Comstock EQUINE HOSPITAL

Fall Client Seminar: Emergency Preparedness

Tuesday October 18th at 6pm

Pinocchio's Reno (5995 S Virginia St)

Join us for informative lectures on being prepared in a veterinary emergency. We will be discussing topics such as when to call your veterinarian and rendering proper first aid. Platinum Performance will also present information on colic surgery coverage plans available. Dinner will be provided. Please RSVP by Friday October 14 to office@comstockequine.com.

Welcome Dr. Brittany Leavitt and Dr. Sam Terenzi

Dr. Leavitt is a native of Ferndale, California. She received her Doctorate of Veterinary Medicine from Kansas State University College of Veterinary Medicine. Dr. Leavitt is joining us for a year long equine medicine and surgery internship. Her professional interests include lameness, emergency medicine, and neonatology. In her free time, Dr. Leavitt enjoys hiking, horseback riding, fishing, backpacking, and spending time in the outdoors with her four dogs Gus, Kam, June, and Dave. Welcome Dr. Leavitt!

Dr. Terenzi is a native of Long Island, New York. She received her Doctorate of Veterinary Medicine from University of Georgia College of Veterinary Medicine. Dr. Terenzi is joining us a year long equine medicine and surgery internship. Her professional interests include emergency medicine, lameness, surgery, and small ruminant medicine. In her free time, Dr. Terenzi enjoys riding her horse Lofty, hiking with her two dogs Maverick and Goose, skiing, snowboarding, and baking. Welcome Dr. Terenzi!

Traumatic Brain Injury: A Case Retrospective

Brittany Leavitt , DVM

How often do we consider that our equines may be suffering from a traumatic brain injury (TBI) after an injury to the head? Our interns recently dove deeper into learning about traumatic brain injuries in horses after evaluating and managing a TBI following a trailer incident.

The significance of a traumatic brain injury lies in the effects of increasing intracranial pressure. The brain is contained within the bony calvarium, the skull. While the skull is vital for protecting the brain, its inability to expand with brain swelling and/or increased fluid around the brain results in increased intracranial pressure.

Appropriate intracranial pressure is vital in regulating cerebral blood flow and metabolism. Traumatic brain injuries lead to dysregulation of intracranial pressure, resulting in degradation and necrotic cell death within the brain. It is vital as an equine veterinarian to evaluate the clinical signs of a traumatic brain injury and quickly implement appropriate treatment measures.

There is a large amount of research available about traumatic brain injuries in human medicine but currently limited in equine medicine. Through research, we know that management of traumatic brain injuries primarily focuses on decreasing intracranial pressure and thus decreasing the negative effects on the brain.

In our most recent TBI case, we focused on lowering intracranial pressure using hypertonic saline, head elevation, anti-inflammatories, and analgesia (pain management). Hypertonic saline is unable to pass through the blood-brain-barrier. It therefore remains in the systemic vasculature, creating an osmotic gradient for fluid to flow from around the brain and into systemic venous circulation. As far as maintaining head elevation, we had to get a little creative. Luckily, in this case, the patient maintained an appetite and ability to eat. By hanging hay nets above head level in the stall, we were able to keep the head appropriately elevated.

The gold standard for direct intracranial pressure measuring in horses involves placing a transducer through the skull and maintaining it in the fluid between the brain and the bony calvarium. However, for many reasons, this method of monitoring is currently limited to research. Instead, veterinarians must turn to non-invasive measures to evaluate the severity of traumatic brain injuries. The Modified Glasgow Coma Score was adapted and modified from human medicine to grade TBI injuries in canine patients. The current scale used in dogs has been extrapolated for use in horses to guide equine veterinarians when determining the prognosis of their patients. Our patient remained standing but showed clinical signs including times of alerted alertness, abnormal, exaggerated limb movement, and dilated pupils that did not constrict with light stimulation.

At this time, prognosis for traumatic brain injuries is best determined by response to treatment. While hospitalized, our patient responded slowly but consistently to treatment. His motor activity, alertness, and pupil dilation all continued to improve, and he was discharged after resolution of clinical signs. We are happy to conclude that through the diligent work of Dr. Bramski, Dr. Lau, Dr. Leavitt, Dr. Terenzi, and our dedicated team of technicians and assistants, our TBI patient returned home to continue rehabilitation with plenty of love and treats from his family.

The Seriousness of Strangles

Hannah R. Leventhal, DVM, MS

Strangles, a disease caused by the bacterial organism Streptococcus equi equi, has affected horses for centuries. Strangles is always a concern for our equine patients due to its highly infectious nature, most commonly causing upper respiratory disease. Strangles can become a costly disease very quickly and can be fatal. Strangles is not limited to any one geographical region and is instead a worldwide concern. With the diverse equine population in Nevada, especially the wild mustangs that roam and interact with our domesticated horses, our environment and geography allows for the possibility of our horses interacting with affected horses unknowingly.

The most common clinical signs include lethargy, acute fever, and the formation of abscesses within the submandibular lymph nodes under the jaw and the retropharyngeal lymph nodes of the neck. Nasal discharge may or may not be present and some horses will develop a cough. Horses of any age can be affected, from foals to our geriatric horses, and none are excluded from the possibility of clinical or sub-clinical disease. The abscesses that develop within the lymph nodes will usually rupture between 7-28 days after the horse is infected. Initially the affected lymph node will be warm to the touch and may have discharge. This discharge can erupt through the skin or into the airway or guttural pouch, which may then lead to nasal discharge. Any discharge, whether nasal or from a ruptured abscessed lymph node, is contagious and is a vector for infection to other horses. The disease is known as "strangles" because the formation of lymph node abscesses can cause obstruction of the upper airway and respiratory tract, thereby causing the affected horse respiratory distress. This obstruction can be severe enough to require a temporary tracheostomy to allow a patent airway. Strangles can also cause abscesses within other lymph nodes in the body, including the abdomen, mammary gland, brain, and lungs.

Traumatic Brain Injury - CHART

Modified Glasgow Coma Scale		
		SCORE
Motor Activity	Normal gait, normal spinal reflexes	6
	Hemiparensis, tetraparesis, or decerebrate rigidity	5
	Recumbent, intermittent extensor rigidity	4
	Recumbent, constant extensor rigidity	3
	Recumbent, constant extensor rigidity with opisthotonus	2
	Recumbent, hypotonia of muscles, depressed or absent spinal reflexes	1
Brainstem Reflexes	Normal PLR and oculocephalic reflexes	6
	Slow PLR and normal to reduced oculocephalic reflexes	5
	Bilateral unresponsive miosis with normal to reduced oculocephalic reflexes	4
	Pinpoint pupils with reduced to absent oculocephalic reflexes	3
	Unilateral, unresponsive mydriasis with reduced to absent oculocephalic reflexes	2
	Bilateral, unresponsive mydriasis with reduced to absent oculocephalic reflexes	1
Level of Consciousness	Occasional periods of alertness and responsive to environment	6
	Depression or delirium, capable of responding but response may be inappropriate	5
	Semicomatose, responsive to visual stimuli	4
	Semicomatose, responsive to auditory stimuli	3
	Semicomatose, responsive only to repeated noxious stimuli	2
	Comatose, unresponsive to repeated noxious stimuli	1
MCGS Score		SCORE
	3-8	grave
	9-14	guarded
	15-18	good

... The Seriousness of Strangles, continued

Streptoccocus equi equi causes infection in our horses by entering the mouth or nose and then attaching to the crypt cells within the lingual and palatine tonsils. Shedding of the bacteria can occur as quickly as 2-3 days after the affected horse develops a fever, and this shedding can continue for 2-3 weeks or more. Not all horses exhibit clinical signs of infection. If a clinical case is NOT treated with antibiotics, up to 75% of cases will develop long term immunity. Transmission can occur via direct (nose to nose) or indirect (horse touching an object that has discharge and bacteria on it) transmission. Importantly, transmission of bacteria from seemingly normal horses is a common occurrence, and this is the reason it is so important to quarantine new arrivals to a property. The bacteria prefers water to other substrates and can live in water for 4-6 weeks but lives on fencing and soil for as few as 1-3 days.

Depending on the clinical signs, there are different ways that we can test our horses for shedding of this organism. Titers for a certain protein can be tested via a blood test in order to determine if a horse has been recently exposed to the bacterium. Culture can be performed on swabs from the nasal passages, draining abscess or lymph node aspirate. Endoscopy, whereby we pass a video endoscope into the guttural pouches, allows us to determine if the guttural pouches contain any chondroids (small "rocks" of inspissated pus that harbors the bacteria) or purulent material that contains the bacteria itself. Chondroids can reside in the guttural pouches for years and become the gift that keeps giving by shedding bacteria in the environment at any time. If a horse is clinically affected based upon blood work, behavior changes, fever, etc., we may elect to supportively treat the horse with antibiotics.

At Comstock Equine Hospital, we are happy to evaluate and test your horse any time you may have concerns. We do advise quarantining new arrivals into your herd for two weeks in order to help prevent possible Strangles outbreaks.

YOUR HORSE NEEDS A DENTAL EXAM EVERY YEAR!

Dentistry Pricing

$215

We are offering our dentistry prices at $215 plus sedatives. Sheath cleanings may be added for the discounted price of $55.

$165

We are continuing the Dental Health Maintenance Plan. Any horse that has dentistry performed annually will receive the discounted price of $165 plus sedatives. This plan is ideal for horses that require more frequent dentistry.

To best service our clients, all of our doctors have received extensive training and continuing education opportunities in the field of equine dentistry.

The discounted price includes:

- **Sedation Examination**
- **Full Mouth Speculum Examination**
- **Dental Equilibration** *(performed with hand & power tools)*

FALL VACCINE CLINIC SCHEDULE

Area	Day	Date
Washoe Valley 1	Tues	6-Sep
Washoe Valley 2	Sat	10-Sep
Washoe Valley 3	Thurs	22-Sep
Washoe Valley 4	Wed	12-Oct
SW Reno 1	Thurs	18-Sep
SW Reno 2	Sat	17-Sep
SW Reno 3	Wed	28-Sep
SW Reno 4	Tues	11-Oct
Mt. Rose/Pleasant Valley 1	Wed	14-Sep
Mt. Rose/Pleasant Valley 2	Sat	8-Oct
Lemmon/Antelope Valley 1	Sat	24-Sep
Lemmon/Antelope Valley 2	Tues	27-Sep
Lemmon/Antelope Valley 3	Wed	5-Oct
Spanish Springs 1	Tues	27-Sep
Spanish Springs 2	Sat	1-Oct
Spanish Springs 3	Thurs	20-Oct
North Valleys 1	Tues	13-Sep
North Valleys 2	Thurs	6-Oct
Golden/Sun Valley 1	Thurs	8-Sep
Golden/Sun Valley 2	Tues	4-Oct
Carson/Dayton 1	Thurs	15-Sep
Carson/Dayton 2	Tues	18-Oct
Toll Rd/VC Highlands 1	Thurs	15-Sep
Toll Rd/VC Highlands 2	Thurs	13-Oct
West Reno/Verdi-Mogul 1	Wed	28-Sep
Palomino Valley 1	Mon	19-Sep
Stagecoach/Silver Springs 1	Fri	7-Oct

FALL CLINIC PRICING

Farm Call	34
Physical/Wellness Exam	34
Flu/Rhino	46
Rabies	28
Strangles	53
Deworm	29-34
Deworm (Foal/Mini)	20-28
Fecal Exam	40
Clean Sheath	55
Sedation - Starts At	70
Coggins	48
Health Certificate (First 2 Horses)	64
Health Certificate Additional Horse	22

Prices of dewormers vary depending on what deworming strategy your horse requires. A 10% discount will be applied to owners with 5 or more horses, and the farm call fee will be waived. Not applicable with any other discount.

Manufacturer's Immunization Support Guarantee: The vaccine company will pay for diagnostic & treatment costs up to $5000 for your horse if he or she has been vaccinated by one of our doctors and becomes infected by West Nile, Influenza, Tetanus, Eastern Equine Encephalitis and/or Western Equine Encephalitis within 1 year of vaccination. This guarantee excludes Strangles & Rhino virus.

COMSTOCK EQUINE HOSPITAL

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Health Chronicle

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