



# Equine Health Update

Fall/Winter 2008

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## Hours

8:00-5:00 Monday-Friday  
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Emergency Service 24 hours daily,  
365 days a year

[www.equemed.com](http://www.equemed.com)

## Change...

Wow! Another presidential election year has come and gone. This is the sixth since EMS moved to its current location in September 1988. Lots of changes (as well as presidents, governors, etc.) have come down the pike during those 20 years, but one thing hadn't changed until recently. The front office and reception area at EMS had been as originally built for nearly 2 decades when we finally expanded and remodeled it this spring. While the rest of the practice and facilities had grown many fold since opening, the 1980's décor was like a cramped little time capsule at our front door. The dust has settled and we've moved in and banished all signs of the color "mauve". If you get a chance to stop by to chat and evaluate the changes, please do.

We welcomed Dr. Tawna Backman Purcell to EMS in September.



A native of northern California with a reining horse background, Dr. Purcell received her Masters in Reproductive Physiology and DVM from Colorado State University.

Tawna's husband Scott is busy with post-doctoral work in the Obstetrics and Gynecology Department at Washington University in St. Louis. In addition to her expertise in reproduction, she has interests in performance horses, lameness, geriatrics, acupuncture, and preventive medicine. We think you will appreciate her enthusiasm, knowledge, and horse skills.

Rob Foss

## Grain Overload

Nathan Voris, DVM

It happens several times every year. The phone rings and on the other side of the line is an unhappy client reporting their horse got out of its pen and into the grain bin. Many times, the horse is looking pretty normal, and the client wants to know if there is anything we should do. My answer is always; "Let's take a look at the horse right away."

Horses can suffer from grain overload after eating as little as 10 to 15 pounds of grain, depending on the size of the horse and its normal grain intake. Evaluating how much grain an escaped horse has consumed is often very difficult. As anyone who has experienced such an event can report, the feed room usually looks like a tornado has come through. Add the fact there is usually more than one horse involved, and the chore becomes impossible.

Grain overload can lead to colic, diarrhea and founder-three of the worst clinical conditions imaginable for a horse. Severe cases can even lead to acute toxic shock and death. The pathologic process starts with ingestion of large amounts of carbohydrates. Passage of undigested starch to the large intestine causes an

overproduction of lactic acid and volatile fatty acids. The acids lower the pH of the hindgut, which both weakens the normal lining of the large intestine and kills the normal bacterial flora, causing a rapid release of endotoxins.

So what can be done to prevent such a terrible chain of events should your horse Houdini get into the grain? The key to successful treatment is to start before clinical signs develop. Administration of mineral oil will help to reduce the rapid pH drop in the large intestine by acting as a laxative and a binding agent for the undigested starches. Additionally, a 3-5 day course of Flunixin meglumine (Banamine) will help to reduce or eliminate the endotoxin affects on the horse. If treatment of grain overload is instituted prior to the development of clinical signs, the prognosis for successful treatment is excellent. If clinical signs of colic or laminitis are apparent, more aggressive medical treatment will become necessary, and the prognosis becomes more guarded.

## Slobbers

Rob Foss, DVM

We had many calls this year from owners worried that their horses were salivating excessively. Horses typically produce about 10 gallons of saliva daily, but it's almost all swallowed. In addition to helping break down food particles and assisting in swallowing, saliva is an important source of bicarbonate that counteracts the acidity of the stomach. Since horses produce more saliva when actually eating, more acid is controlled (and ulcers prevented) with pasture horses that are constantly eating, than stalled horses that eat twice daily.

This past year many horse owners witnessed their horses producing far

more than 10 gallons of saliva. In the spring and summer, particularly in wet and cool years, both red and white clover can be a source of slaframine. Slaframine, an alkaloid produced by the fungus *Rhizoctonia leguminicola*, stimulates excessive salivation, sometimes in astounding quantities. Affected horses have a normal attitude and appetite, but fail to swallow the excess saliva and owners will see it streaming from the horse's mouth. While dramatic and quite messy to be around, it is not dangerous and will resolve rather quickly if the horse is removed from access to clover.

Slaframine levels and thus horse symptoms will vary from season to season and year to year, as temperature and humidity ranges are critical for fungal growth. During most years, slaframine "poisoning" is quite prevalent in Missouri in mid to late June and early July, but it was common all summer and early fall this year, probably due to our continued rainfall. We may see this occasionally this winter also, as hay made from affected clover can also cause the "slobbers."

## Choke

Hunter Ortis, DVM

Choke (equine esophageal obstruction) is a common problem caused by impaction of food material in the esophagus. Unlike human choke, horses are able to breathe during a choking episode because the trachea (windpipe) is not involved. However, this does not mean swift medical attention is not needed. Choke can occur in any horse at anytime but occurs more commonly in horses that have improper mastication (chewing) due to poor dentition, are greedy eaters or are on a pelleted ration.

Horses with choke will usually look depressed and stand with their neck outstretched, have a nasal discharge containing saliva and feed material, salivate excessively, cough repeatedly and make frequent attempts to swallow. If a horse is suspected to be choking, feed and water should be removed to prevent further impaction of feed material in the esophagus.

Treatment of choke usually involves administering a sedative and oxytocin. The combination of the sedative and oxytocin causes relaxation of the esophageal musculature and lowers the head of the horse to facilitate lavage. Once the horse is sedated, a nasogastric tube is passed to the location of the

obstruction. Water is gently pumped through the nasogastric tube to break down the obstruction. Water and feed material are often expelled from the mouth and nasal passages during this procedure. Verification that the choke has been resolved is made when the nasogastric tube passes through the entire length of the esophagus, into the horse's stomach.

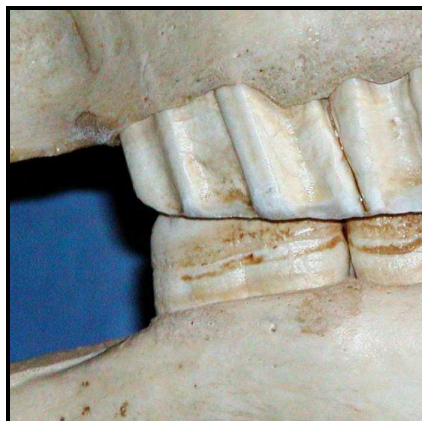
Once the obstruction has been resolved the horse should be held off feed for 12 hours and allowed free choice water. A diet of fresh grass or complete pelleted feed slurry is recommended for the next few days. Anti-inflammatory drugs and antibiotics are often recommended due to irritation that may have occurred from the obstruction and the possibility of pneumonia from aspiration of materials during the choke.

## Bit Seats

Heather Landrey, DVM

Often people ask, "What is a bit seat?" or "Did you put a bit seat in my horse's mouth?" Bit seat is an old term used to describe the rounding of the first cheek tooth on the upper and lower arcades, resulting in a small groove in the front of the teeth. Many people believe that the bit will actually rest in this area.

Truth be told, if the bit is resting in a bit seat, your horse's bridle is not fit properly. The bit seat does serve a purpose, however. The corners of a horse's mouth have quite a bit of soft tissue. As the bit is moved in the mouth, the soft tissues are pulled back toward the teeth and may actually come into contact with the front of the first cheek teeth. If there are any rough surfaces in this area, the horse may experience pain and react negatively.



As part of the routine float, I always make sure to round those edges for soft

tissue comfort. It is very important to pay close attention to the tooth while installing the bit seat as there is a pulp chamber—the blood and nerve supply of the tooth—just millimeters away from the surface.

While there are significant advantages to advanced dental procedures such as bit seats, extreme caution must be employed to protect the integrity of the tooth.

## Vaccinations

Tawna Backman Purcell, DVM

Choosing which vaccinations to use to provide protection for your horse largely depends on what part of the country you live in as a nationwide protocol doesn't exist. The AAEP (American Association of Equine Practitioners) publishes a list of guidelines for veterinarians to use while developing vaccination protocols for their specific area. Within these guidelines there is a list of core vaccines that all horses should get regardless of their location. Veterinarians then choose which additional vaccines to use based on the risk (exposure, age, sex, use, location) and consequence (severity, possible transmission to humans) of disease within their community and the effectiveness or possible adverse effects of the vaccine.

Here in mid-Missouri we recommend vaccinating all horses for the core vaccines of EEE (Eastern Equine Encephalomyelitis), WEE (Western Equine Encephalomyelitis), Tetanus, West Nile Virus, Equine Influenza, Equine Herpes (Rhino) Virus, and Rabies. We also recommend vaccinating against other pathogens should the horse be in an area of risk, such as frequent traveling and comingling with unfamiliar horses. These vaccines include Equine Viral Arteritis, *Streptococcus equi* (Strangles), and Potomac Horse Fever. Even within a community the age of the horse, sex, pregnancy status and individual farm needs will determine which vaccines are given at which time.

Recently the AAEP added the rabies vaccine to the core vaccination list. Rabies is a fatal disease to unvaccinated horses and potentially fatal to unvaccinated humans who might come in contact with rabid animals. In 2008, one equine case of rabies was identified in Missouri and many more in the bat and skunk populations. When dealing with such a devastating disease

we feel vaccination is the best safety policy for both you and your horse.

It should be mentioned that vaccinations may not completely prevent a horse from contracting a disease; however vaccines will reduce the severity of disease as a whole should the horse come in contact with it. Monitoring movement of horses on and off farms, preventing overcrowding, good vaccination/health record keeping and cleanliness should all be taken into account for overall disease prevention on both small and large farms. Vaccinations and boosters, when applicable, in combination with overall good husbandry are essential to insure the maximum benefit.

## Ever heard of HERDA?

Nathan Voris, DVM

The acronym HERDA stands for “Hereditary Equine Regional Dermal Asthenia” and represents a rapidly emerging genetic disease within the Quarter Horse industry. HERDA has a strong familial basis that has been identified in the bloodlines of Poco Bueno (AQHA 3034).

HERDA causes the skin to separate between the superficial and deep dermal layers resulting in excessive stretching, weakness and tearing of the skin. Locations involved often include the skin over the back, but can affect the entire horse. Clinical signs can be apparent at birth, but are commonly not noticed until the horse is being broke to ride.

The disease is caused by a homozygous recessive gene. Reaching back into my memory of Mendelian Genetics and Punnet Squares, a horse has to have two copies (homozygous) of the recessive allele, one from each parent, to be affected. To put it in terms easier to understand, a non-carrier bred to a carrier will not result in an affected foal, but will produce a carrier 50% of the time. Alternatively, a carrier mare bred to a carrier stallion would have a 25% chance of producing a homozygous negative, non-carrier-normal foal; a 50% chance of producing a heterozygous genetic carrier-clinically normal foal; and a 25% chance of producing a homozygous recessive affected foal.

There are at least two labs currently offering a DNA test that reveals a horse’s HERDA carrier status. The test can be performed on hair or blood and is relatively inexpensive. Owners of popular stallions are advertising their

horse’s HERDA status in an effort to control the spread of this terrible genetic disease. Knowing the genetic status of the mare and stallion prior to breeding can help guide the pairing decision process and eliminate the uncertainty of producing an affected HERDA foal.

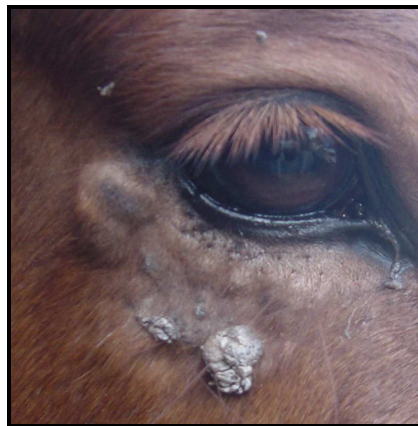
## Sarcoids

Nathan Voris, DVM

“It’s not a tumor!” I encourage everyone reading this to say the previous sentence aloud, using their best Arnold Schwarzenegger (Kindergarten Cop) accent. I guarantee you will make the person next to you laugh.

All joking aside, sarcoids are tumors. In fact, sarcoids are the most common skin tumor of the horse, mule and donkey. Sarcoids are benign tumors, but are locally invasive which can make them difficult to treat. An additional feature that makes them difficult to treat is their origin. Sarcoids appear when a horse suffers some sort of skin damage and then is infected with the Bovine Papillomavirus. Flies have been implicated as a primary vector of spreading the virus to horses.

The clinical appearance of a sarcoid varies. There are flat sarcoids that look a lot like ringworm; verrucous sarcoids that look like warts; and fibroblastic sarcoids which appear as nodules or ulcerated masses.



There are many treatments available, including cryotherapy (freezing), hyperthermic treatment, intra-lesional and/or topical chemotherapy, immunotherapy, radiation, surgical removal and combinations of the aforementioned modalities. Unfortunately, there is no single treatment protocol that has shown great advantage in efficacy over the other. Oftentimes, multiple modalities, over an extended period of time may need to be

implemented to achieve resolution. The choice of treatment modality will vary with the type of sarcoid, the location of the tumor and its size. As with any disease, treating sarcoids aggressively as soon as they are noticed will increase the chance of successful treatment.

## No Hoof, No Horse

Paul Schiltz, DVM

The sentiment no hoof, no horse is never more obvious than when we see a horse with a hoof infection. Some infections within the hoof are so painful that owners often think their horse must have a broken bone. Thankfully that is rarely the case.

## Hoof Abscesses

The most common hoof infection we see is an abscess. An abscess forms when bacteria from the environment gain access to the tissue underneath the hard outer layer of the hoof. Bacteria can be introduced through a small puncture wound or they can migrate up the white line eventually making their way into the deeper tissue. Horses tend to be more prone to abscesses when their footing is wet or muddy. The high moisture tends to soften the hoof and make damage more likely.

A sub-solar abscess is one that forms under the sole, or bottom of the foot. One that forms under the hoof wall is called a sub-mural abscess (sometimes referred to as a gravel). In either case, unlike other infections, antibiotics alone are not able to correct the problem. The diagnosis of a hoof abscess is made by carefully examining the foot with a hoof tester, an instrument that puts pressure on very precise areas within the hoof. An abscess will be identified by a focal area of pain. Once the problem has been located, the abscess is surgically drained.

Aftercare is very important, with drainage and cleanliness being vital. In some cases, your veterinarian may recommend soaking the foot in hot water and Epsom salt. Foot wraps are maintained to prevent re-infection until the surgical drainage site has healed. The normal course of treatment varies between 2-3 weeks.

## White Line Disease

Another hoof infection that we diagnose is white line disease or WLD. This infection occurs in the non-sensitive layer of the outer hoof wall.

Early in the course of the infection there is little or no pain associated with the condition. As the infection advances and more hoof wall becomes unstable, lameness develops.

WLD is currently thought to be caused by a fungus, although several different bacteria have been isolated from cases as well. The infection begins at a damaged area of the junction between the sole and the wall of the hoof. This small separation creates the perfect environment for the fungus, high moisture and no sunlight. If left untreated, the infection progresses up along the white line, detaching the outer layer of the hoof wall as it proceeds.

Many early cases of WLD are noticed at the time of shoeing and often can be corrected by simply trimming the foot. More advanced cases are found many times because a portion of the affected hoof wall breaks off, exposing the underlying infection. Careful examination of the white line on the bottom of the foot is required to detect other cases.

A seemingly unending list of medications has been used for the treatment of WLD, many with little or no success. Most cases that cannot be corrected with trimming alone will

require surgery to remove the affected layer of hoof wall, a procedure called resection. The amount of wall removed will be determined by the extent of the damage. All of the affected tissue is removed up to the level of normal healthy white line.



Following resection, the horse is shod with a bar shoe to help support the foot, medicine will be applied to the hoof daily as new healthy hoof grows out. Most horses with WLD make a full recovery, but may take many months for a new hoof to grow and fill in that which was removed.

### Normal Equine Vital signs:

- Temperature: 99.5-100.5 degrees Fahrenheit
- Pulse (Heart Rate): 28-44 beats per minute
- Respiratory Rate: 8-20 breathes per minute

### Conditions that warrant immediate attention:

- Colic
- Lacerations-especially near the eye or involving limbs
- Non-weight bearing lameness
- Any injury/problem involving the eye
- Grain overload
- Choke
- Recumbent horse (horse unable to get up)
- Temperature greater than 102
- Respiratory distress
- Diarrhea
- Dystocia (difficult delivery of foal)
- Acute changes in a foal's behavior or attitude

This list is not absolute. Do not hesitate to call if your horse is exhibiting a sign or behavior that is of concern to you.

If you enjoyed reading our newsletter, you can find expanded coverage of these and other topics in the "News" section of our website: [www.equmed.com](http://www.equmed.com)