

Ulcer  Awareness

Horse owner's guide to:

Equine **G**astric **U**lcer **S**yndrome




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Introduction

The stomach of the domesticated horse resembles that of its wild ancestors. Simple modern day activities such as riding, stabling, feeding certain diets and competitions all represent an 'unnatural' challenge for the equine stomach. Due to the relatively recent domestication of the horse, the stomach has not yet adapted to these changes and this often results in problems such as gastric ulcers.

Gastric ulcers can have a detrimental impact on the horse's performance, temperament and welfare. Fortunately with advances in research into equine gastric disease and modern diagnostic techniques, conditions such as equine gastric ulceration syndrome can be managed and treated effectively.

80-100%
of racehorses
have equine
gastric ulcers
within 3 months
of race training¹

66-93%
of competition
horses are
affected by
ulcers during
the competitive
season²

37-59%
of leisure
horses showing
signs of EGUS
were confirmed
to have ulcers³

**Up to
50%**
of foals
have gastric
ulcers⁴

¹ Murray MJ, Schusser GRF, Pipers FS, Gross SJ. Factors associated with gastric lesions in thoroughbred racehorses. *Equine Vet J* 1996;28:368–374

² Nieto JE, Snyder JR, Beldomenico P, et al. Prevalence of gastric ulcers in endurance horses – a preliminary report. *Vet J*. 2004;167:33–37

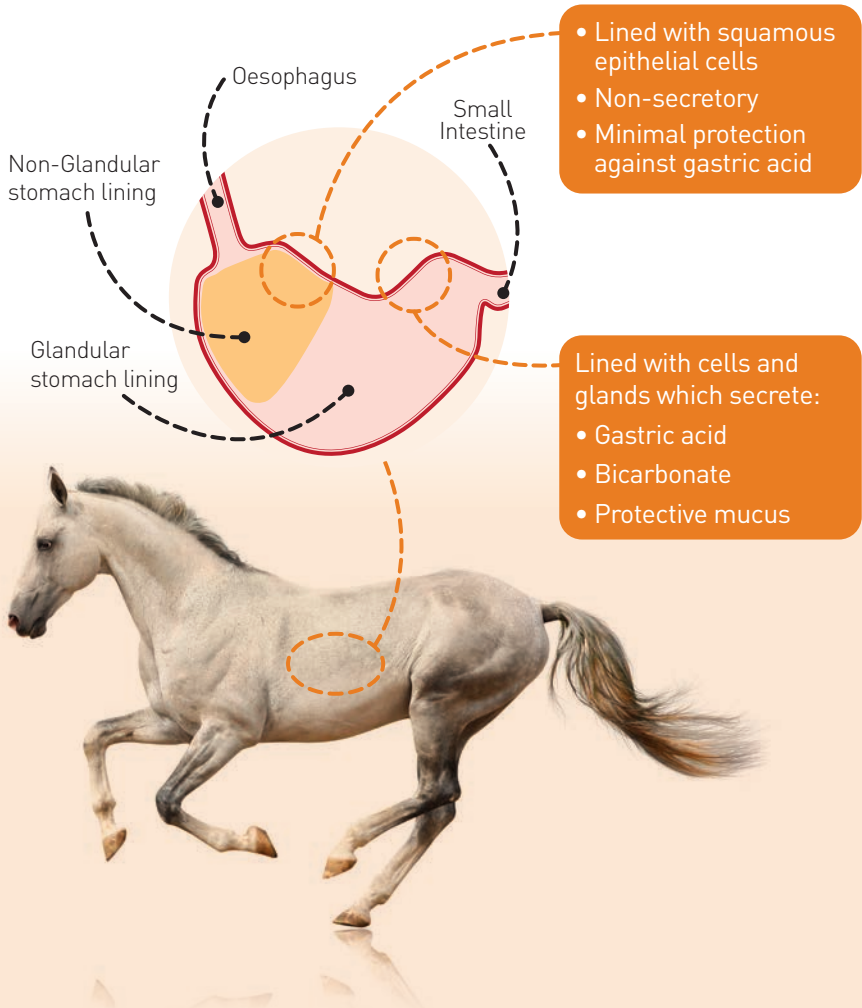
³ Niedźwiedz A, Kubiak K, Nicpori J. Endoscopic findings of the stomach in pleasure horses in Poland. *Acta Vet Scand*. 2013;55(1):45. Published 2013 Jun 7. doi:10.1186/1751-0147-55-45

⁴ Andrews, F. (n.d.). Equine Gastric Ulcer Syndrome | AAEP American Association of Equine Practitioners. Retrieved 5 April 2022, from aaep.org/horsehealth/equine-gastric-ulcer-syndrome

What is Equine Gastric Ulcer Syndrome (EGUS)?

EGUS is the terminology used to describe the syndrome of gastric ulceration in horses, as well as the many different types and presentations of ulceration which can affect the horse.

Common factors which can predispose a horse to being at risk of gastric ulceration include; breed, management factors such as diet, feeding regimes and exercise. Physiological and psychological stress, illness and some medications can also have a significant impact risk of ulcer development. However, the syndrome is not yet fully understood and sometimes the triggering factors remain unknown.



Symptoms & Diagnosis

Adult Horses

Clinical signs of stomach ulceration may be vague and can often be mistaken for other conditions or behavioural problems.

Signs may include:

- Poor performance
- Dull appearance
- Picky appetite
- Grumpy temperament
- Resistance to riding aids
- Resistance to girthing

Causes of EGUS

- Restricted feed intake, especially roughage
- Periods of starvation
- High grain diets
- Ridden exercise
- Stress
- Types of medication
- Causes may also be unknown

Foals

Gastric ulceration is common in foals and they can develop from two days of age. Ulcers can often occur secondary to other diseases, particularly bowel problems such as diarrhoea and obstructive colic.

Clinical signs may include:

- Salivation
- Teeth grinding
- Restlessness
- Diarrhoea
- Signs of colic, including rolling
- Poor appetite
- Intermittent nursing

Causes of gastric ulceration in foals:

- Physiological stress
- Other bowel diseases e.g. diarrhoea
- Infrequent nursing or feeding
- Other illnesses e.g. infections such as pneumonia
- Causes can also remain unknown

Diagnosis - Gastroscopy

If gastric ulcers are suspected, the only way to confirm the diagnosis is for a vet to perform a gastroscopy. The gastroscopy involves a three metre long endoscopic video camera being passed into the horse's nose, down the oesophagus and into the stomach. This is usually carried out under light sedation and causes minimal distress to the horse.



Squamous Ulceration Grading

During the gastroscopy, the vet will score the squamous ulcers for severity, from 0-4, 4 being the most severe. This allows the vet to benchmark the horse's healing progress.



Grade 0

The stomach lining is intact and there is no appearance of reddening or thickening



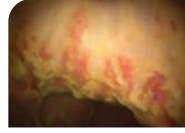
Grade 1

The mucosa is intact, but there are areas of reddening or thickening



Grade 2

Small, single or multifocal lesions



Grade 3

Large, single or multifocal lesions or extensive superficial lesions



Grade 4

Extensive lesions with areas of apparent deep ulceration

Glandular Descriptive Identification

Glandular ulcers are more accurately benchmarked using descriptive terminology as opposed to grade scoring. This is a method derived from guidelines issued in a Consensus Statement from the European College of Equine Internal Medicine (ECEIM)⁵.



Flat and Haemorrhagic

Flat ulcer with bloody appearance



Flat and Fibrinous

Flat ulcer with fibrous and discharging appearance



Raised and Fibrinosuppurative

Raised ulcer with fibrous and discharging appearance



Raised and Haemorrhagic

Raised ulcer with bloody appearance



Depressed +/- blood clot

Sunken ulcer with or without bloody appearance



Depressed and Fibrinosuppurative

Sunken ulcer with fibrous and discharging appearance

Images kindly supplied by

- David Rendle, Rainbow Equine Hospital
- Nanna Luthersson, Equine Veterinary Specialist from Denmark

⁵ Sykes, B., Hewetson, M., Hepburn, R., Luthersson, N. and Tamzali, Y. (2015), European College of Equine Internal Medicine Consensus Statement—Equine Gastric Ulcer Syndrome in Adult Horses. J Vet Intern Med, 29: 1288-1299.

Treatment

If gastric ulcers are identified in adult horses, treatment is available. Oral medication will be recommended, the most common being omeprazole. Often treatment will last several weeks to months depending on the type and severity of the ulcer. The vet will then monitor the treatment progress and also suggest management and feeding changes.

In foals, treatment is recommended from four weeks of age, depending on the clinical severity.

Omeprazole

Omeprazole is taken orally. It initially passes straight through the stomach without having any effect and continues on into the small intestine where it is absorbed into the blood stream. Via the blood omeprazole makes its way to the stomach lining. Here it enters specialised secretory cells, the 'parietal cells', which are located in the lower glandular region.

Once within these cells the omeprazole acts to block special pumps on the cell's surface known as 'proton pumps' which are responsible for the release of acid into the stomach. As the parietal cells can no longer release acid to maintain the highly acidic environment of the gastric juices, the pH starts to change towards a more neutral level, essentially giving the whole inside of the stomach a break from acid exposure and time for ulcers to heal.

The parietal cells start to naturally make more proton pumps every 24 hours, therefore a once daily dose of omeprazole is required to maintain the reduced acid secretion.

It is good to note that omeprazole does not affect a horse's ability to digest food.

For more information visit the
Norbrook website:

www.norbrook.com/resources



Whilst oral omeprazole is the only licensed treatment for gastric ulcers in horses, vets may prescribe certain human medicines if deemed necessary. Your vet will discuss these options with you if required.

Antibiotics

Antibiotics may be used in certain situations, for example where a biopsy has identified *Helicobacter pylori* bacterial infection which can prevent ulcers healing.

Feeding and management changes can aid ulcer recovery and help prevent recurrence of ulcers.

General nutritional management

- Feed two litres of forage (hay/chaff) 30 minutes prior to exercise - this will help to create a 'fibre mat' which will help to prevent the splashing of acid within the stomach.
- Allow your horse access to grazing, ideally with at least one other companion.
- When your horse is stabled, offer hay *ad libitum*.
- Double hay nets or hay nets with smaller holes can increase the duration of forage activity. Two separate hay nets are also beneficial in increasing 'stable forage time'.
- Minimise the amount of grain and concentrate feeds.
- To help prevent recurrence of gastric ulcers, apply 50-100ml of rapeseed or corn (maize) oil to feed once or twice a day.
- Ensure your horse has constant access to clean water.

Other management changes

Implementing changes to limit stress in relation to stabling, exercise and transport can help to aid healing and prevent recurrence of EGUS.

- Limit stressful activity or training whilst ulcers are healing.
- Allow your horse to have two days of rest a week, this may help to reduce the incidence of recurrence of gastric ulceration.
- Minimise changes to routine such as companions or human carers.
- In case of squamous ulcers, reducing the 'acid splash time' by cooling down in walk rather than trot will reduce the risk of ulceration and aid healing.

If you think your horse has ulcers:

1. Contact your vet to arrange a gastroscopy procedure and confirm diagnosis.
2. Administer treatment as advised by your vet.
3. Consider management changes to help aid the healing of ulcers and prevent recurrence.
4. Discuss a preventative plan with your vet if you anticipate stressful situations, e.g. travel, change of companion, etc.



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