

## Equine Gastric Ulcer Syndrome

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Equine gastric ulcer syndrome is a common condition in horses and foals. While any horse can develop gastric ulcers, they tend to be more common in horses in high levels of work. Studies have shown that the prevalence of gastric ulcers can be as high as 60-90% in show horses and thoroughbred racehorses. The equine stomach consists of two sections, the squamous (non-glandular) portion and the glandular portion. The two sections are separated by a line called the margo plicatus. Ulcers in the

squamous portion of the stomach develop from the excess production of gastric acid, which damages the squamous mucosa leading to the development of an ulcer. The glandular portion of the stomach has a protective coating that contains bicarbonate and other substances to buffer the gastric acid, making it less prone to ulceration than the squamous portion. Ulcers in the glandular part of the stomach are less well defined and research is still being done to investigate their causes and pathophysiology. Risk factors for development of gastric ulcers include feeding a high starch diet, feeding a large amount of grain at a time, strenuous exercise, and stressful events such as traveling or illness. Gastric ulcers can present with a wide variety of different signs depending on the horse. Common signs include changes in behavior, decreased performance or reluctance under saddle, poor appetite, mild weight loss, and mild episodes of colic.

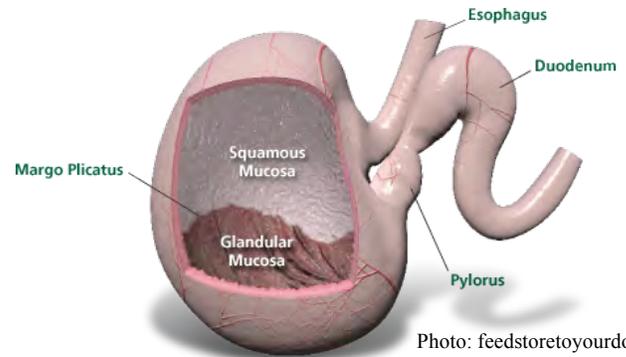


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### **How are gastric ulcers diagnosed?**

The only way to definitively diagnose gastric ulcers is with a gastroscopy procedure. This procedure can be done either on the farm or in the hospital. The horse must be fasted overnight so that their stomach is empty for the procedure. For the exam, the horse is sedated and a small camera is passed up the horse's nose, down the esophagus, and into the stomach. The stomach is then inflated with air so that the entire stomach can be visualized. The parts of the stomach that are examined include the cardia (entrance to the stomach), the greater and lesser curvature, and the pylorus (where the stomach exits into the small intestine). Before the gastroscope is removed, the extra air is removed from the stomach to prevent colic due to gastric distension.



Gastric ulcers are graded on a scale of 1-4 based on their severity. Grade 1 ulcers are the most mild and consist of areas of reddening or hyperkeratosis of the mucosa. Grade 4 ulcers are the most severe and consist of extensive or actively bleeding ulcers.

Photo: Grade 3 squamous ulcers along the margo plicatus

### **How are gastric ulcers treated?**

The main treatment for gastric ulcers is omeprazole, commonly known as Gastrogard or Ulcergard. Omeprazole is a proton pump inhibitor, which blocks the enzyme that releases gastric acid into the stomach and therefore helps to decrease the acidic environment of the stomach. For most ulcer types, typical treatment includes administering a full tube of omeprazole once a day for 28 days. Before the end of the omeprazole treatment, a recheck gastroscopy is recommended to ensure complete healing of the ulcers. For severe ulcers, sucralfate may be used as part of the treatment regimen. Sucralfate binds to the ulcer and forms a protective barrier from the acidic stomach environment.

### **How can I help prevent my horse from developing gastric ulcers?**

If your horse is prone to gastric ulcers, there are several steps that can be taken to help prevent recurrence of ulcers in the future. A preventative dose of omeprazole (250 lb dose or ¼ tube for a 1000 lb horse) can be given before stressful events such as traveling, competitions, or switching barns. Since omeprazole takes three days to reach its full effect, this should be started at least three days prior to the event and continued for the duration of the event. Feeding a higher fiber, low starch diet will lower the gastric pH, and help to prevent ulcers. Hay or pasture should be made available as frequently as possible. Feeding hay in a nibble net is a good way to provide continual access to small amounts of hay throughout the day. If possible, hay should be fed before grain meals to provide a buffering effect. Additionally, there are many supplements available that contain antacids. These supplements can be fed with every grain meal to help buffer the acidic environment of the stomach.



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