be in charge of caring for the sick animals (when in a boarding facility).

These persons should be careful to disinfect hands and shoes after coming into contact with the sick

animals. Hand sanitizers work great for hands when soap and water is not readily available. When relevant, manure should also be properly disposed of away from healthy



animals to avoid accidental ingestion. It may be necessary to allocate specific equipment to the sick animals. This equipment should be disinfected regularly.

-Know what you are dealing with.

If you suspect an infectious disease process at your barn, have your veterinarian out to assess and to properly identify the causative agent. This will help to curtail the best ways

to avoid transmission between animals. In some cases, it is helpful to vaccinate in the face of an outbreak.

-An ounce of prevention. . .

Vaccination is still the most practical and economic way of protecting against infectious diseases (where applicable). Consult your veterinarian to be sure your horse is protected. Visiting horses should be up to date on vaccinations and kept away from permanent residents as much as possible. Horses that have been travelling and are returning to the farm should be isolated and monitored for signs of illness for several days upon returning to the farm.

An infectious disease outbreak can be a scary thing. However, by taking the proper steps, the infection can be quickly and effectively contained.

Vitals Reference Chart

Horse	Sheep/Goat	Llama/Alpaca
Heart Rate 36 - 48	Heart Rate 60 - 90	Heart Rate 48 - 60 Alpaca 60 - 90
Respiratory Rate 8 - 16	Respiratory Rate 12 - 20	Respiratory Rate 10 - 30
Temperature 99 - 101.5	Temperature 102 - 103	Temperature 99 - 102