

Treatments, Awareness Key

BY AMANDA DUCKWORTH

GASTRIC ULCERS ARE UNDOUBTEDLY a common problem when it comes to Thoroughbreds, but the science behind them also indicates the cause is usually man-made. Horses in the wild are far less likely to deal with gastric ulcers than their domesticated counterparts.

Changes in routine can contribute to gastric ulcers in horses

Equine Gastric Ulcer Syndrome (EGUS) affects up to 90% of racehorses and 60% of show horses, according to multiple studies. The gold standard for treating gastric ulcers is GastroGard, which was given Food and Drug Administration approval in 1999, and remains the only federally approved omeprazole treatment for horses.

Although there is a clear path to recovery—doing a gastroscopy to diagnose the problem and treating with omeprazole if one is discovered—being aware of environ-

mental factors can help reduce the risk of gastric ulcers in the first place.

A horse is designed to graze all day, which is the reason equines left to their own devices tend not to experience gastric ulcers. For horses routinely confined to stalls, making sure they have constant access to hay can combat the buildup of caustic hydrochloric acid secretion in their stomachs.

“The horse stomach continuously secretes variable amounts of hydrochloric acid throughout the day and night, and secretion of acid occurs without the presence of feed material,” said Dr. Frank M. Andrews in his paper “Equine Gastric Ulcer Syndrome” for the American Association of Equine Practitioners. “Foals secrete gastric acid as early as 2-days-of-age, and acidity of the gastric fluid is high. High acid in the stomach may predispose foals to EGUS. In adult horses, the stomach secretes approximately 1.5 liters of gastric juice hourly, and acid output ranges from 4 to 60 moles hydrochloric acid per hour. The pH of gastric contents ranges from 1.5 to 7.0, depending on region measured.”

Another leading factor when it comes to ulcers is stress. Much like with people, anxiety can cause horses to develop stomach ulcers. When it comes to active racehorses and those retired for breeding, their schedules are usually fairly well set. For recently retired horses going on to do another discipline, however, having owners who are aware of potential gastric issues can help both horse and human down the line.



ZOE METZ

As horses are designed to graze all day, constant access to feed when confined to stalls can prevent acid build-up

“There are two key catalysts at play when racehorses are transitioning to new careers, and they are a change in diet and a change in routine,” said Jen Roytz, the executive director of the Retired Racehorse Project. “Either of those factors can cause a horse to develop ulcers or can exacerbate the situation if they already have them.

“I think often we underestimate the stress put upon horses when they are transitioning away from the track. They are so routine-oriented by nature, and at the racetrack they have a very predictable routine. They are fed, groomed, ridden, etc. at the same time every day. Not only are we taking them away from what they know, but we’re giving them different feed and forage because their caloric needs are now significantly reduced and often turning them out with friends so they can let down and just be horses.”



A recently published veterinary study determined that gastrointestinal problems occur frequently when horses travel

While “just being a horse” is, of course, a good thing, recently retired horses might not understand what their new lives are about, leading to them going off their feed. This in turn is a key cause of gastrointestinal issues.

“Think about how stressful that would be for us as humans—being taken from

everyone and everything you know, being given food at unusual times that doesn’t taste the same, and after having been by yourself and not getting much interaction with others for months—if not years—being left in a group who all know each other well and are wary of newcomers and don’t necessarily speak

Pyranha

IT WORKS!
TRUSTED • PROVEN • POWERFUL

Pyranha
WIPER N' SPRAY
FOR HORSES

Pyranha
WIPER N' SPRAY
FOR HORSES

Pyranha
EQUINE SPRAY & WIPE
FOR HORSES

Pyranha
EQUINE SPRAY & WIPE
FOR HORSES

Pyranha
ZERO-BITE
FOR HORSES

Pyranha
INSECTICIDE
FOR HORSES

THE ULTIMATE PROTECTION COLLECTION

A NEW WAY TO SPRAY, CONTINUOUS AT ANY ANGLE!

Pyranha
YOUR TRUSTED LEADER
IN INSECT CONTROL

800.231.2966
www.pyranhainc.com

FAMILY OWNED & OPERATED
MADE IN USA

MESSAGE FROM THE GRAYSON-JOCKEY CLUB RESEARCH FOUNDATION

EQUINE GASTRIC ULCER SYNDROME IN FOALS

BY DR. BARRY DAVID

Grayson-Jockey Club
Research Foundation

The Grayson-Jockey Club Research Foundation has funded several research proposals that have provided a large body of information regarding the medical management, the nutritional management, and the prevention of equine gastric ulcer syndrome in adult performance horses. Gastric ulceration also remains a significant medical problem in foals of all ages.

Four syndromes have been recognized in foals with equine gastric ulcer syndrome: (1) silent ulcers, which occur most often in the non-glandular stomach and are considered an incidental finding, identified during gastroscopy or at necropsy; (2) active ulcers, where foals frequently present with clinical signs such as abdominal pain, poor condition, poor coat, and excessive salivation; (3) perforating ulcers, which typically result in a severe, diffuse, and fatal peritonitis; and (4) pyloric or duodenal stricture, where a physical blockage of the terminal stomach or small intestine develops in association with ulcer healing.

The clinical signs a foal demonstrates with gastric ulcers vary and some of the signs are similar to other disease processes that cause gastrointestinal tract or abdominal pain. A poor coat, a pot-bellied appearance, and a lack of growth are common signs in a foal with gastric ulceration. Other clinical signs associated with equine gastric ulcer syndrome in foals include anorexia (complete or partial), lying on its back, rolling, flank biting, hypersalivation, and teeth-grinding. Unfortunately, many foals with perforating ulcers do not show clinical signs of gastric ulceration until the ulcer perforates; then they demonstrate signs of septic shock (shaking, sweating, high heart rate). In cases of pyloric or duodenal stricture, the foal will continue to demonstrate signs of severe pain until the stomach is decompressed via passage of a nasogastric tube.

Gastric ulcers have been diagnosed in foals as young as two days old and can occur throughout a young horse's life. Studies have identified that approximately 21%-51% of the general population of foals have silent ulcers. The highest incidence of gastric ulceration in foals occurs in foals less than 10 days of age or when a foal of any age contracts a disease, particularly a disease that results in diarrhea and decreased gastrointestinal tract motility.

Gastroscopy is considered the gold standard for the diagnosis of gastric ulceration at this time. The shortcomings of this diagnostic modality are the inability to define accurately the depth of the ulcer and to determine the degree of damage to the various layers of the gastric tissues. Currently, there are no accepted blood tests to identify biomarkers in foals with gastric ulceration. But, recently, a blood sucrose absorption test was evaluated as a screening tool for the presence of gastric ulceration in adult horses. The test appears to identify horses that have gastric ulcers, but the test has a significant number of false positive results. This test has not been studied in neonates, foals, or weanlings.

The treatment for foals with gastric ulceration is similar to that of adult horses in most cases. The hallmark of therapy is gastric acid suppression. Omeprazole is the most popular and effective oral medication used to decrease gastric acid formation in a foal's stomach. An intravenous medication, pantoprazole, has been

studied in foals and is a viable alternative medication to suppress acid formation in the foal's stomach if the stomach is not emptying normally. Sucralfate is an oral medication that will coat ulcers, provide comfort, and possibly aid in healing by enhancing blood flow to the ulcer and protecting the damaged tissue from further acid-induced injury. Misoprostol is a synthetic hormone analogue that is administered orally and may be useful in promoting blood flow to ulcerated regions in any part of the gastrointestinal tract, to promote ulcer healing. At this time, bacterial infection is not considered a primary component of equine gastric ulcer syndrome; therefore, antibiotics are generally not recommended for treatment of gastric ulceration. If a foal has developed a stricture in the terminal portion of the stomach or in the duodenum, surgery is indicated to bypass the constricted area.

The inciting cause of equine gastric ulcer syndrome in foals is not well understood; therefore, making recommendations to prevent the formation of gastric ulcers in foals is difficult. The administration of sucralfate is a safe and effective way to prevent ulceration in foals that are at a higher risk of developing ulcers, but if ulcers are already present, sucralfate alone will not effect ulcer healing. The use of omeprazole will likely prevent ulcer formation and will facilitate ulcer healing. Unfortunately, studies have demonstrated that acid suppression also will make a foal more susceptible to other gastrointestinal tract diseases. Currently the most popular recommendation is to treat a foal that has been diagnosed (via gastroscopy) with gastric ulceration only with drugs that suppress gastric acid formation. **BH**

the same language as you,” said Roytz. “This situation can lead to horses’ being too anxious to eat, whether it is grazing in the pasture or eating in the stall. Since horses’ gastrointestinal systems are designed to digest food constantly, if they go prolonged periods of time without food moving through their system, that can trigger gastrointestinal upset.”

Of course, if a horse does not have ulcers, ideally one hopes to keep it that way. For horses going through a major transition—like from racehorse to show horse—working to provide them with what they need to maintain a healthy and happy stomach can save stress and money down the road.

“I think of offering gastric support and treating for ulcers as two different things,” said Roytz. “For any horse going through that transition I just described, I will offer gastric support by using a concentrated feed that’s high in fiber and lower in protein, typically top-dressed with oil. I also offer hay when they’re inside—a good alfalfa or alfalfa-timothy mix will be more palatable, which will keep food moving through their GI tract. I also add a GI support supplement and try to adapt them to turnout slowly.

“There are signs that will make me take it a step further and scope for, or simply treat for, ulcers. If they show extreme sensitivity around the belly/girth area when grooming or saddling; if they’re not wanting to move forward on the lunge or under saddle; if they kick out or otherwise negatively react to your leg under saddle; if they pin their ears or are just generally grouchy about grooming, being ridden or other human interaction; if their coat is dull or if they’re slow to eat; or don’t finish their grain (after they’ve had reasonable time to adjust to their new feed and schedule) but do not have a temperature to explain their lack of appetite, then I’ll typically treat for ulcers using omeprazole.”

A normal activity that has been an area of concern for both active and retired racehorses alike involves travel. Few things interrupt routine like travel, so veterinarians recently looked into the issue to see whether the long-held assumption that it could lead to ulcers would be backed by science. The study “Effects of transportation on gastric pH and gastric ulceration in mares,” published in the February 2020 issue of the *Journal of Veterinary Internal Medicine*, examined whether simply moving a horse could result in gastric issues.

“Gastric ulceration is the most common disease condition of the equine stomach and is associated with colic, decreased appetite, failure to thrive, and poor performance,” explained the study. “Horses travel frequently for performance, breeding, and other purposes. Transportation has been suggested



ANNE M. EBERHARDT

Jen Roytz

as a risk factor for gastric ulceration, and a recent survey of transport associated health problems indicates that gastrointestinal problems occur frequently in association with transportation of horses. Limited evidence currently is available regarding the effects of transportation on gastric ulceration or gastric pH.

“Transportation is associated with factors that may contribute to gastric ulceration such as physiologic stress responses (increased heart rate and serum cortisol concentrations), changes in feeding practices and water consumption, and changes in GI microbiota. Our study was conducted to determine the impact of 12 hours of transportation without food or water on gastric ulcer scores and gastric fluid (GF) pH in horses.

A secondary objective was to determine the effect of pre-transport feeding practices on these outcomes.”

In all, 26 Standardbred, Thoroughbred, and warmblood

QUILLIN
Leather & Tack

Sale Halters (from) \$34.95
Lead Shanks (from) \$29.95
Sale Catalog Covers \$89.95

Plus MORE Great Custom Made Leather Goods
Full Service Repair & Engraving - All In Our Paris Shop!

CALL OR DROP BY OUR MAIN STREET SHOP
VISIT & ORDER ONLINE AT QUILLIN.COM
SINCE 1982 ... KENTUCKY'S LARGEST CUSTOM SHOP
WE SHIP WORLD WIDE

1929 South Main Street • Paris, Kentucky • 40361
(859) 987-0215 • www.Quillin.Com • facebook.com/QuillinLeather

mares were used in the study, which was done in two parts. Before transport, 12 mares were confined for 12 hours, and gastric ulceration was assessed endoscopically both before and after. They were kept in reproductive stocks with indwelling nasogastric tubes (NGTs) to assess pH of gastric fluid (GF). Then, all 26 horses were transported for 12 hours.

“Part 1 was conducted as a preliminary observational study to assess the effect of overnight confinement, with-

higher for 15 horses post transport, and severe ulceration was evident in some of them. The severity of ulceration was inversely related to the amount of food in each horse’s stomach. Less feed equaled a higher severity of ulceration.

“Transportation was associated with increased gastric squamous ulcer scores, particularly in horses fasted for gastroscopy and NGT placement immediately before departure,” the study concluded. “Gastric emptying ap-

small intestinal reflux.”

Clearly, a horse suffering from ulcers is not going to perform at its best, and an unhappy equine—whether it is a race-horse, performance horse, or pleasure horse—that is dealing with ulcer issues will need to receive proper treatment.

“The physical benefits speak for themselves,” said Roytz. “Ulcer-free horses can readily digest their food better and absorb the nutrients and minerals, so their body condition and coat will look better, and their demeanor will likely be more amiable due to the simple fact that they feel better. Often, they also tend to be more relaxed and move more freely.

“Feeling better also puts them in a better frame of mind to learn. They’re easier to train, and I find they just have a more positive outlook. I can relate—I’m usually in a better mood and have a more positive outlook on life when my stomach doesn’t hurt. They also look better when they’re working or competing too—ears more forward, striding out, and just being happier to do what is being asked of them—rather than offering reactions or reasons they don’t want to because their stomach hurts.”

Frequently, simply paying attention to a horse’s behavior can alert owners to an issue lurking below the surface. If a horse becomes unwilling to do routine things, there is usually a reason.

“Every interaction we have with our horses is a conversation between them and us,” said Roytz. “Often, they are trying to tell us something, either actively with things like pinning ears, kicking or biting, or in a more subtle/subconscious way, like a dullness to their coat or fractiousness to their demeanor. Being in tune to these signs and not dismissing them can make a difference in catching and treating an issue—gastrointestinal or otherwise—when it’s minor rather than waiting until it becomes something more significant and more costly.” **BH**

Amanda Duckworth is a freelance writer based in Lexington.



ALEXANDER BARKHOFF

Feeding alfalfa can provide gastric support for horses

out feeding, on gastric pH and gastric ulcer scores in 12 mares,” according to the study. “Part 2 was conducted as an interventional study to determine the effect of overnight transportation on gastric pH and gastric ulcer scores in 26 mares. Feed management before transportation consisted of feeding <60 minutes before departure, feeding six hours before departure, and fasting for 12 hours for gastroscopy and nasogastric tube (NGT) placement immediately before departure for the 12 mares used in study part 1.”

Gastric ulceration was assessed endoscopically before and after transportation in all 26 horses. Results showed gastric squamous ulcer scores were

peared delayed after transportation in horses fed before departure.

“To our knowledge, our study is the first to unequivocally identify gastric ulceration associated with transportation of fasted horses, and therefore to support transportation as a risk factor for the development of equine squamous gastric disease. To our knowledge, rapid development (within 12 hours) of squamous ulceration has not been reported previously. The severity of changes, particularly in horses fasted before travel, suggests that horses should have access to feed until the time of departure, and potentially during transport, to limit contact between the squamous mucosa and gastric secretions or