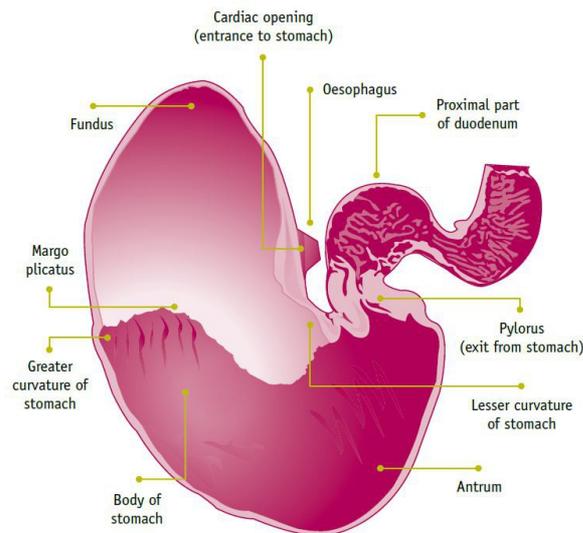


# GASTRIC ULCERS

Equine Gastric Ulcer Syndrome (EGUS) is a broad ranging term relating to gastric lesions present in equines occurring in the oesophageal, gastric or duodenal mucosa.



The horse's stomach consists of an non-glandular upper region, divided by a distinct border, the margo plicatus, from the lower glandular portion.

## **Squamous mucosa (non-glandular)**

No glands

No secretory or absorptive function

No protection

Can be over exposed to acid

Gastric ulcers caused by over exposure to gastric acid

Severity thought to be directly related to duration of acid exposure

Tremendous proliferative and healing capacity

## **Glandular mucosa**

2/3 of equine stomach

Contains many secreting cell types - Hydrochloric acid

Protective bicarbonate and hydrophobic mucus barrier

Ulcers can occur if there is disruption of the protective layer

Appears to be a more common disease in sports horses

Disruption of blood flow and decreased mucus and bicarbonate secretion

80% of lesions in adult horses occur in the upper (non-glandular) third of stomach.

They range in severity from mild inflammation, to erosions and bleeding, and, rarely fatal perforation of the stomach in foals.

EGUS is most commonly seen in racehorses and performance horses but even sedate ponies can be affected, and around a third of leisure horses may develop ulcers at some time.

EGUS can develop when the stomach lining is exposed to its acidic secretions for prolonged periods of time. Horses are trickle feeders that naturally spend at least 16 hours a day foraging. This stimulates saliva production which neutralises the acid produced in the stomach. Some of the big risk factors for gastric ulcers are lack of turnout and infrequent feeding, which allow stomach acid to build up and attack the stomach lining. Ulcers can also develop in the glandular region when the bicarbonate-rich protective mucus layer of the stomach is compromised, as can happen with certain medications.

The symptoms can be varied, vague and non-specific but can include

### **Adults**

- Poor/variable appetite or slow eating
- Weight loss
- Decrease/change in performance
- Poor bodily condition and coat condition
- Behavioural changes or aggression
- Colic / recurrent colic
- Girthing pain
- Frequent stretching to urinate

### **Foals**

- Poor appetite or intermittent nursing
- Lying for prolonged periods on back
- Colic
- Poor bodily condition
- Grinding teeth
- Salivating excessively
- Diarrhoea

### **Some of the known triggers for EGUS include**

- Diet
- infrequent feeding, periods without ad-lib forage, concentrates
- Change of routine
- Exercise, especially intensive exercise
- Physical stress (travel, exercise, prolonged box rest)
- Travel (especially if travelling alone and without a mirror)

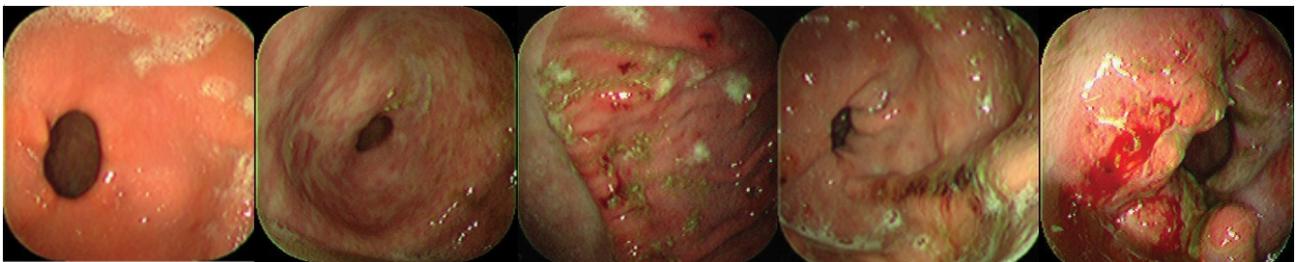
Social stress (rehomeing, loss of a companion, social hierarchy, weaning)  
Medications (eg. Bute in foals)  
Times of ill health  
Stereotypical behaviours (e.g. windsucking)

## Diagnosis

Diagnosis is made by gastroscopy – after a period of fasting to empty the stomach, an endoscope is passed via the nose, down the oesophagus into the stomach to directly visualise the stomach lining and the entrance to the small intestines. Ulcers can be described as 'squamous' or 'glandular' depending on the part of the stomach affected, and we use a grading scale of 0-4 depending on the number and severity of lesions.

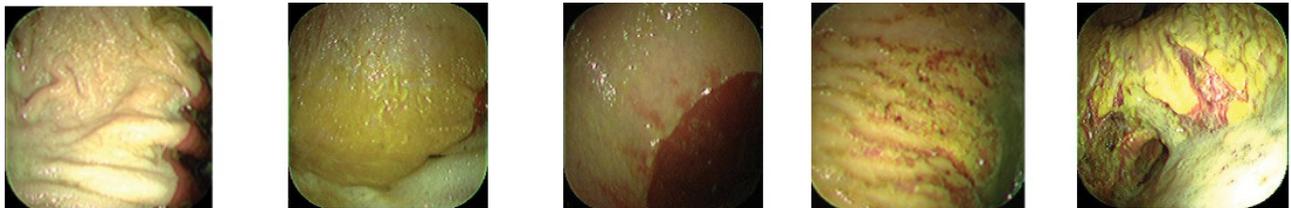
### Squamous lesions

Grade 0 - 4



### Glandular lesions

Grade 0 - 4



## Treatment

A combination of medications and management changes are usually needed for several weeks before assessing the response to treatment with a repeat gastroscopy, and once lesions have resolved, there are several supplements and medications that can be used to reduce the risks of recurrence.

The aims of treatment are to eliminate clinical signs, to promote an environment in the stomach in which ulcers can heal and to prevent recurrence. This is achieved using a combination of medical management and modifications to the daily regimen.

Prevention

## To reduce the risks of EGUS we recommend

High roughage diets which stimulate secretion of bicarbonate-rich saliva and help buffer the stomach acid

Allowing free access to forage, using multiple small haynets to increase foraging activity.

Avoiding large concentrate feeds which require less chewing and produce less saliva, increase gastrin and VFA production, which may worsen acid injury and facilitate ulcer formation.

Avoiding electrolyte supplementation as ulcers have been shown to occur more commonly and be more severe.

Minimising stress, for example, using a mirror if travelling or stabled alone.

Keeping horses in a settled social group

Forage feeding prior to exercise to minimise acid accumulation and provide a fibrous mat to prevent acid splashback injury to the acid sensitive squamous mucosa.

At times of increased risk, like at weaning, antacids may help reduce the risks of EGUS.



**NEW FOREST EQUINE VETS**

Practice 24hr Tel: 01425 600080

Dr Verena Jolly BVSc Cert AVP(EP) MRCVS Tel: 07703 320362

Dr Beth Robinson BVSc Cert AVP(EP) MRCVS Tel: 07342 958633

info@nfev.co.uk www.nfev.co.uk

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