

Gastric Ulcers – How do I know if my horse's stomach hurts?

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Gastric ulcers are a common problem that plague both humans and horses, and any of you that have had a stomach ulcer will fully sympathize with the burn in an affected horse's gut. The disease process is slightly different between humans and horses, due in part to the anatomic variation in the stomach lining that horses have. This article will briefly explain the gastric ulcer disease process in horses, the incidence of ulcers in various breeds and athletic types, how to diagnose ulcers, treatment recommendations and suggestions to minimize occurrence.

Equine gastric ulcer syndrome is broken into two different syndromes based on the location of the ulcer in the stomach; equine squamous gastric disease (ESGD) and equine glandular gastric disease (EGGD). The horse stomach is has an upper and a lower portion, each having a different type of lining (Figure 1). The upper portion is lined with the same lining that is in the esophagus. This is a tough, squamous cell lining that produces minimal secretions and is resistant to damage from contact with roughage. It has limited contact with stomach acid in the normal horse and develops ulcers when in excessive contact with acid. The lower portion of stomach wall has a soft, glandular lining. This region is in contact with digestive juices nearly continuously and produces most of the stomach secretions, including the HCl acid responsible for initial digestion of feed.

In the horse, equine squamous gastric disease is the considerably more common form of gastric ulceration and is also the form that is better understood both for pathophysiology and for treatment. They occur more commonly in training horses and in horses that have empty stomachs throughout the day. In both cases, increased exposure of the squamous portion of the stomach to acid precipitates ulcers. Equine glandular gastric disease is less common. Its causes are poorly understood and response to treatment is unpredictable.

Equine squamous gastric disease can be broken into two forms. Primary disease is seen with intensive feeding, environmental management and intense athletic performance but the gastrointestinal tract is otherwise normal. Secondary disease occurs due to underlying disease such as delayed gastric emptying (as one sees with an abnormally narrow exit to the stomach) or a stomach impaction. Primary ESGD is by far the more common syndrome with Thoroughbreds being most commonly affected. Studies have shown that nearly 37% of untrained Thoroughbreds have ESGD, and 80% or more develop ESGD within 2-3 months of entering race training. Incidence in Standardbred race horses is similar. By contrast, 17-58% of show horses have ESGD and 66% or more of endurance horses are affected with incidence increasing in more elite horses. Interestingly, additional studies have shown that Thoroughbreds seem to have an increased incidence of ESGD regardless of age and exercise level in comparison to other breeds.

With such a high incidence of ESGD in horses, how can you know if your horse is among the suffering population?? For years people have treated their horses for presumed ESGD based on clinical signs. Some clinical signs that can be associated with gastric ulceration include colic (especially after eating grain), inappetence, poor body condition, poor hair coat, weight loss, and behavioral changes such as teeth grinding, 'girthing', and 'cribbing'.

Equine

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Perhaps the most disconcerting clinical sign in athletic horses, particularly Thoroughbred racehorses, is poor performance. Just the presence of ulcers seems to be able to precipitate poor performance in racehorses, regardless of size and severity.

With such a mixed bag of potential clinical signs, how can you know for sure if your horse has gastric ulcers? A definitive diagnosis can be made on gastroscopy. Similar to upper airway endoscopy, gastroscopy involves passing a flexible fiber optic endoscope up the horse's nose. It is passed beyond the throat, down the esophagus into the stomach. Why is it advisable to get a definitive diagnosis of gastric ulcers? Three reasons: 1) If a horse does not have gastric ulcers and he is treated presumptively, money on treatment has been wasted. 2) If a horse does have gastric ulcers and is treated presumptively, if the horse's clinical abnormality does not improve with treatment, you do not know if the treatment is failing or he just did not have ulcers. The recommended course of therapy for gastric ulcers in the squamous portion of the stomach is 28 days of daily omeprazole (Ulcershield) at the full dose. About 80% of horses will completely resolve ulcers with this treatment. That means 20% do not completely resolve. This is potentially problematic as poor performance can be only clinical sign of ulcers in some horses and this can continue regardless of ulcer severity. 3) Glandular gastric ulcers, although less common, have been reported in 44% or more of Thoroughbred racehorses. Awareness of this type of ulcers is of value when considering treatment as they typically require 2-3 months of treatment and may require medication other than omeprazole to resolve.

Treatment of ESGD is relatively straight-forward. Pre and post treatment gastroscopy is recommended to determine ulcer presence and severity initially and verify resolution prior to termination of treatment. Prevention of gastric ulcers, or more correctly, minimizing the risk for development of gastric ulcers, can be accomplished through several means. Maintaining horses in training on a 'preventative dose' of omeprazole (1/4 of the treatment dose) has been shown to lessen ulcer development. Additional ways to decrease risk are to provide constant access to water, continuous access to good quality grass pasture or free choice hay, and minimize grain and concentrates. Of course, this type of management is often not possible in the high performance athlete during training and competition, thus some owners opt to maintain the preventative dose of omeprazole during training with intermittent gastroscopies to monitor for ulcer development. Regardless of your approach, it is valuable to be aware that gastric ulcers are a common problem in our equine athletes and while treatment is usually straight forward and effective, that is not always the case.

Reference:

Sykes BW. *et al.* 2015. European college of equine internal medicine consensus statement – Equine gastric ulcer syndrome in adult horses. *Journal of Veterinary Internal Medicine*. 29:1288-1299.

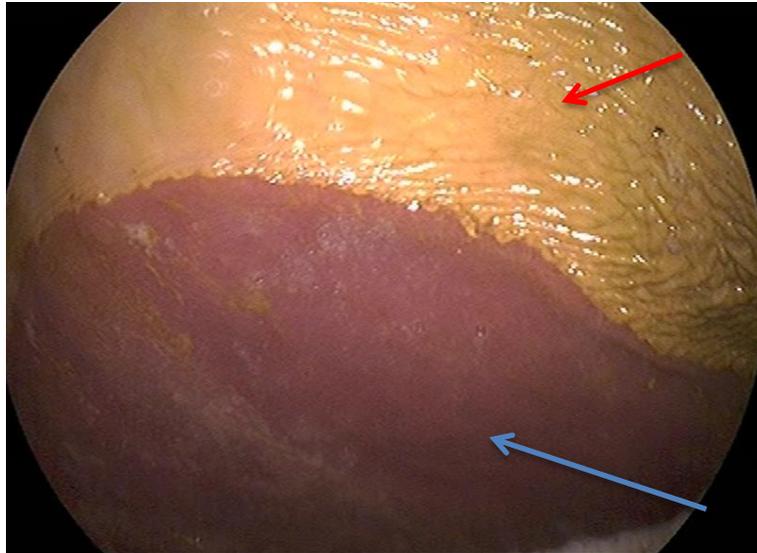
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Figure 1:



Equine Stomach Lining. Upper squamous epithelial lining (red arrow). Lower glandular epithelial lining (blue arrow).

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