

# The Guts of The Matter

# COLIC

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Her clinical interests include diagnostic imaging, the investigation and management of musculoskeletal issues in the equine athlete, the equine foot, neonatology and internal medicine.

**T**he one word that instils fear and concern in horse owners is the word **COLIC** - seeing a horse with colic is very distressing and every owner seems to know of a horse that has died from it.

Colic is not a diagnosis; it is a term used to describe the signs associated with abdominal pain. It is likely that most horses will have an episode of colic at some stage in their life.

Colic is one of the most common equine emergencies, and providing veterinary advice is sought promptly and appropriate treatments given, a good outcome is usually achieved.

**"Less commonly considered causes include some medications and wormers, stress, infection, exercise, travel, worm burden and a change in routine."**

## WHAT CAUSES THE PAIN?

- Intestinal distension/gut wall stretch (with gas, faecal material or ingesta)
- Intestinal spasm – motility disruption
- Tension on the mesentery (the mesentery is the connective tissue which suspends the intestines within the abdomen)
- Intestinal inflammation (enteritis, peritonitis or colitis)
- Intestinal ischaemia (when the intestines "die" due to a disruption to the blood supply)

## CAUSES OF COLIC

There are many causes of colic:

### 1. Gas/tympanic colic

This is a very common cause. Gas is a normal by-product of microbial assisted digestion in the horses' large intestine, which is essentially a fermentation vat. There is the potential for this gas to become temporarily trapped within the intestine causing colic. Gas colic cases can also result from the increased production of gas from sudden access to a more highly fermentable food source. Pain associated with gas colic is a consequence of distension and stretching of the wall of the intestine. It can be extremely painful. Providing there is not a complete obstruction of the intestine, the gas will pass. There is the potential for a severely gaseous colon to become buoyant and then potentially twist on itself or displace. This is an example of how a simple gas colic can on occasion turn into a surgical emergency.

### 2. Spasmodic and ileus colic

These types of colic are a consequence of changed motility. It may decrease or increase resulting in pain. Spasm of the intestine may come in cycles, so your horse may have periods of colic interrupted by less painful moments. Spasmodic colic cases can have numerous causes and often the exact cause is never realised. Potentially anything eaten that irritates the gut can cause these types of colic, and they are often associated with a sudden diet change. Less commonly considered causes include some medications and wormers, stress, infection, exercise, travel, worm burden and a change in routine.

Ileus is the term used to describe a lack of normal motility of the intestine and may occur when there are other underlying obstructions of the intestine.

### 3. Impaction colic

These cases occur as a result of dehydrated food material compacting into concrete-like masses and obstructing the intestine at various narrow locations throughout its length. Occasionally foreign material such as twine, rope or plastic bags can be involved in the obstruction. They most commonly occur at the pelvic flexure, which is a hairpin bend and a narrowed location in the large colon.

Impactions can occur over days and colic pain can initially be mild but may worsen with time. The sooner an impaction is diagnosed and treated, the easier it is to correct with medical management. With time, the food impaction becomes more dehydrated and more concrete-like and consequently become more difficult to treat. Early impactions can be treated with repeat stomach drenches, while more severe cases require intravenous fluid therapy and occasionally surgery is indicated. Very fibrous feeds are more likely to be incriminated with impactions and dehydration often has a compounding effect. Poor dentition greatly increases

## STATISTICS



Incidence:  
4 – 10% of the total horse population have colic annually

# 2<sup>nd</sup>

Second biggest cause of mortality in the horse (the first is age)



10 – 15% of cases require intensive care or surgical intervention



1 in 10 of all colic cases are euthanised or die



Majority of cases (85 – 90%) are medical cases and will respond to pain relief

### THE TAKE HOME MESSAGE:

The majority of colic cases are straightforward and require simple veterinary management, the minority require more intensive care or surgical intervention.

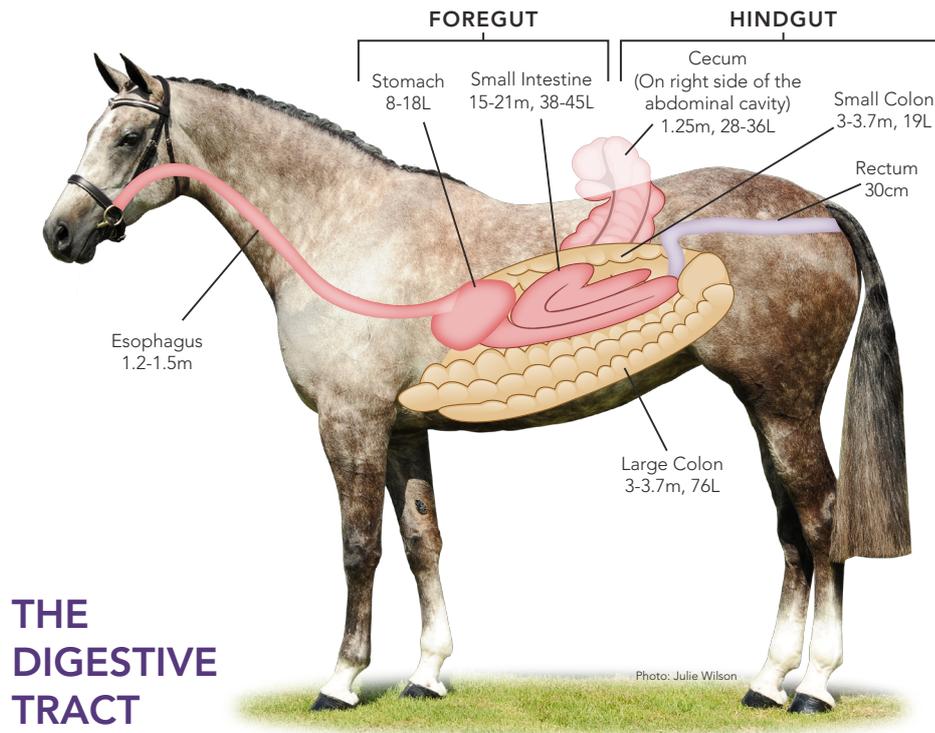
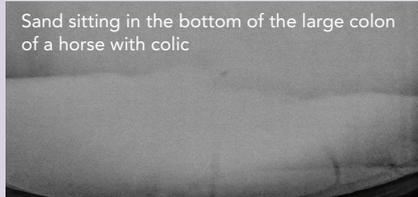
the risk of impaction colic cases, as these horses tend to not chew their food adequately, resulting in increased fibrous content in the large intestine. There is no doubt that regular dental work will reduce the possibility of this type of colic. Ensuring continual access to fresh water and allowing exercise will help to reduce the chance of impaction colic.

Occasionally stomach impactions can occur.

#### 4. Sand colic

Sand colic occurs as a result of inadvertent ingestion of sand or loamy soil over a long period of time. These types of colic occur in areas where the soil is sandy, but also in drought areas where there is minimal grass and the horses ingest soil when grazing. Sand can accumulate in the horses' large colon and over time sufficient volume can build up causing colic. Mild colic can result from the mechanical irritation to the lining of the gut, much like sandpaper. This can cause chronic episodes of pain over months or longer, and occasionally it is associated with diarrhoea. There is the potential for large volumes of sand, even up to 20 litres, to completely obstruct the intestine resulting in severe colic. These colic cases are treated in a similar manner to impaction cases. Recalcitrant sand colic cases may require surgery. Some horses are known to eat sand due to boredom, however many accidentally ingest the sand while they are feeding off the ground. Sand colic can be prevented by using hay nets or feeders. Feeding psyllium husks to at-risk horses is of benefit, as this will help move the sand through the intestine.

Sand sitting in the bottom of the large colon of a horse with colic



### THE DIGESTIVE TRACT

#### 5. Parasitic causes of colic

Worm burdens can cause severe and potentially fatal colic. The worst offender of all is the strongyle group of worms. These parasites can migrate through the blood vessels supplying the intestines. Excessive worm burden can result in thrombosis or clots to these blood vessels resulting in loss of blood supply. This results in the death of that section of gut, and without surgery these horses have no chance of survival. This type of colic is not so common now with the availability of effective wormers. Tapeworms are also thought to affect intestinal motility, which can lead to spasmodic colic. Roundworms (ascarids) have been reported to completely obstruct the intestine of foals. Worming your horse regularly will help prevent colic.

Pictured right: A ruptured intestine due to an Ascarid impaction in a foal



## 6. Enteroliths

These are stones that form over time in the intestine, eventually causing an obstruction. These stones begin as a small pebble or a foreign body only a few millimetres in size. Over time, they are concentrically coated in minerals from the horse's diet and they can grow to the size of a small football weighing up to 12kg. Some components in horse's diets contribute to this laying down of minerals more than others. Diets high in protein and calcium, such as lucerne, can increase the incidence of enterolith formation. There can be multiple enteroliths in the one horse. A horse may colic on and off over months or years as the enterolith blocks the intestine and then moves itself free again. Eventually, these stones obstruct the intestine permanently causing a persistent and severe colic. Surgery is necessary to facilitate the removal of the enterolith.



## 7. Displacements of the large colon

A large portion of the horse's colon is not well anchored in position and it is potentially mobile. Occasionally the large colon will migrate from its normal position and becomes displaced. There are two main types of displacement – a left dorsal displacement (the large colon gets caught between the spleen and the left kidney) and a right dorsal displacement (the large colon gets caught around the caecum). Colic symptoms can be mild or severe, and potentially colic can result over days or weeks. Some displacements are successfully treated medically, however many require surgical intervention to correct the positioning of the large colon.



A large colon torsion

## 8. Ischaemic intestinal injury causing colic

These cases are where the blood supply to the intestines is affected causing them to "die-off." These are the worst types of colic, most feared by owners and require surgical intervention. They are so dangerous because the intestine suffers irreparable damage and toxins are released into the circulatory system causing endotoxic shock which can result in death. There are several different types:

- Large colon twist/volvulus. The large colon twists around on itself.
- Small intestinal ischaemia. Examples include strangulating lipomas (fatty lumps wrapping around the intestine), intussusception (intestine telescopes into itself) and entrapments (small intestine gets caught in spaces).

## 9. Infections of the intestine or peritoneal cavity

Infections can cause colic, there are three main types.

- Peritonitis. This is infection of the abdominal cavity lining.
- Enteritis. The beginning of the small intestine can become infected and inflamed, fluid accumulates in the small intestine and stomach causing colic.
- Colitis. Infection of the large colon results in severe inflammation and profuse watery diarrhea and can cause colic.

**"Prompt examination and appropriate treatment are imperative for a good outcome."**

## SYMPTOMS OF COLIC

As an owner, it is important to recognise the symptoms of colic to ensure prompt veterinary intervention. The level of pain can vary from mild and subtle to very severe. The horse with colic may show only some of these symptoms.

The signs include:

- Inappetence – not eating
- Pawing at ground
- Stretching out
- Appear as if trying to urinate
- Sweating
- Lip curling
- Watching flanks
- No passing faeces, passing faeces or change in faeces – can be variable depending on the location of the issue
- Dog sitting
- Lying down
- Rolling
- Kicking abdomen
- Distended abdomen
- Traumatic abrasions to the head and limbs from rolling

## WHAT DO I DO IF MY HORSE HAS COLIC?

If your horse has colic, you should call a veterinarian immediately. Prompt examination and appropriate treatment are imperative for a good outcome. When speaking to the veterinarian you may be asked to describe what the horse is doing. It is important that an accurate location, directions and contact details are given to the veterinarian to ensure that they are able to get to you promptly. The veterinarian is likely to give you advice whilst you are waiting, but general guidelines are:

- No food or water
- No medication administration (unless under veterinary direction)
- Walk the horse
- Not intense walking but gentle and brief walks
- Too much walking can exhaust the horse
- Maintain your own safety as horses with colic can be dangerous
- Experienced handlers
- Keep children out of the way

If the horse is showing severe pain and is dangerous to handle then put it in a safe area where it cannot hurt itself.



“Try to feed at the same time in the morning and evening and avoid rapid changes in diet.”

## WHAT WILL THE VETERINARIAN DO?

The veterinarian will take a detailed history, perform a very thorough clinical examination including taking heart rate, respiratory rate, rectal temperature, looking at mucous membrane colour, assess hydration and auscultate the abdomen. Further investigation may also include a rectal examination, nasogastric intubation, taking a blood sample, taking a sample of the peritoneal fluid and ultrasound examination. There however may be limitations in performing some of these techniques in a field environment.

The veterinarian will then make a management plan from this information and treat. If the horse is showing one of the more severe types of colic then they may refer the case to a hospital for further investigation, intensive care or surgical intervention.

## WHAT IS THE TREATMENT?

The treatment depends on the possible cause of colic, and also the clinical status of the horse. The vast majority of colic cases will respond to medical management in the field.

The initial treatment of colic involves the administration of pain relief

(phenylbutazone, flunixin or butorphanol) and sometimes sedatives. Anti-spasm medications such as buscopan may be used. Other treatments that may be used for simple medical colic cases includes drenching with electrolyte solution. Some veterinarians may also use liquid paraffin in some cases, although this is becoming less common.

Some cases may require hospitalisation for more intensive treatments, including repeated drenching, repeat doses of pain relief and intravenous fluid therapy.

For those horses that fail to respond to medical treatment or those who are considered to have a surgical lesion following the investigation mentioned above, rapid surgical intervention is required. Surgical colic cases include twisted or incarcerated intestine, displacements of the large intestine, enteroliths and impactions that fail to respond to medical treatment. Colic surgery is a big undertaking, both in terms of potential complications for the horse and costs for the owner, however outcomes are often good with early intervention. In some cases, the only alternative may be euthanasia.

Your veterinarian will discuss the options that are specific to your case.

## PREVENTION

Many cases of colic will occur despite the best care. Certain simple management strategies will help lower the incidence. Horses must be fed a minimum of 1% of their body weight as fibre, concentrates should be minimised and a constant supply of clean water is a necessity. Routines should be set and maintained as much as possible. Try to feed at the same time in the morning and evening and avoid rapid changes in diet. If grazing is unavailable, horses should be fed small amounts of food frequently to mimic their natural eating habits. Avoid feeding horses on the ground in sandy conditions, or where there is not good grass cover. Regular annual or biannual dental treatment is essential to prevent feed impactions, and regular strategic worming is also required.

## SUMMARY

Colic (signs of abdominal pain) is a condition feared by many horse owners. The majority of colic cases require simple medical management, but on occasion surgery or intensive care may be required. It is important that owners recognise the symptoms of colic so that veterinary intervention is sought promptly. Colic is always an emergency. 🐾