



## RANDLAB TRAINER'S TIPS

# MANAGEMENT OF GASTRIC ULCERS IN RACEHORSES



Randlab has facilitated over 14,000 gastroscopies in Australia and NZ. Analysis of our database has shown that some trainers are "ulcer trainers" with a higher prevalence of gastric ulcers than their neighbours. The information in this Trainer's Tips is intended to assist trainers with the management of gastric ulcers in their stable. The information is designed for an "ideal world" and will need to be adapted to meet the needs of your own stable routine and management. However, the plan as written is achievable and has been utilised by a number of stables with great success.

**For further information contact your usual equine veterinarian**



### KEY POINTS

- ▶ Gastric ulcers occur in up to 95% of untreated thoroughbred and standardbred racehorses in training.



- ▶ Gastroscopy is the only definitive way to diagnose gastric ulcers, make the important distinction between squamous and glandular ulcers, grade the ulcers and monitor the effectiveness of any treatment or prevention programs.
- ▶ Less than 10% of ulcers heal spontaneously.
- ▶ Horses should always be fed a high roughage feed (eg lucerne hay) of at least 3L/2Kg prior to exercise to prevent "acid splash". Alternatively, they can be offered their full morning feed.
- ▶ Omeprazole is the drug of choice for treatment and prevention of gastric ulcers in the racehorse.
- ▶ Omeprazole should always be given on a relatively empty stomach and a minimum of 30 min (preferably 60 min) prior to feeding.
- ▶ Ensure horses do not chew on enteric-coated ulcer medications (eg Gastropell Forte & Gastropell Daily). These should be administered over the back of the tongue, as far back in the mouth as possible.
- ▶ Nutraceuticals, herbal extracts and compounded products for the treatment of gastric ulcers seldom meet their advertised claims.
- ▶ Glandular/pyloric lesions are less common and affect about 30% of racehorses.
- ▶ Ulcers may recur once treatment has stopped. Most horses require ongoing treatment with ulcer medications such as omeprazole, especially when they remain in training.
- ▶ Without alterations in management or initiation of preventative therapy, ulcers may quickly return if horses remain in training.

- ▶ Maintenance doses of anti-ulcer medications are unlikely to be sufficient to prevent recurrence of ulcers in horses in full training.
- ▶ Wherever possible, horses should be given free access to hay or pasture for a minimum of 16 hours per day.
- ▶ Hand feeding horses a small amount of lucerne hay soon after they have cooled out after a race will reduce gastric acid damage and help restore energy and protein levels, aiding post-race recovery. To avoid oesophageal choke, the hay should be fed in handfuls and only after the horse has completely cooled out.



## KEY POINT

95% of untreated racehorses in full training will have gastric ulcers

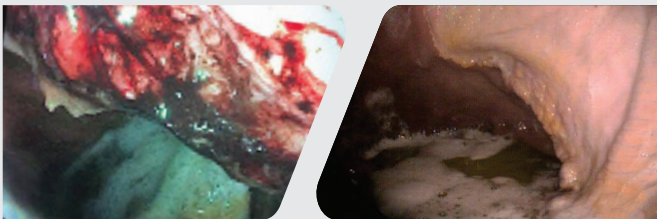
Gastric ulcers affect HEALTH, WELL-BEING and PERFORMANCE. The horse whose gastroscopy is shown in the top left picture was winning city class races in Sydney, but improved to become a multiple Stakes winner once his ulcers were treated.



## MANAGEMENT STRATEGIES

- ▶ The harder the horse works and the longer the horse is in work, the more likely it is to develop ulcers and the more severe the ulcers are likely to be.
- ▶ The more roughage (hay/grass) in the horse's diet, the less likely the horse is to develop ulcers.
- ▶ Ideally, horses should have access to hay for 16-24 hours per day. Horses are designed to be continuous grazers. Most overseas racing stables in countries such as the USA, UK and Europe provide continuous, unlimited access to hay (usually meadow or grass hay).
- ▶ Lucerne hay is high in protein and calcium, both of which provide extra gastric acid neutralising (buffering) effects.
- ▶ Horses that work more than five times a week are known to have a higher prevalence of glandular/pyloric ulcers.
- ▶ Decreasing the number of times per week that the horse works is a useful strategy for reducing the prevalence and severity of ulcers and decreasing the risk of musculoskeletal injuries.
- ▶ Horses that have some physical contact with each other (in addition to visual contact) are less likely to develop ulcers.
- ▶ Alternatively regular grooming or massage may help with minimising the risk of developing gastric ulcers.
- ▶ Horses are more likely to develop ulcers if a radio is playing in the stable.
- ▶ Turn out/pasture time will reduce the prevalence of ulcers.

Lucerne hay is the hay of choice to aid in the treatment and prevention of gastric ulcers.

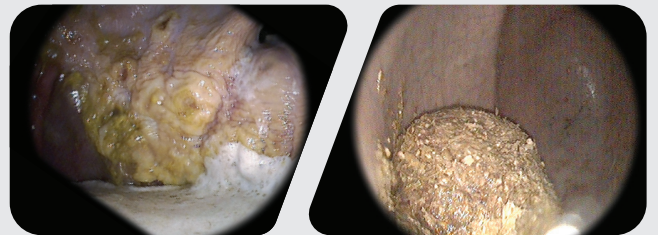


**LEFT:** Severe (grade 4), haemorrhagic ulcers along the lesser curvature. The ulcers are caused by acid splash from the pool of gastric fluid below.

**RIGHT:** The same horse after a 4-week course of Ulcershield (omeprazole). The stomach still shows some minor yellow discolouration but is much improved and no longer painful.

It is essential that your horse is fed prior to exercise and travel. This includes prior to walking exercise.

A minimum of 2Kg/3L of feed (=2 dippers) of roughage is recommended. Alternatively the horse may be fed its normal breakfast.



The image on the left shows a pool of gastric acid in a horse's stomach. The stomach also has evidence of chronic acid damage with yellowing of the lining and some deeper ulcer craters above the acid tide line.

The image on the right shows the effect of feeding a small roughage/hay feed. The food forms a "fibre sponge" ball which absorbs the free gastric acid and also provides a physical barrier to acid splash. Feeding a small roughage feed prior to working will minimise any gastric acid "splashing". Alternatively, the horse can start its morning feed prior to walking or working.

### ▶ Oil is a good alternative to grain as an energy source in a horse's diet.

- Grain is partially broken down to volatile fatty acids in the stomach and this adds to the acid burden. Obviously, manipulation of grain ratios in racing stables is difficult.
- Consideration should be given to utilising fats/oils as an alternative energy source to replace some of the grain in the horse's diet.
- Horses on some commercial feeds may already be receiving fat in their diet and this should be taken into account when determining the amount of oil to be added.
- Up to one cup (200mL) of oil can be given twice a day in the feed. The oil should be introduced slowly into the diet over a period of about 3 weeks, starting with 50mL twice daily.
- Corn oil has been shown to provide additional protection against gastric ulcers. However, any vegetable oil high in Omega-3 fatty acids is likely to be of benefit.



## TREATMENT STRATEGIES

There is a large volume of scientific research and clinical experience proving that omeprazole is the most safe and effective treatment for gastric ulcers in horses.

- ▶ Omeprazole and ranitidine (both acid suppressing-drugs) are the only proven treatment for gastric ulcers in horses.
  - Omeprazole (eg Ulcershield, Gastropell) is 10 times more potent than ranitidine (Ulcerguard) and has been shown to be more effective than ranitidine in treating ulcers in horses.



## KEY POINT

Although horses with gastric ulcers may still race well and even win major races, they will in general race and train better once their ulcers are treated.

## The \$2.6M inch

The finish of the 2008 Melbourne Cup won by Viewed (top). Racing is a sport where an inch can mean the difference of thousands of dollars in prize money, not to mention prestige.

Gastric ulcers are known to result in a lower maximum oxygen uptake, decreased stride length and a shorter time to fatigue, all of which adversely affect performance.

Viewed was on anti-ulcer medications.



Gastric ulcers have the potential to impact significantly on racetrack performance. This has been confirmed in several scientific studies. There is also a huge amount of anecdotal and clinical evidence to support the negative effects of ulcers on performance. Horses with ulcers may still win races, but they are likely to improve once their ulcers have resolved.

### Gastric ulcers are known to result in:

- Earlier fatigue
- Lower oxygen uptake
- Shorter stride length

### This is in addition to the well-recognised symptoms of:

- Poor appetite
- Weight loss / poor body condition
- Behavioural changes (eg. nervousness, reluctance to work, jacking up, irritability, etc.)
- Dull coat ("ulcer coat")
- Mild, intermittent colic, esp associated with eating
- Windsucking/crib-biting
- Diarrhoea
- Chronic ulcers may even cause anaemia

### ALL OF THE ABOVE WILL ALSO IMPACT PERFORMANCE

- Omeprazole only needs to be given once daily compared with ranitidine which is administered 2-3 times per day (ideally every 8 hours).
- Omeprazole comes in two forms; enteric-coated (eg Gastropell Daily and Gastropell Forte) and buffered paste (eg Ulcershield). Both formulations are known to protect the omeprazole against acid destruction in the stomach.
- Nutraceuticals, feed supplements seldom meet their advertised claims for the treatment or prevention of gastric ulceration. Horses should always undergo a gastroscopy before and after a treatment course to determine the effectiveness of any treatments.
- Long-term daily administration of omeprazole is known to be safe. Any effect on relative calcium absorption is minimal and of no clinical significance as the normal racehorse diet is rich in calcium.

### ▶ Ulcer medications must be given a minimum of 30 min (and preferably 60 min) prior to feeding, regardless of which ulcer medication is used.

- The presence of food in the stomach dramatically decreases the absorption of the ulcer medications.
- Ideally ulcer medications should be given at whatever part of the day the stomach will be most empty. It does not matter whether the medications are given in the morning or the afternoon.
- Horses naturally rest/sleep and decrease their feed intake between about 10PM and 5AM (or when woken by stable activity). Thus first thing in the morning is the ideal time to administer ulcer meds.
- There is no need to deliberately fast horses overnight.
- The time of administration should be tailored to fit into your daily stable routine. Prior to going on the walker or for a swim in the afternoon is a good alternative to consider.

### ▶ Ulcer medications need to be given daily and long-term.

- Horses that are in high intensity training/stressful scenarios (eg typical racing stable life) are at high risk of developing gastric ulceration and require regular and ongoing treatment for their ulcers.
- Ulcer medications should be given at the same time every day, seven days per week.
- It is likely that ulcers may recur once treatment has stopped.
- In racehorses in full work, the full treatment dose is likely to be required. It is doubtful that the maintenance/prevention dose will prevent ulcers from recurring in this population of horses. Humans with gastric ulcers require ongoing (often life-long) treatment.

Omeprazole should always be administered on a relatively empty stomach. Horses naturally "fast" between 10:00PM and dawn. So, first thing in the morning is a good time to treat horses with ulcer meds. Do not feed horse for 30-60 minutes after administering omeprazole.

### ▶ Glandular and pyloric ulcers

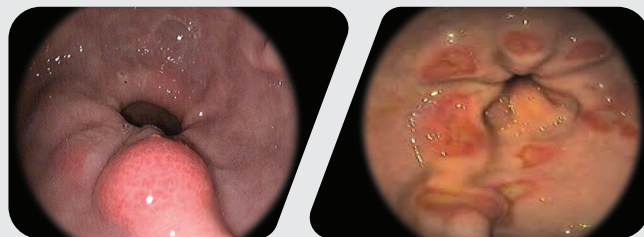
- Glandular/pyloric disease involve the bottom 2/3 of the stomach (the pink part) and the valve where the food leaves the stomach and enters the small intestine (pylorus).
- Symptoms caused by glandular/pyloric disease are similar to those of squamous ulcers.
- Glandular/pyloric ulcers are not caused by "acid splash" but acid suppression remains an essential part of their treatment.



- The treatment of glandular/pyloric ulcers is more problematic. They are difficult to clear up and require longer-term treatment (8-12 weeks). Your veterinarian will advise you of the best treatment options if your horse is diagnosed with pyloric ulcers.

### ▶ Management of gastric ulcers in a racing stable should incorporate periodic gastroscopy screening days.

- This will aid not only in the management of individual affected horses but also in general stable management.
- Gastroscopy is the only definitive way to diagnose and grade gastric ulcers.
- Pre- and post- gastroscopies are the only way to monitor the effectiveness of any treatments.



Up to 30% of racehorses will have ulcers/lesions of their pylorus (the valve that regulates the flow of ingesta from the stomach into the small intestine). Pyloric lesions may be inflammatory (left) or ulcerated (right).



## Sucralfate adjunct treatment for ulcers

(esp. glandular/pyloric ulcers) and other ulcerative disorders of the intestinal tract. Sucralfate coats the ulcer bed, forming a "biological bandage" and promotes secretion of protective mucus.

Sucralfate should be administered twice daily (and preferably 4 times daily). It can be administered in the horse's feed but should be separated from omeprazole administration.



Most of the leading racehorse stables in the UK, Europe and USA feed ad lib roughage in the form of grass or meadow hay.

# RANDLAB'S ULCER MEDICATION SUITE

EC



### ENTRY LEVEL

Ideal for horses in light work, horses under low stress scenarios or low body weight dosing (foals and ponies).



### THE "GO TO" ULCER PRODUCT

The "workhorse" of ulcer medications. Suitable for most horses under most scenarios. Increased absorption compared to competitors in 4 x University trials means better bioavailability.

EC



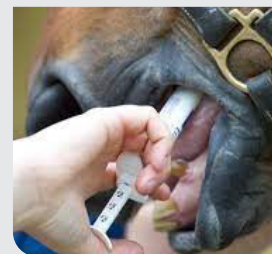
### TREATMENT OF CHOICE FOR RACEHORSES

Premium, fortified product for high performance horses. Great for chronic recalcitrant ulcers, whenever a rapid response to treatment is required or for horses under high stress scenarios.

EC

Enteric-coated formulations need to be given over the base of the tongue, as far back in the mouth as possible.

**Do not allow horse to chew on enteric coated products.**



STRENGTH

## Randlab's over-the-counter products for the continual wellbeing of your horse's health

### Optimise X



NEW

Patented formulation of natural products including potent anti-oxidants to promote endurance and strength and aid recovery from strenuous exercise.

1L Bottle

### Supravites



Premium electrolyte, vitamin and antioxidant supplement for use as a daily supplement or recovery drench.

15kg Pail

### Electrolene Paste



High dose oral electrolyte paste with added B-group vitamins and Vit E. Aids in preventing/treating dehydration and aids recovery post-exercise and racing.

90g Syringe

### Kentucky Gold Saline Drench



Electrolytes, B vitamins and energy saline drench. Aids in recovery from strenuous exercise and racing.

300g Sachet

### BC5aa Paste



Branched-chain amino acids for optimum muscle recovery and treatment of "tie up".

60ml Syringe

### Alljoints



Unique blend of premium ingredients supporting joint health, nutrition and maintenance.

800g Jar

### ProMax



Traditional broad-spectrum de-wormer plus tape.

32.4g Syringe

### Goldmectin



Broad-spectrum, low volume de-wormer with added control of tapeworms.

7.49g Syringe

NEW



### Pradectin

Premium de-wormer for use whenever resistance is established or for treatment of encysted small strongyles. Not recommended for routine use.

7.49g Syringe

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Manufacturer of High Quality Equine Veterinary Medicines Since 2004



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