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EQUINE HOSPITAL

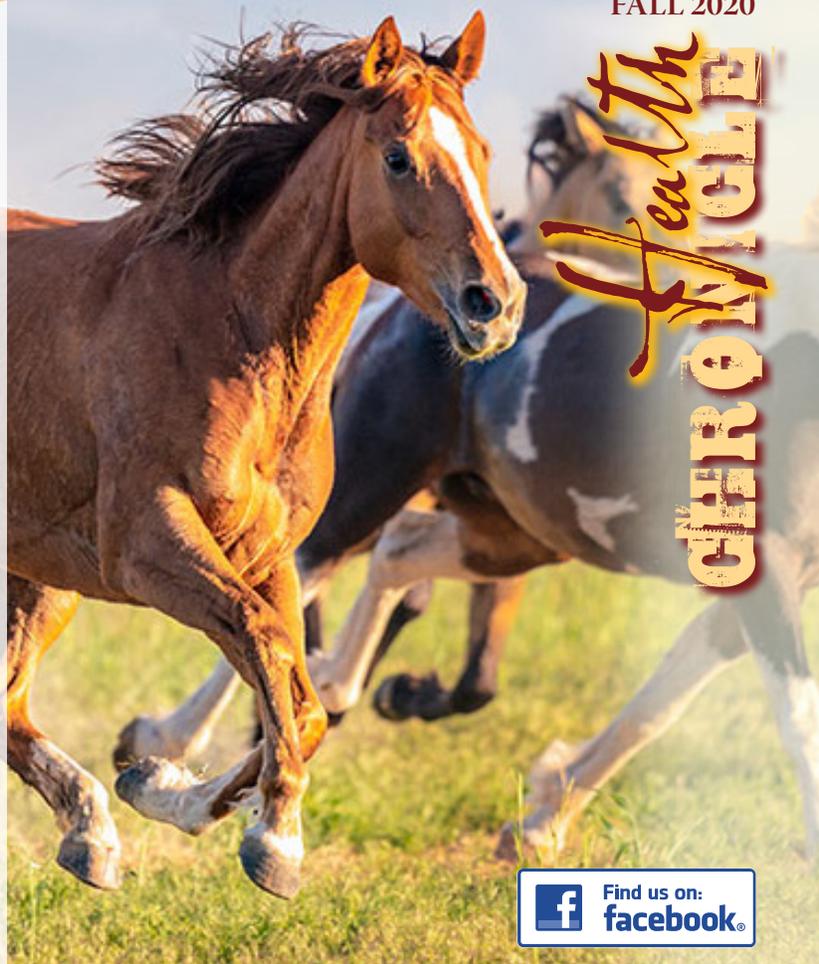
*Welcome Dr. Molly Lesser,
Dr. Elizabeth Hanrahan,
and Dr. Josie Walker!*

Dr. Molly Lesser is a native of Half Moon Bay, California and grew up as a rodeo kid competing in roping through college. She received her Doctorate of Veterinary Medicine from Colorado State University School of Veterinary Medicine. She completed a year long equine medicine and surgery internship at McKinlay & Peters Equine Hospital in Newman Lake, Washington. Dr. Lesser's professional interests include lameness, imaging, and internal medicine. In her free time, Dr. Lesser runs ultras, competes in triathlons, and hikes with her Sheltie Roxy.
Welcome, Dr. Lesser!

Dr. Elizabeth Hanrahan is a native of Laguna Hills, California. She received her Doctorate of Veterinary Medicine from the University of Minnesota School of Veterinary Medicine. She completed a year long equine medicine and surgery internship at Anoka Equine Veterinary Services in Elk River, Minnesota.

Dr. Elizabeth Hanrahan's professional interests are general practice, internal medicine, lameness and dentistry. In her free time, she enjoys hiking with her dog Muir, backpacking, cooking, reading and trying new restaurants and breweries.
Welcome, Dr. Hanrahan!

Dr. Josie Walker is a native of Bonanza, Oregon. She received her Doctorate of Veterinary Medicine from Oregon State



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University College of Veterinary Medicine. She joins us for a year long equine medicine and surgery internship. Her professional interests include internal medicine, neonatology, and ruminant medicine. In her free time, Dr. Walker enjoys riding, hiking, hunting, fishing, and being in the great outdoors. Dr. Walker is moving to Reno with her husband Nolan and their two shepherd mixes Bear and Boomer.
Welcome, Dr. Walker!



Regenerative Therapies for Joint & Musculoskeletal Injuries

Molly Lesser DVM

Cartilage and soft tissue injury occur commonly in equine athletes and over time can lead to post-traumatic osteoarthritis (PTOA) and debilitating tendon & ligament injuries. While intra-articular corticosteroids have served as the traditional therapy for managing lameness resulting from joint pain, additional modalities have demonstrated efficacy for achieving the same effect but by utilizing the body's own protective mechanisms to minimize inflammation. The following provides a review of current regenerative therapies for treating joint disease or soft tissue injury.

PRP (Platelet Rich Plasma) is known for its richness of growth factors that aid in tissue repair and regeneration. This therapeutic is produced through centrifuging or filtering your horse's blood using specialized kits. This final product (PRP) can then be injected into the injured tissue to achieve a high concentration of healing factors. While this has been experimentally used in joints, the majority of published studies have been performed in soft tissue injuries.

IRAP (Interleukin 1 Receptor Antagonist Protein) is an endogenous protein that is naturally produced by immune cells. Its function serves to counteract the effect of inflammatory cytokines, effectively reducing cartilage destruction caused by inflammation. This process involves overnight incubation of your horse's blood to maximize production of the IRAP product. Once processed, the IRAP can be frozen and stored for future treatments. Typically this is then administered through intra-articular injections every 7-10 days for a total of 3-5 treatments.

Pro-Stride/APS (Autologous Protein Solution) provides a stall side option that can be drawn, processed and injected into joints within a 30-minute procedure, negating the need for an incubation period and repeat visits. This modality utilizes a two-step centrifugation technique to concentrate

platelets, growth factors and anti-inflammatory cytokines, capitalizing on similar mechanisms as IRAP & PRP. Multiple studies performed in both humans and horses have demonstrated efficacy in this product's ability to reduce inflammation and protect articular cartilage, thereby reducing lameness and mitigating progression of osteoarthritic changes.

Mesenchymal Stem Cells (MSCs) can be derived from adipose (fat cells) or from bone marrow, the latter is largely accepted as being superior in their capacity to heal and regenerate. There are multiple mechanisms believed to contribute to the regenerative and protective capacity of MSCs, including directly promoting cell survival, secreting growth factors and anti-inflammatory cytokines. Collectively, these properties serve to help repair damaged tissue (ex: bone, cartilage, tendons, ligaments) in a stronger and more organized fashion while dampening the harmful effects of inflammation. The process of obtaining stem cells involves drawing a sample from bone marrow (typically the tuber coxae of the hip or sternum), incubating & growing the cells, then injecting into the injured tissue or structure, which altogether typically takes multiple weeks from start to finish. For many injuries stem cells are considered the gold standard for regenerative therapy; although the downsides of cost and time delay are factors worth considering.

Deciding which therapeutic to pursue is chosen on an individual basis and involves first obtaining an accurate diagnosis, considering the duration of the injury, goals and horse's occupation, and the budget you're willing to spend. If you're interested in learning more about these modalities, please ask your veterinarian if any of these options are appropriate for your horse.



Sand Colic

Elizabeth L. Hanrahan DVM

Sand colic is just one of many types of colics that horses can experience and may need medical intervention to resolve. Horses that live in arid, sandy regions are more at risk. Sand can accumulate in the large colon causing irritation to the intestinal lining and can cause impactions of both sand and feed. Some horses appear to be more predisposed despite being in the same environment as less affected horses. It is unclear if this is due to different eating habits or individual differences in intestinal mobility.

Horses with sand colic can initially present as any other mild colic with the following signs: inappetance, flank watching, pawing, getting up and down, rolling and thrashing. These cases can sometimes present with a fever, diarrhea or passing large amounts of sand in their feces. If left untreated, symptoms may progress to more severe signs of colic.

Diagnosing a horse with sand colic usually involves a combination of history, clinical signs and physical examination. The history of the horse's environment and any previous episodes help determine if a horse is predisposed to sand colic. Physical examination, especially auscultation of the abdomen and ventral abdomen, will give your veterinarian a significant amount of information about the overall state of your horse's health and pain level. Manure, if present, can be floated in water to determine if the horse is passing sand. Other important diagnostics in a colic workup that will help rule out other types of colic include rectal exam, nasogastric intubation, and abdominal ultrasound. Abdominal radiographs (x-rays) can be very useful in seeing sand in the ventral abdomen and in helping determine the amount of sand present.

Treatment depends on the severity of the colic episode, the horse's systemic health and the horse's response to treatment. The mainstay of treatment for sand colic is oral fluids and laxatives to help the horse pass manure. A nasogastric tube will often be passed to facilitate hydration with water and electrolytes or Epsom salts to help break up any impactions caused by the sand. Once passing manure, treatment with a bulk laxative such as psyllium will be performed. Psyllium is thought to make the sand stick together and allow passage. Horses that don't respond to conservative treatment of nasogastric fluids may need to be placed on intravenous fluids to stay hydrated and increase the moisture content in the gastrointestinal tract in the area of the impaction. If clinical signs worsen or do not improve, surgical intervention is likely indicated.

For horses that live in areas that predispose them to sand colic, prevention is key! Feed horses on mats or in large containers that will prevent them from eating directly off the dirt or sand. Another important step is to avoid overgrazed pastures so that horses aren't pulling up grass and sandy roots or inadvertently ingesting sand as they graze. Feeding horses prior to turning them out can curb their hunger and prevent them from browsing and eating sand. Feeding psyllium products such as Sand Clear or Equi Aid pellets once a day for 7 days and then repeated every 4 weeks is a good preventative plan. Psyllium is found to be more effective when fed intermittently as opposed to continuously feeding daily. It is important to note that feeds such as bran and grain mashes, while good at keeping horses hydrated, are not substitutes for treatment with psyllium. Horses that continue to develop sand colic, despite preventative measures, might require a move to a less risky environment.

FALL VACCINE CLINIC SCHEDULE

Area	Day	Date
Washoe Valley 1	Tues	8 Sept
Washoe Valley 2	Sat	12 Sept
Washoe Valley 3	Wed	23 Sept
Washoe Valley 4	Thurs	1 Oct
SW Reno 1	Tues	15 Sept
SW Reno 2	Sat	19 Sept
SW Reno 3	Thurs	24 Sept
SW Reno 4	Wed	14 Oct
Mt. Rose/Pleasant Valley 1	Tues	15 Sept
Mt. Rose/Pleasant Valley 2	Sat	17 Oct
Mt. Rose/Pleasant Valley 3	Thurs	15 Oct
Lemmon/Antelope Valley 1	Thurs	17 Sept
Lemmon/Antelope Valley 2	Sat	3 Oct
Lemmon/Antelope Valley 3	Tues	6 Oct
Spanish Springs 1	Wed	9 Sept
Spanish Springs 2	Thurs	8 Oct
Spanish Springs 3	Sat	10 Oct
North Valleys 1	Thurs	10 Sept
North Valleys 2	Tues	29 Sept
Golden/Sun Valley 1	Wed	9 Sept
Golden/Sun Valley 2	Thurs	24 Sept
Carson/Dayton 1	Thurs	10 Sept
Carson/Dayton 2	Tues	22 Sept
Toll Rd/VC Highlands 1	Wed	16 Sept
Toll Rd/VC Highlands 2	Tues	29 Sept
West Reno/Verdi-Mogul 1	Thurs	17 Sept
West Reno/Verdi-Mogul 2	Wed	23 Sept
Palomino Valley 1	Mon	21 Sept
Carson Valley	Fri	11 Sept
Stagecoach/Silver Springs 1	Fri	18 Sept

FALL CLINIC PRICES	
Farm Call	22
Physical/Wellness Exam	22
Flu/Rhino	40
Rabies	23
Strangles	40
Deworm	17-24
Deworm (Foal/Mini)	14
Fecal Exam	23
Clean Sheath	40
Sedation- Starts At	45
Coggins	35
Health Certificate (First 2 Horses)	45
Health Certificate Additional Horse	15
6 Month Health Certificate (EECVI)	90

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. **



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EVERY YEAR!**

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We are offering our dentistry prices at \$175 plus sedatives. Sheath cleanings may be added for the discounted price of \$40.

\$175.00

We are continuing the Dental Health Maintenance Plan. Any horse that has dentistry performed annually will receive the discounted price of \$125 plus sedatives. This plan is ideal for horses that require more frequent dentistry.

\$125.00

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

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



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