

# Gastric Ulcers



## The Problem

Equine Gastric Ulcer Syndrome (EGUS) refers to the ulceration of the stomach lining, which can occur for reasons including feeding, exercise and medication use. It is probable that gastric ulcers have been a problem in horses for many years, yet it has only really come to light more recently with the development of an endoscope long enough to reach the stomach, allowing more diagnoses to be performed.

## What causes ulceration?

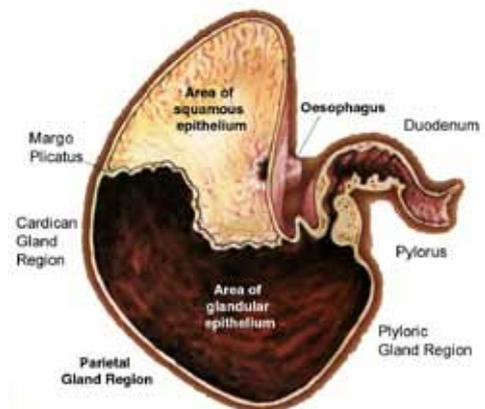
The equine stomach is divided into two main regions:

### Glandular region -

This is the lower region of the stomach, where hydrochloric acid is secreted continuously for the breakdown of food. There is also a mucus layer providing bicarbonate protection for the stomach lining.

### Squamous region -

This is the upper region of the stomach which acts as a reservoir for food on its way down to the glandular region. There is no mucus or bicarbonate protection in the lining; instead it relies on an almost continuous supply of fibre trickling into the stomach to defend it against acid attack. The squamous region is therefore at the greatest risk of ulcers, particularly at the margo plicatus in the mid-region.



A sufficient fibre intake is very important in maintaining gastric health as it acts as a physical barrier mopping up the acid and stopping it coming into contact with the stomach lining. Horses only produce saliva when chewing and saliva contains bicarbonate which helps to buffer the stomach acid. The increased chewing required for fibre results in an increased production of saliva so eating grass or hay/haylage almost continuously produces an almost constant supply of neutralising saliva.

It was often thought that a high starch (cereal) and low fibre diet was the primary cause of gastric ulcers, however, while this can play an important role in their development, other factors can also come into play.

**EXERCISE:** Increased pressure occurring when a horse exercises at high intensities can lead to compression of the stomach, which pushes the acidic contents of the glandular region up into the unprotected squamous region. The longer the horse trains for, the increased time this region is exposed to acid, and the greater the potential for ulcers to occur.

**MEDICATION:** Ulcers can also develop in the glandular region if the defence mechanism fails to work effectively. Long-term use of non-steroidal anti-inflammatory drugs (NSAIDs), such as phenylbutazone (bute), can result in a breakdown of these defence mechanisms, resulting in ulcer formation.

Studies have suggested that a lack of water and periods of fasting can further contribute towards the onset of gastric ulcers.

## How would I know if my horse has ulcers?

The only way to make a definitive diagnosis is via an endoscope examination (gastroscopy). You might request an examination if your horse is suffering from:

- Poor appetite
- Mild signs of colic
- Resistance under saddle
- Dull coat
- Loose droppings
- Weight loss
- Behavioural changes
- Excessive recumbency
- Poor performance

Any or all of these symptoms could be indicative of other problems. You are strongly advised to contact your vet, if you are concerned.



## Feeding and Management

Feeding management should include the provision of ad lib forage, while concentrate feed should be as low in starch as possible, to help keep acidity levels in the digestive tract under control, and meals should be small and frequent. The horse should not be exercised on an empty stomach, so it is wise to ensure that some forage has been consumed. A small feed containing alfalfa (known to have natural acid-buffering properties) could also be given before exercise.

## High Calorie Requirements

Ease & Excel is one of the first feeds to be awarded the new BETA feed approval mark, meaning that the ingredients have been examined and the starch and sugar levels (at 8% and 6%, respectively) have been deemed low enough to be suitable for horses with gastric ulcers. Being high in fibre and oil, Ease & Excel is great for horses in high levels of work or for those requiring extra calories for condition. It is fully balanced and also contains a bespoke In-Feed Formula, from Protexin, which provides a number of benefits to support the health of the gastric and intestinal lining as well as digestive efficiency.

For horses with less severe ulcers who still require a degree of starch alongside calories for work, Slow Release Condition & Competition Mix or All-Round Endurance Mix are ideal. These both contain a somewhat higher level of starch than Ease & Excel but are still lower in starch than other competition feeds.

Added extras:

- As well as increasing the fibre and protein contribution of the concentrate feed, alfalfa is high in calcium so can have a buffering capacity. It provides digestible fibre which can contribute calories from a non-cereal source, while the cell walls also contain indigestible fibres, such as lignin, which can protect the stomach lining. Alfalfa Plus Oil provides the great benefits of alfalfa along with extra slow-release calories through the addition of soya oil.

- Unmolassed sugar beet pulp naturally has a good acid binding capacity and is high in pectins. These are beneficial in that their structure alters to one that is similar to mucus when in an acidic environment, consequently acting as further protection for the stomach. Feeds such as Speedi-Beet or Fibre-Beet (containing alfalfa) are ideal for increasing calorie content to complement a balanced diet.

- Outshine high oil supplement is a great way to provide additional low starch calories in a safe and concentrated form.

## Lower calorie requirements

The recommended amount of a balancer will provide your horse with their full complement of vitamins, minerals and protein without unwanted calories and with minimal starch and sugar. Lo-Cal Balancer is ideal for horses at rest or in light work, while Performance Balancer is formulated for horses working up to the highest levels.

Added extras:

- Alfalfa Blend provides the buffering capacity of alfalfa but without as many calories as Alfalfa Plus Oil. For an even lower calorie option, Light Chaff is ideal.

- Although beet pulp can be quite conditioning, when fed in smaller amounts it can be beneficial for good doers or those who are less partial to chaffs. As a guideline, one mug of Speedi-Beet will soak to approximately a Stubbs scoop in wet volume. This makes it great as a low calorie and low starch fibrous 'bulk' to the feed for horses with ulcers.

## Moderate calorie requirements

For those in between, Keep Calm is a fully balanced soaked feed, which contains Speedi-Beet, alongside essential nutrients, and is useful for maintaining condition while supporting up to moderate work levels.

Much of the management of ulcers should aim to promote a natural lifestyle and reduce stress where possible. This should include ensuring that the horse has plenty of turnout and a high fibre intake, with extra forage provided at times of stress, such as when travelling. A low starch and sugar diet, combined with ad

lib forage and a constant supply of clean, fresh drinking water will help to reduce the risk, as well as being essential in the successful treatment and management of gastric ulcers.

## Treatment

Following gastroscopic diagnosis, there are a number of medications which can be recommended by your vet, most commonly, omeprazole, a proton pump inhibitor which suppresses the production of stomach acid. Alongside medical treatment, management and diet are instrumental for recovery and prevention of recurrence.

## Supplements

A growing variety of supplements are available with some now also being included in feeds as well. These may help support a treatment and management regime and aid in the prevention or recurrence of ulcers.

## Key ingredients include:

**Antacids** - Support the buffering of gastric acid, helping to neutralise stomach pH

**Beta-glucans** - Soluble fibre which can act as a coating for the stomach lining, as well as improving the digestion of starch and sugar within the foregut

**Pre- and pro-biotics** - Support the population of beneficial bacteria within the hindgut, helping to promote the digestion of fibre

For further information on managing and feeding a horse with ulcers, please contact our Nutrition team for friendly, practical advice.

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