

Equine NEWS

COLLEGE OF VETERINARY MEDICINE | FALL 2004 | VOLUME 2, NUMBER 1

Against the Odds – Draft Horse and Foal Survive Severe Pregnancy Complications

Gracie the draft horse was just about due with her first foal in March when she began to display signs of colic, a painful abdominal condition. Her owners, the Loomis family of Moscow, Idaho, treated her with painkillers for several days, but to no avail. Worried she would foal any day, they decided to bring Gracie to the Washington State University Veterinary Teaching Hospital for treatment.

The WSU equine service provides intensive care for pregnant mares with or at high risk for problems. Ultrasound examinations, 24-hour-a-day monitoring, intensive foal care, and emergency Caesarean deliveries are some of the services available at the WSU veterinary hospital.

Colic in horses can be mild to potentially fatal depending on a number of conditions. Mild colic is not uncommon for mares in late pregnancy, but Gracie developed an unusually severe case.

"The fourth day here, her heart rate went above 100, she acted very painful, was breathing very hard, and the fetus was very distressed inside of her," said Dr. Chantal Rothschild, a veterinary medical resident of the WSU equine team. "This concerned us because both the foal and Gracie were very important to their owners."

CAESAREAN BIRTH, INDUCTION, OR SURGERY?

Because she was in such distress, Gracie's doctors made a tough decision to take her to surgery. While potentially life-saving for a mare, surgery can be life-threatening to her foal because of anesthesia complications. But the alternatives also carried significant risks.

"A lot of discussion went on among the clinicians and owners," Dr. Rothschild said. "The owners wanted us to consider performing a Caesarean section to pull the foal out because of the chance the fetus could be compressing her intestines and causing the colic."

But what many people frequently don't know, she went on to explain, is that many foals will not survive a Caesarean delivery, and there are significant complications and costs if they do. "Even if we do it just one day before the foal is ready to arrive naturally, our survival rate is not encouraging," Dr. Rothschild said. Caesarean deliveries are more appropriate in instances in which both the mare and foal will die if the procedure is not performed.

"Horses are a completely different species from all others...some parts of the fetal maturation process occurs only shortly before and during birth. When the foal is born without this process completed, severe complications can result, such as respiratory distress, lack of a suckling reflex, gastrointestinal malfunctions, and mental retardation," she said. "A large number of these foals will die, even if they receive intensive care, oxygen support, fluids, and have people sitting with them 24-hours-a-day."

WASHINGTON STATE
 UNIVERSITY

World Class. Face to Face.

Another alternative clients commonly request is to induce a mare before her due date, Dr. Rothschild said, which was also discussed in Gracie's case. "This can be a poor decision because a mare often only engages the foal into the correct birthing position a few hours before delivery, so induction can cause the fetus to end up backward or sideways when being born. This can cause a dystocia that could kill the mare and the foal, or result in severe complications," she said. "There are several events happening before a birth that you can't mimic with drugs."

In Gracie's case, surgery was performed and it was discovered that the fetus was crushing a portion of her intestine, but her surgeons were able to repair it. Now they had to make sure her abdominal incision would hold together until she was ready to deliver and throughout the labor process.

THE DELIVERY

Gracie gave birth a week after her surgery. "If we had induced her, the foal would have been very immature and likely not survived," Dr. Rothschild said. "But we were afraid her incision would tear before she foaled because she had a huge Percheron (draft horse) fetus in her abdomen putting pressure on the incision."

Because of that, Gracie's veterinarians decided to mechanically pull the foal when she started delivery so she would not have to use her abdominal muscles to push very hard. Gracie made it safely through the birth, but her foal, "Prince," was comatose.

"Prince was not breathing, he was purple and basically did not have any corneal reflex," Dr. Rothschild said. The equine team immediately began work to resuscitate him by removing fluid from his lungs, forcing respiration through the use of oxygen and pushing on his chest, stimulating him by rubbing and pinching his skin to mimic a mother's nibbles, and administering some drugs. After 10 minutes, Prince took breaths on his own, but he still had a long way to go.

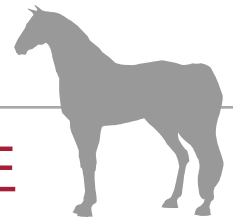
continued on inside



Prince and Gracie take a stroll around the VTH round pen

IN THIS ISSUE

- Medication Administration
- Meet Our Interns
- Horse Conference and Expo
- WSU Day at the Races
- WSU Horse Van Service



First Aid Tip – Medication Administration

Sometimes horses need medical attention, whether the situation is a medical emergency or not. In emergencies, call your veterinarian and be prepared to provide detailed information about your horse's problems and discuss a plan on how best to deal with it. In any medical situation, you should keep your horse calm, observe the horse's behavior, and move him or her to a safe location. If you know how, take the horse's vital signs, such as temperature, heart rate and breaths per minute. That information is generally very useful for your veterinarian. If a wound is discovered, evaluate the severity and be prepared to describe it accurately.

"Listen to and follow your veterinarian's advice and do not administer any drugs unless specifically instructed to do so," said Dr. Tamara Swor, a clinical instructor of equine surgery and head of emergency services at WSU. "You may need to wait for your veterinarian to arrive to assist you."

Having a first-aid kit on hand is also a good idea. For tips on creating a first-aid kit and the essential materials that should be included in one, check the Summer 2004 Equine News edition online at the WSU College of Veterinary Medicine Web site (www.vetmed.wsu.edu).

If the horse's problem is not an emergency, consult your veterinarian about prescriptions and materials you may need to treat your horse. Common problems include mild lameness, stiffness after exercise, degenerative joint disease, hives, small amounts of nasal discharge, low fever, and many others. "It is important to consult your veterinarian, as some of these problems may be more serious than they appear, or may progress to a more severe and costly problem," Dr. Swor said.

Medications can be administered a number of ways, including **orally**, through **intramuscular** injection, or through **intravenous injection**. Before administering any medication, be sure to follow your veterinarian's recommendations on which one to use and how, and use only those administration methods you feel comfortable with and qualified to use.

Oral medications include **pastes, tablets, and liquids**. Common oral medications include anti-inflammatories and antibiotics. If the oral medication is liquid, it usually can be mixed with a small amount of grain and fed to the horse. Likewise, if it comes in tablet form, consider crushing and mixing the medication with a small amount of corn syrup or molasses, and then stir it with feed. Some oral medications can also be administered through a syringe into the mouth, or through a paste tube. If this is the case, restrain your horse's head, gently place the syringe in the corner of your horse's mouth on top of the tongue, and inject slowly making sure he or she swallows.

If you accidentally administer too much oral medication, contact your veterinarian immediately. "Depending on what medication you are administering, it may require immediate veterinary treatment, or just that you keep a close watch on your horse or decrease that amount of medication given for the following dose," Dr. Swor said.

Intramuscular medications include **antibiotics, sedatives, and anti-inflammatories**, and should be administered only on the recommendation of your veterinarian. To administer intramuscular medication, get specific instructions from your veterinarian. Be sure you know where to properly administer the drug in the horse, such as the neck or hindquarter. Intramuscular medications involve the use of a syringe and needle, so sterility and safety is vital. Use a new syringe and needle for each injection, and clean the skin around the site prior to the injection.

Injections may cause an adverse reaction in a horse, so individuals using a needle and syringe must take care for their safety, anyone assisting them, and the horse. Once the needle is properly placed in the muscle of the injection site, pull back on the syringe to make sure blood does not flow back into the syringe. This ensures the drug is not injected into the bloodstream. If no blood is seen, inject the medication.

If a large volume of medication (more than 10-15 cc) is needed



Senior veterinary student Heather Patterson administering an intramuscular injection into a horse's neck.

at one time, more than one injection site may be needed for better absorption. Injection sites should be changed each time so the horse does not get too sore in one area and to reduce the risk of an injection site infection.

"If your horse gets sore or swollen at an injection site, call your veterinarian immediately as a local infection may need immediate veterinary treatment," Dr. Swor said. "You should also call immediately if your horse shows signs of agitation, shivering, shaking, or abnormal behavior following your injection. Such signs may indicate an adverse drug reaction."

Intravenous medications also include **antibiotics, sedatives, and anti-inflammatories**. Administering medications this way requires specific skills and are associated with considerable risks for injury to the horse if performed improperly. Horsemen should receive specific instructions from their veterinarian on how to administer an intravenous injection. Most intravenous medications are injected into the jugular vein. Again sterility is vital in this case, and a new syringe and needle must be used for each injection. A good site preparation technique should be used, which your veterinarian can demonstrate.

To inject an intravenous drug, insert the needle into the horse's vein, and observe dark-colored venous blood running from the needle. Attach the syringe and pull back on it to make sure blood does flow back into the needle. Inject the drug carefully and slowly to ensure all drugs are injected into the vein. "Drugs injected outside the vein in this case can cause severe problems, including infection and tissue loss in that area," Dr. Swor said. "If this happens, call your veterinarian immediately so that he or she can treat the area locally. You may have to place hot compresses on the area and monitor swelling for several days."

The internal carotid artery that lies beneath the jugular vein must also be avoided when applying an injection. "An injection into an artery rather than the vein will make the horse extremely agitated and is often a life threatening complication because the drug travels to the brain, instead of diluting in the venous blood and then circulating through the body," she said. Intra-arterial injections can cause horses to collapse and exhibit seizures, or rear over backwards.

Owners can medicate their horses, but proper selection of medication and administration should be done with a veterinarian's help. Most drugs require a prescription, and clients are best served by obtaining medication from their veterinarian directly so that they can receive appropriate education regarding the proper use and precautions for each medication they need to give their horse. 🏠

For more information about medication administration, contact your local veterinarian or the WSU Veterinary Teaching Hospital at 509-335-0711.

WSU Day at the Races...

Join us for the **WSU Day at the Races** at Emerald Downs Racetrack in Auburn, Washington, on **Sunday, September 12, 2004, from 1 to 5 p.m.** This follows a day of Cougar football when WSU takes on Colorado at Qwest Field in Seattle on Saturday, September 11.

On Sunday, come watch the races and support our Equine Team by presenting a "WSU Day at the Races" voucher at the gate. The voucher allows a portion of your ticket cost to go to the equine program at the WSU College of Veterinary Medicine. It can be found online at the College's Web site at www.vetmed.wsu.edu/pets.

Once inside, visit the Track Level of the grandstands to check out our exhibits and visit with WSU veterinary students who may be your future veterinarians! Races will be run every 25 minutes, including one dedicated to WSU's Equine Program. Come join in the fun! ☺

For more information, contact Christina Rockett at 509-335-7070 or crockett@vetmed.wsu.edu.

continued from front

"He was not responsive, even though he was breathing and had a heart rate. He would not move his head, did not have a suckle response and just laid there," Dr. Rothschild said. "So we had a whole unit made for him with a bed and oxygen, heating pads, blankets, and we had veterinary students sitting with him all night. We also put a feeding tube into his stomach and fed him milk every hour that way for several days."

Prince's condition was caused by a complication called hypoxic ischemic encephalopathy, in which there is poor oxygen diffusion into the uterus because the mare is sick or toxic, Dr. Rothschild said. "For the foal, it is similar to low-grade asphyxiation for a period of time. The lack of oxygen to the brain affects the foal's nervous system, and the foal can become mentally impaired."

Though Gracie's veterinarians anticipated this reaction and put her on oxygen to reduce the effect before she delivered, Prince was still severely affected.

But after two days, Prince was able to stand with help for the first time. After two weeks, he also walked on his own, drank from a bucket, and eventually nursed on his mother thanks to the intense care and physical therapy he received from Dr. Rothschild and the WSU equine team.

"It can take a week or two, but most foals with this condition will regain all their normal abilities, as Prince seemed to," she said. "Prince was also very special...he was very sweet, friendly, and loved to play. He would follow and chase us around, even if we ran, and he would gently grab our hair or clothes with his mouth to pull us back. Everybody got attached to him even more than we usually do. We were so happy to see him make it, but we were also sad when he went home." ☺

For more information about WSU's high-risk mare and foal care services, contact the veterinary hospital at 509-335-0711.



Dr. Rothschild (middle) and fourth-year veterinary students Elizabeth Babbitts (l) and Christopher Robinson (r) were heavily involved in the all-out effort to save Prince and Gracie.

Meet Our Interns...

If you bring your horse to the WSU Veterinary Teaching Hospital, you will likely have the opportunity to meet one of our two outstanding interns in equine medicine and surgery. Our interns are graduate veterinarians who are gaining advanced training in equine medicine and surgery for one year under the mentoring guidance of our faculty's senior clinicians. Clinical internships in equine medicine and surgery are offered at select universities and private practices across the United States and Canada and, as such, are highly competitive. Our WSU equine interns are chosen for their outstanding skills, abilities, and knowledge. They are involved in nearly every case that comes through our doors and are crucial to the hospital's operation.

Dr. Matthew Barber – Dr. Barber graduated with his DVM



degree from Michigan State University in May 2004, and earned his undergraduate degree in biology from Niagara University in New York in 2000. His major area of interest is in large animal internal medicine.

Dr. Barber grew up in Niagara Falls, New York with limited exposure to horses. But during veterinary college, he developed a great interest in equine medicine and gained a lot of hands-on experience with horses through volunteer work in the MSU equine clinic. His clinical rotations there also gave him exposure to many aspects of veterinary medicine, but he says his interests always gravitated toward equine medicine. "I cannot imagine doing anything else at this time," he says.

Dr. Barber views his internship at WSU as a way to sharpen his skills and experiences with horses before entering into a private equine practice. "Not only will I be seeing and doing, but I also will be helping to teach veterinary students, and therefore will develop a great knowledge base and understanding of various diseases, management and treatments," he said.

Dr. Macarena Sanz – Dr. Sanz earned her DVM degree from the



National University of La Plata in Buenos Aires, Argentina in 2000. She has a wide variety of clinical experience that includes an internship in 2001 on Haras La Madrugada, one of Argentina's largest thoroughbred farms. Dr. Sanz also served as an extern in equine medicine, surgery, and theriogenology at North Carolina State University in 2003, and worked as a field veterinarian at a large swine operation in North Carolina before coming to WSU this year.

Dr. Sanz' primary interest at WSU is in equine internal medicine. "I look forward to the unique experience of working in an academic environment, with cutting edge technology and novel therapeutics," she says about her internship at WSU. After her internship, Dr. Sanz plans to obtain a residency position in equine medicine and become a board certified specialist. From there, she would like to secure a university faculty position that encompasses research, teaching, and clinical work. ☺

Would you like to know more about our equine clinical services, research, accomplishments, or just get directions to the college?

Please check out our equine Web site at www.vetmed.wsu.edu/depts-equine or the WSU Veterinary Teaching Hospital Web site at www.vetmed.wsu.edu/depts-vth/equineServices.asp

Also feel free to call 509-335-0718 for **equine appointments** or 509-335-0711 for **emergency care**.



Hitch Up to the "Horse Van"

For more than 30 years, the WSU Veterinary Teaching Hospital has offered an **equine transport service** for horse owners on the west side of Washington. For \$150 each way, WSU van driver **Rick Fredrickson** picks up horses at **Emerald Downs Racetrack** and **Donida Farms** in Auburn, **Homestretch Farms** in Edgewood, and **Yakima Meadows** in Yakima, and transports them to and from the veterinary teaching hospital in Pullman.

"Horse owners just love it," say Fredrickson, who has been a driver and equine staff member at the college for 21 years. "Usually, the van is full with 5 horses both ways and we run it about every other week, but if the need is great, we will run it once a week."

Because of the service, horse owners do not have to take time off work or from a busy schedule to get their horses advanced veterinary care, says Dr. Richard DeBowes, equine surgeon and Chair of the Veterinary Clinical Sciences Department at WSU. "Another benefit is that owners get to deal with Rick Fredrickson," he said. "Rick is very good with horses and enjoys meeting and working with the owners... the horses are in really good hands."

Fredrickson admits that he loves driving the van. "I have been around horses all my life and rope and drive draft horses myself," he said. "The job is fun and it's nice to get a change in scenery and meet new people."

A new feature coming soon includes the replacement of the old trailer with a new six-horse trailer that features a stallion and mare/foal stall in it. "I really think the service will grow because it is such a convenient thing for people on the west side of the state. I make the trips year round...rain, snow, or shine." 🐾

For more information about the van service, referrals, or directions to the pick-up points, contact **Lynette Kinzer** at the Large Animal Appointment Desk at **509-335-0718** from 8 a.m. to 5 p.m., Monday through Friday.

The main pick-up point for horses west of the Cascade Mountains is at Donida Farms. Directions are posted on the WSU Equine website at www.vetmed.wsu.edu/depts-equine/directions.asp.



Rick Fredrickson loads a horse for the ride home

Join us for the 2004 Annual Horse Conference and Expo!

Everyone is invited to enjoy a day of fun and learn about important equine health issues at the WSU College of Veterinary Medicine's Second Annual Horse Conference and Expo on **Saturday, September 25**, in Pullman, Washington.

An **exhibition hall** and a variety of **lectures, demonstrations, and tours** will be held at the WSU Veterinary Teaching Hospital throughout the day from **7:30 a.m. to 5 p.m.** for the general public. There will also be a **judging contest** for 4-H and FFA judging teams and individuals.

The lectures will include topics such as **recognizing lameness in horses, training methods, general breed characteristics of different horses, equine dentistry, and a discussion of a disease called Herda and selected genetic diseases of horses.** There will also be a special presentation by accountant Marie Shepard, who will discuss **horse businesses and tax issues.** The seminar will cover basic tax and business issues facing owners or prospective owners of a horse business, such as depreciation rules, best practices, and nine factors that determine whether the IRS considers a business a hobby, business, or passive activity.

The judging contest involves youth judging teams and individuals who will evaluate several horses that have first been evaluated by an adult judge. Once the judging forms are turned in, the top three teams and individuals will be selected. An award will be given to each member of the winning teams and individuals.

The day begins at 7:30 a.m. with registration and opening of the expo hall. Lectures begin at 8:30 a.m. and will be held nearly every hour until 2:45 p.m. Tours of the WSU Veterinary Teaching Hospital will continue throughout the morning and afternoon. The judging contest will begin at 3 p.m. behind the hospital, and conclude with the judging results and awards presentation by 5 p.m. The **expo hall**, featuring equine products and information, WSU veterinary student clubs, and food and coffee, will also be open until 5 p.m.

"From equipment and horse tips to equine health-related presentations by our veterinary faculty and health care team, this program has it all," said **Dr. Richard DeBowes**, chair of WSU's Veterinary Clinical Sciences. "We hope many people will come to enjoy it and bring their families too." 🐾

Registration includes a \$5 fee per person that can be pre-paid before the event or at the door the day of the event. To register or obtain complete details about the conference, contact Christina Rockett at 509-335-7070 or crockett@vetmed.wsu.edu. A printable schedule and registration form is also online at www.vetmed.wsu.edu/pets/classes.asp.

WSU EQUINE TRANSPORTATION SERVICE

When: Every other week

Where: Emerald Downs Racetrack, Donida Farms, Homestretch Farms, Yakima Meadows

Contact: Lynette – 509-335-0718