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ANIMAL HEALTH, NUTRITION AND WELL-BEING
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GASTRIC ULCERS
All you need to know

What are equine gastric ulcers?

Equine Gastric Ulcer Syndrome (EGUS) describes the ulceration of the horse's stomach lining. This comprises several diseases:

- EGGD- equine glandular gastric disease - ulcers in the lower, glandular part of the stomach where acid is secreted
- ESGD- equine squamous gastric disease - ulcers in the upper, non-glandular region of the stomach
- GERD- gastroesophageal reflux disease
- PUD- peptic ulcer disease

The incidence of EGUS is particularly high in racehorses with as many as 80-95% diagnosed as having gastric ulcers. Research has shown that up to 37% of leisure horses and 63% of performance horses also suffer from this condition.

Ulcers are diagnosed using an endoscope and graded from 0 to 4. Horses with grade 4 ulcerations will have a multiple large, deep bleeding ulcers.

Symptoms of EGUS include:

- Poor appetite
- Abdominal discomfort
- Weight loss
- Diarrhoea
- Colic
- Nervous or aggressive behavior
- Poor performance

Not all horses with gastric ulcers display symptoms and in mild cases it can remain undiagnosed.

What causes equine gastric ulcers?

The stomach is divided into two parts separated by a band called the Margo Plicatus. The bottom two-thirds are the glandular region that secretes acid continually as part of the digestive process. In the glandular region there is secretion of bicarbonate-rich mucous which protects the stomach lining. The top part, the non-glandular region, has a lining of squamous epithelium and lacks the bicarbonate-rich mucous which protects against the stomach acid. This means that the majority of ulcers occur in the non-glandular squamous region.

Gastric ulceration occurs when the stomach becomes hyperacidic and/or the stomach acid splashes up into the squamous region (non-glandular).

Due to the anatomical and physiological differences between the glandular and nonglandular regions of the stomach, EGGD and EGSD can have different causes. The causes of EGGD are not well understood, but is thought to involve breakdown of the normal defence mechanisms of the stomach lining.

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FEEDING AND MANAGING HORSES WITH GASTRIC ULCERS

Small adjustments to the management and feeding regime can help reduce the risk of gastric ulcers.

Contributing factors to Equine Squamous Gastric Disease (ESGD):

- **Low Forage Intake**
  Saliva is rich in bicarbonate ions which help to neutralise gastric acid in the non-glandular region of the stomach. Horses only produce saliva whilst they are actually chewing so anything that limits chewing, such as lack of forage, will increase the risk of ulcers developing.
- **Exercise**
  With gentle exercise gastric contents are limited to the glandular region, however high-speed exercise (galloping and jumping) can cause gastric acid to "splash upward" and contact the unprotected squamous mucosa of the non-glandular region.
- **High Starch and Sugar Diets**
  Bacterial fermentation of starch in the stomach can cause lactic acid production in the stomach. This may be associated with ulcer development, although research continues into this area.

Contributing factors to Equine Glandular Gastric Disease (EGGD):

- **NSAIDs**
  Studies suggest that non-steroidal anti-inflammatory drugs such as *phenylbutazone* (bute) can be associated with the increased risk of developing EGGD.
- **Bacteria**
  It has been suggested that some bacterial species could contribute to EGGD, for example *Streptococcus bovis*.
- **Stress**
  Many studies have suggested that the incidence of EGUS increases if the horse is exposed to stress. Travelling, changing management, changing environment, competition and hospitalisation can cause stress. Some studies have correlated the reduced water intake (and associated increase in stomach pH as it will concentrate) with increased prevalence of gastric ulceration.

Split forage intake across the day:

When eating forage horses will produce twice the amount of saliva than they would eating the same amount of concentrate feed. Ideally horses prone to EGUS should have ad-lib supply of hay or haylage. If your horse is prone to weight gain then you can replace part of their forage with oat or wheat straw. There is an association between EGUS and crib-biting, and research has shown that limited forage intake increased the risk of crib-biting. You should however, pay close attention to the pH of the forage fed.

Avoid cereal-based concentrates:

Feeding high starch and sugar concentrate feeds is not recommended for horses with EGUS. Instead, choose a feed that provides a higher proportion of energy from oil and fibre. Feeds should be split into several small meals so that starch and sugar remain less than 1g per kg of body weight per meal.

Turnout daily:

Horses that are at grass will eat for longer periods of time and so produce a lot of saliva, meaning that they have a much lower incidence of EGUS compared with stabled horses. Even just a few hours of turnout per day can be beneficial. If it is not possible to turn your horse out (e.g. if the horse is overweight) then an alternative source of suitable forage must be provided, or consider using a grazing muzzle to reduce intake, but increase number of chews and saliva production per g of grass consumed.

Feed prior to exercise:

Feeding a small amount of forage or chaff (ideally alfalfa) prior to exercise may help reduce the risk of EGUS. The presence of food in the stomach can reduce gastric acid splashing up into the non-glandular region. Alfalfa, in particular, has a high calcium level, therefore, it will combine with the calcium carbonate produced in the saliva and help buffer (reduce the acidity) in the stomach. The use of oil, has also been shown to form an emulsion with the top layer of acid stomach content, helping to prevent acid splashing.

Provide fresh, clean water:

Limited access to water has been shown to increase the risk of EGUS, possibly due to a dilution effect of water on gastric contents. Water must be available at all times and should be offered every 4-6 hours when the horse is travelling. Some horses will not drink water when away from home; adding some apple juice or cordial will help to mask any unusual flavours.

Provide herbal support

Although there is currently not enough scientific evidence to fully support herbal products for horses with EGUS, many horse owners believe that herbs such as liquorice root, slippery elm and comfrey are beneficial.

We are here to help!

Many of the reasons that horses develop EGUS can be avoided by correct feeding.
Our team of Nutritional Advisors is on-hand to offer free, friendly and practical feeding advice that can really make a difference to your horse or pony's life.

Please visit our website, get in touch via social media or call: 01270 782223
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