

# Is Being an Athlete Difficult to Stomach?

## Gastric Ulcers in the Performance Horse

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A change is attitude

The prevalence of gastric ulcers in racehorses has been well known for a number of years. Various studies across the world have reported that 80 - 90 % of racehorses have ulcers. However, there is a high incidence in other equine athletes. Studies have shown a 40 - 60 % incidence in other equine sports disciplines. The term **Equine Gastric Ulcer Syndrome (EGUS)** is used to describe this disease because of its complicated nature and many different causes.

The horse is meant to be a continuous feeder - a "free range trickle feeder" with constant grazing and walking around in order to feed. The horses' stomach is essentially designed for this type of feeding; it has a relatively small volume and constantly secretes acid which is required as part of the digestive process of fibre. The stomach is essentially divided into two sections - the top part (where the oesophagus enters) includes a blind ending pouch (the fundus) and has a non glandular lining. This acts as a reservoir for ingesta. This lining is highly sensitive to acid. The bottom part is the body and is lined by glandular mucosa which has protection against stomach acid including buffers. The junction between these layers is called the margo plicatus (**Picture 1**). The outflow of the stomach is called the pylorus and leads into the duodenum (first part of the small intestine).

One of the more common locations for the formations of gastric ulcers is in the top part of the stomach in the non glandular layer, where there is little protection from the acid secretions (**Picture 2**). It is thought that in the performance horse that one contributing factor for ulcers in this region is the "splashing effect" with changes in abdominal pressure when being exercised, causing the acid secretions to surge into the non protected area. The

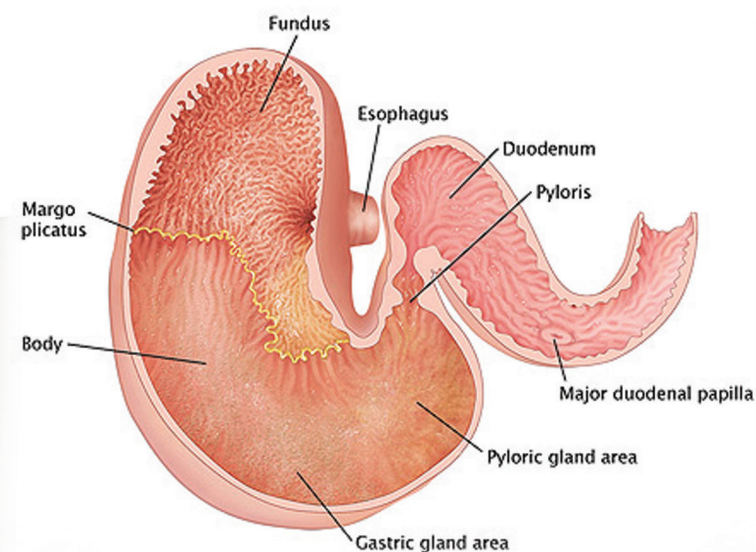
feeding of high levels of carbohydrates may also allow certain by products to penetrate and damage the cells in this area. Once damaged, healing can be slow, so perpetuation of gastric ulcers is likely to occur.

Another region that ulcers are found in is the pylorus (**Picture 3**) in the glandular portion. Ulceration in this region can cause a delay in stomach emptying and lead to colic. Originally it was thought that this type of ulcer in the glandular portion of the stomach was more prevalent in foals, however in recent years with the availability of 3m endoscopes it has become apparent that they occur in adult horses too and are in fact different to the non glandular ulcers. There is still much to learn about these types of ulcers and their management. We are certainly identifying a number of cases in the performance horse.

**The clinical signs of gastric ulcers can be variable and non specific including:**

- Poor appetite / picky eater
- Weight loss / poor condition
- Dullness
- Rough hair coat
- Low grade colic
- Intermittent diarrhoea
- Lack of performance / training issues
- Change in temperament - nervousness and aggression
- Stereotypical behaviour - crib biting, wind sucking
- Sensitive to touch - when girthing, grooming or rugging

The diagnosis of EGUS is based on the presence of clinical signs and confirmation with endoscopy. The horse needs to be starved for at least 12 hours to enable the whole stomach to be visualised and the horse is sedated.



Picture 1. Stomach anatomy

There are many factors reported to contribute to ulcers - these include "stress" (of which there can be many triggers), travel, intense training / exercise, high levels of concentrates versus forage, temperament, water intake, lack of pasture access and even the presence of a radio 24 hours a day!

The mainstay of gastric ulcer treatment is inhibition of the gastric acid secretion (**Picture 4**). Currently omeprazole is the drug of choice. There are several different forms of omeprazole with both treatment and maintenance doses. Sucralfate is a medication which lines the ulcer to prevent further damage and seems to be more effective in the glandular ulcers. Occasionally with very severe persistent ulcers antibiotics may be considered. Helicobacter has been shown to cause ulcers in people but not in horses, there may be however, another infectious component which has yet to be isolated.

Occasionally with extremely severe ulcers at the pylorus, misoprostol may be used.

As well as medications it is also important to evaluate the nutrition and management to attempt to minimise factors that maybe contributing to the development of ulcers.

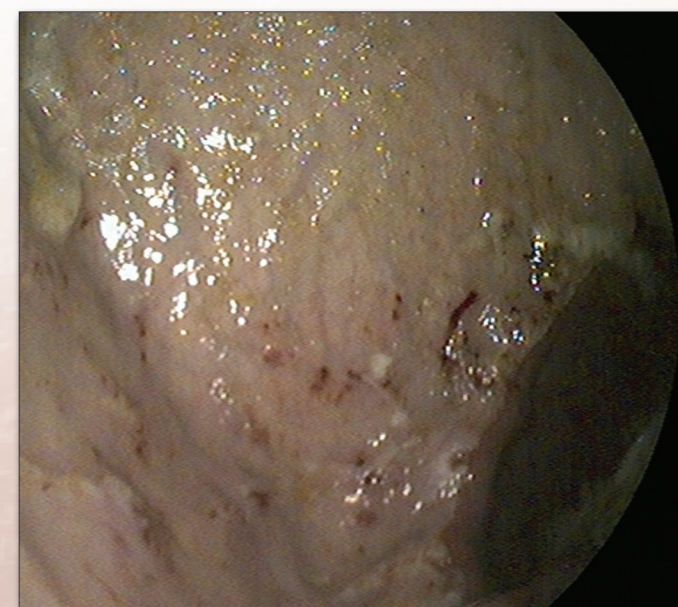
Given the high propensity for the performance horse to develop ulcers, if there is a suspicion of ulcers or if the horse doesn't appear to respond to medication, then gastroscopy is definitely advised - after all an equine athlete marches on it's stomach.



Picture 4. Ulcer medications



Diagnosing the patient through endoscopy



Picture 2. Ulcers in the non glandular portion (above the margo plicatus)



Picture 3. Ulcers at the pylorus