



Equine Ambulatory News

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Equine Ambulatory Program

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Enjoying an Evolution

In 2001 the equine ambulatory program at the University of Missouri was up and running with one truck, one full-time veterinarian, and one intern. All of us involved in the program have been very excited to watch as we have grown and evolved over the past six years. We are running two trucks, with two full-time veterinarians, and three interns who rotate through our program.

The mission of our equine ambulatory service is to provide the highest standard

of medical and surgical care to our patients while training the next generation of veterinarians. With students, interns, veterinarians, clients and patients working together as a team, we are truly attaining this goal.

2007 has been a good year for the equine ambulatory program. We have acquired our digital radiography unit, which has been a tremendous addition to the program, allowing us on-site diagnostic capabilities. We plan to switch to digital Coggins as well in the upcoming months.

Once again, we would like to thank you all for your continued support. We look forward to seeing you in the upcoming year.





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The University of Missouri Equine Ambulatory Team

Dr. Alison LaCarrubba, originally from New York, graduated from the University of Missouri College of Veterinary Medicine in 2001. Alison stayed on at the University to complete an internship in equine medicine and surgery. After the internship, Alison spent a year working in an equine exclusive private practice with a special interest in reproduction. Alison returned to the university in July 2003. Although the majority of Alison's time is spent in the ambulatory truck, she also devotes some time to working with the medicine section in the teaching hospital. Alison is beginning the process of certification with the American Board of Veterinary Practitioners, Equine Specialty, this year.



Dr. Alison LaCarrubba

Dr. Dawna Voelkl was born and raised in western Pennsylvania, near Pittsburgh. Dawna graduated from Cornell University College of Veterinary Medicine in 2003, after which she spent one year at the University of Minnesota working in large animal medicine, surgery and reproduction. Dawna then completed a residency in Large Animal Clinical Reproduction with an emphasis on the horse at New Bolton Center of the University of Pennsylvania. In August 2006, Dawna earned board certification in theriogenology (veterinary reproduction). Within the field of equine reproduction, Dawna has particular interest in working with breeding stallions, semen freezing and embryo transfer, and she has expanded the reproductive services offered by the equine ambulatory service.



Dr. Dawna Voelkl

Our interns have a special interest in working with horses, and potentially going on to do a residency, specializing in either equine medicine or equine surgery.



Dr. Erin Master

Every June we will be welcoming a new crop of interns. This year our interns include Dr. Siddra Hines, Dr. Erin Master, and Dr. Megan Gregoire.

Dr. Erin Master was born and raised in the mountains of West Virginia. She began riding hunters and equitation when she was a child and was an active member of the West Virginia University Equestrian Team during her undergraduate years. Erin graduated from University of Georgia College of Veterinary Medicine in May 2007. After completing her internship, Erin plans to pursue a residency in large animal surgery or work in an equine private practice.

Dr. Megan Gregoire has lived all over the country, but her most recent hometown is Austin. She completed both her undergraduate and

(Continued on page 3)

Rhodococcus Equi and Pneumonia in Foals

Rhodococcus equi is one of the most important causes of pneumonia in foals between the ages of 2 and 5 months. The R. equi bacteria lives in soil and is common in the environment, although it is found in highest numbers on breeding farms. Adult horses have a well-established immunity to R. equi, and are rarely affected by the disease. Most foals are exposed to this pathogen during the first weeks of life, but the majority become immune without any expression of disease. However, on farms where R. equi becomes an endemic problem, death rates as high as 50 to 80 percent have been reported.

Affected foals suffer primarily from chronic pneumonia and develop lung abscesses. Foals can also develop abscesses in the abdomen, diarrhea, enlarged lymph nodes, swelling/infection of joints, and inflammation within the eyes. Clinical evaluation of foals for Rhodococcus includes physical examination, blood work, and imaging such as thoracic radiographs or ultrasound.

Common findings include fever, increased respiratory rate and effort with flared nostrils, blood work



Dr. Nat Messer photo

A radiograph reveals an abscess in a foal's lung.

suggestive of inflammation, and characteristic abscesses in the lungs. Laboratory tests do not differentiate Rhodococcus from other causes of bacterial or viral pneumonia. The only way to truly determine the cause of pneumonia is to obtain a fluid sample from the lungs for culture and sensitivity testing.

R. equi is usually treated with the oral antibiotic rifampin combined with either erythromycin, clarithromycin or azithromycin. Together, these antibiotics provide more effective treatment than any single

antibiotic. Treatment is long term, often requiring six to eight weeks of antibiotics. Prognosis for recovery and return of athletic potential is good if the disease is diagnosed and treated early.

There is no vaccine to prevent rhodococcal pneumonia. Basic environmental management efforts, such as minimizing the density of the horse population, especially among mares and foals, and removing manure efficiently can decrease the risk of developing many infectious diseases. Since R. equi lives in the soil and thrives in dry, dusty environments, minimizing environmental dust will help to reduce the inhalation of bacteria and subsequent infection. Another preventative therapy that has shown promise is administering plasma to at-risk foals shortly after birth, when it is suspected that they are first exposed to the organism.

It is imperative to closely monitor all foals on your farm. Vigilant monitoring of foals' overall attitude, growth rate, activity level, respiratory rate and effort, and rectal temperature will help you to identify compromised individuals, allowing early and aggressive treatment.

(Interns, continued from page 2)



Dr. Megan Gregoire

veterinary degrees at Texas A&M University. Her areas of interest include internal medicine and reproduction. After completing her internship here in Missouri, Megan plans to go to work for a private equine ambulatory practice.

Dr. Siddra Hines graduated from Washington State University in 2007 with a Bachelor of Science in Animal Sciences and Doctor of Veterinary Medicine. Siddra grew up riding horses in 4-H and Pony Club in western Washington, and still has two horses and a pony back home. Siddra plans to specialize in equine internal medicine and obtain her Ph.D. in immunology. Long term, she plans to work at a veterinary school in equine medicine doing clinical work, teaching, and performing research.



Dr. Siddra Hines

Aggressive Care for Joint Wound

Case Study

A 2-year old quarter horse mare was found to be non-weight bearing on the left hind limb when the farm manager arrived to feed her one morning. There was a small wound located over the front of the left hock. The wound was approximately 3 centimeters by 1 centimeter. There was an infection under the skin, which we call cellulitis, extending from just above the hock joint to well below the joint, causing the limb to be very swollen. Based on the location of the wound and the severity of the lameness, we elected to place the mare under general anesthesia in the field, clean the wound extensively, check the joint for infection, and then flush the joint with saline if necessary.

We placed an intravenous catheter and induced general anesthesia. With the mare on the ground, we clipped and thoroughly cleaned the wound. We introduced a sterile needle into the joint and obtained a sample of joint fluid. The fluid was abnormal (cloudy and bright yellow), and the protein level was markedly elevated, indicating joint infection. We then placed a second needle into the joint and proceeded to flush the joint with sterile saline. The goal was to flush out the bacteria and white blood cells that could damage the joint surface. After a thorough lavage (flushing) of the joint, we infused it with antibiotic directly. We were unable to suture the wound because of the severity of the swelling, so we placed a full limb bandage to prevent contamination and provide support.

The mare was immediately started on broad spectrum intravenous antibiotics and pain medication and placed on stall rest. We administered a tetanus booster. The mare recovered uneventfully from anesthesia and



walked back to her stall, fully weight bearing on the affected limb.

The mare was re-evaluated the following day to assess whether we needed to repeat the joint lavage. Upon examination the mare was fully weight bearing and almost completely sound at walk. We elected not to repeat the flush, but to continue intravenous antibiotics and bandage changes. Bandage changes were performed daily for the first week, then reduced to every two to three days. The mare was switched to an oral antibiotic after five days and pain medication was gradually reduced during the same time. The wound healed nicely and the bandage was discontinued two weeks later. The mare went on to be sound with a future as a riding horse.

This case stresses the importance of early intervention. Wounds involving any joint structure can be a life-threatening problem, so it is critical to initiate treatment early and to be aggressive. The smallest of wounds can cause the most problems if they affect these sensitive joint structures.

Let the Buyer Beware

Pre-purchase Exams Bring Potential Problems to Light



The importance of a pre-purchase examination cannot be overstated. There is no way to be completely certain that the horse you are considering purchasing is perfect for you, or to foresee all potential future problems, but there are some steps you can take to minimize complications.

It is important to keep in mind that each pre-purchase examination will be customized to each buyer's needs. Someone looking for a pasture companion may only want a cursory examination, while another buyer who is investing in a show horse may require a much more in-depth purchase examination, including a variety of diagnostic tests such as radiographs, ultrasound

and endoscopy. It is critical for the veterinarian to talk with the buyer prior to the exam and discuss specific goals for the exam and future use of the horse.

A pre-purchase examination is to ensure that the buyer has enough information to make an informed decision about the horse. As veterinarians we are not going to “pass” or “fail” the horse during the examination. We are there to comment on potential problems, be they behavioral vices or soundness issues.

Ideally, the seller and the buyer will be present during the examination. This will limit potential miscommunications. The examination will include taking a complete history from the seller, including any past or current medical conditions. We

will want to know what medications the animal is taking. A thorough physical examination will be performed, which will involve listening to the heart and lungs, taking the temperature, palpating lymph nodes, oral and ophthalmic examinations, and palpating all the limbs for abnormalities. All four hooves will be carefully examined and hoof testers applied to identify any tender areas. A complete lameness examination will also be performed. We will watch the horse walk and trot in hand, in a straight line as well on a circle. We will perform flexion tests of all limbs.

After the history, physical examination and lameness examination are complete we can then discuss our findings and decide what ancillary tests to perform. For some new owners, the exam will stop here. For others, we will continue on with blood work, radiographs, endoscopy (viewing the upper airway for abnormalities) and ultrasound.

It is critical to go into the pre-purchase examination with an open mind and a clear idea of what to expect from your veterinarian. From our perspective, we will give you insight into the horse's overall health, soundness and disposition on this particular day. It is our goal that the information we provide will then guide your decision with regards to the suitability of this animal.

Strangles

Is Your Horse at Risk?

Strangles is a highly contagious bacterial infection of horses caused by *Streptococcus equi var equi*. The disease is transmitted by direct contact of nasal secretions between affected and non-affected horses. The bacteria can contaminate common barn items, such as water buckets, bridles, halters and tack. It is important to remember that people are also frequently implicated in passing the infection from horse to horse. The disease occurs most commonly in horses between the ages of 1 and 5 years, but can affect horses of any age. Horses that move from barn to barn or that show or trail ride extensively and are exposed to a large number of other horses on a regular basis are at increased risk of infection.

The name “strangles” originated from the clinical signs of the disease. In the most severe cases, the lymph nodes around the throat swell to such a degree that they obstruct the animal’s airway, effectively strangling the horse. Other clinical signs of a typical strangles case include, but are not limited to, fever, lethargy and decreased appetite. The swellings, typically



Dr. Nat Messer photo

located at the throat latch area and below the jaw, are usually firm to start, and become soft as the abscess matures. The abscesses will typically rupture and drain, although sometimes we need to lance them to promote drainage and hasten the course of the disease. We do not typically administer antibiotics to horses with strangles. Antibiotics can slow the maturation of the abscesses, ultimately increasing recovery time.

Special cases, such as horses that require a tracheostomy tube to breathe, or horses that develop an uncommon form of the disease that results in abscess formation in the lungs or abdomen, may require prolonged antibiotic therapy. In a typical case, the mainstay of our therapy consists of draining mature abscesses and providing supportive care, such as anti-

inflammatories to reduce fever and pain, flushing abscess sites with dilute betadine, cleaning drainage from around the abscess site, and providing soft, easy-to-swallow meals, such as a mash.

Uncommonly, strangles can migrate from the typical location around the throat region, and cause problems in other areas. Any lymph node can be affected, and in the worst cases, the bacteria can cause pneumonia and abdominal abscesses resulting in weight loss, colic and even death.

A modified live vaccine for strangles is available. As with many vaccines, it is not 100 percent effective and in rare instances a horse may contract a mild form of the disease from the vaccine. We do not routinely recommend the vaccine, but can advise whether the strangles vaccine would be appropriate for your horse.

Cases of Neurological EHV on the Increase

You may be familiar with Equine Herpes Virus (EHV), as it has been in the horse news recently and it is a disease that we vaccinate for regularly. Although many of us are familiar with the typical form of EHV resulting in respiratory problems, there has been an increase in the incidence of the neurological form of this disease. Unfortunately, the vaccine does not prevent the neurological form of EHV and we have seen outbreaks at a variety of locations around the country, including race tracks, training facilities, horse shows and even veterinary hospitals.

EHV is a disease that has been present in the United States at least since the virus was first isolated in 1966. Most commonly, EHV causes upper respiratory disease, weak foals, and abortion in pregnant mares. However, EHV can also affect the central nervous system. While almost all adult horses have been exposed to the herpes virus, it is estimated that approximately 6 percent of horses in this country are latently infected with the strain of the virus that can cause neurological disease.

The clinical signs of EHV span a broad spectrum. When a group of horses is exposed to the virus, it is common for young horses to develop fever, depression, decreased appetite, nasal discharge, and a cough. Mature, vaccinated horses often

do not show any symptoms. Most horses recover uneventfully. However, occasionally, horses can develop the neurological form of the disease, proven to be much more serious.

The clinical signs of neurological herpes include fever, depression, incoordination, hind limb weakness, stumbling, decreased tail and anal tone, and urinary incontinence. Many affected horses may “dog sit” or go down and be unable to stand. Antibiotics are not an effective treatment for this disease as it is viral in origin. Treatment is aimed at providing supportive care with intravenous fluids and anti-inflammatories. Recently some clinicians have also started using anti-viral therapy on these horses with promising results. It seems that the horses treated with the anti-viral medications had a reduction in severity of the neurological disease, which had a positive impact on survival.

The neurological form of the herpes virus is especially concerning because it can affect all ages and breeds of horses, it is not prevented by vaccination, and it has a high mortality rate. Additionally, the virus can become latent and “hide” in apparently healthy horses. These horses may begin shedding the virus during times of stress, such as



trailer, showing, or other changes in schedule. The virus is spread through coughing, contact with nasal secretions, and fluids from fetal membranes, so sanitation is very important in prevention. Any horses suspected of having EHV, and especially horses suspected of having the neurological form of the disease, must be isolated.

So what can we do to keep our horses safe? Isolate any new horses that come on to the farm for 14 to 30 days. Disinfect stalls and stable areas before moving your horse onto show grounds. Monitor temperatures before traveling and do not travel if a temperature above 102 degrees Fahrenheit is noted. Avoid contact with other horses in the barn that may have a fever. Like all infectious diseases, prevention is critical.

Although the neurological form of EHV can be intimidating, it is important to be educated about it, and to realize that the chances of your horse coming down with the disease is still very low.

Spotlight on Research

Please contact the Equine Clinic at the University of Missouri College of Veterinary Medicine's Veterinary Medical Teaching Hospital at 573/882-3513 if you have questions about this newsletter or equine health.

After many years of research and development, the University of Missouri's E. Paige Laurie Endowed Program in Equine Lameness can now offer clients an objective analysis of gait for lameness diagnosis. The new technique uses small sensors attached to the horse's body to collect and wirelessly transmit movement data to a small tablet or laptop. Using data crunching equations, head, pelvic and foot movements are analyzed and movement quality evaluated. Information is given as to whether the horse is lame, which limb or limbs are affected, and when the lameness occurs. In other words, does the lameness occur at impact, full weight bearing or during push off? Compensatory or "false" lameness in one limb due to a primary lameness in another limb is also measured.

This information can be valuable to the veterinarian in isolating lameness in a particular horse. The system can be used before and after blocks to more objectively and accurately determine

response. Treatments can then be more objectively evaluated.

The sensors are small (1.25-by-1-by-.75 inches), weigh less than 1 ounce and are attached to the horse by a Velcro tab or cloth tape. If the horse's hair is long, a small spot on the pelvis will be shaved. The horse can be ridden or trotted in a straight line by a handler. No treadmill is needed. Analysis is complete in minutes. We use this system on an outpatient basis only at the MU Veterinary Medical Teaching Hospital. Our goal is to offer the analysis through our ambulatory service. Consideration may be given if a group of horses is to be evaluated at one time.

The system has been valuable where the existence and location of lameness is difficult to determine or where improvement in lameness is not certain after a particular treatment regimen. The equations for the analysis are based upon the symmetric two-beat trot but they can be successfully adapted to the four-beat walk or to transitional gaits.