



# UNDERSTANDING COLIC

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**Having a horse go down with acute colic is an experience which most horse owners find alarming; many feel powerless when such a large animal shows extreme distress.**

## WHAT IS COLIC

Colic is a term that has been used for hundreds of years to describe any form or cause of pain in the abdomen of a horse, but we now know that 'colic' is most commonly caused by digestive disturbances, although abdominal pain can originate in the liver, urinary tract, womb or other internal organs.

Unfortunately, the horse's digestive layout predisposes it to digestive problems and the pain of colic can be caused by a number of factors, outlined in detail in the accompanying table.

The symptoms of colic can range in severity from a mild discomfort, to an intense, localised and painful form, which can be life threatening.

Studies indicate that about 10% of colics are fatal and often associated with extreme distress and physical injury. A horse with intense abdominal pain appears to lose all awareness and self-preservation instincts by going down, rolling and knocking its legs or head, risking physical injury in its attempts to relieve the pain.

## CAUSES

There are about eight common causes of colic, most being due to feed-related digestive disturbances. Colic can result from gorging concentrate feed, consuming mouldy or spoilt feed and accidentally ingesting sand when grazing or fossicking for spilt

feed or hay on the ground. Sand colic is most common under dry conditions when horses have to graze closer to the ground surface to nibble short or sparse pasture.

Historic 'colic' drenches or 'treatments', often containing plant extracts with sedative and sometimes relaxant properties to ease pain and muscle spasm, are only effective in the types of colic related to bowel spasm and low-grade blockages. Colic caused by heavy Bloodworms infestations, sand accumulation, intestinal infections, bowel twists and digestive upsets may not respond to simple 'colic' drenches. These conditions can be fatal if not promptly and properly diagnosed and treated by a veterinarian.

## FACTS AND STATISTICS

- On average, a horse will suffer from a painful colic about three times during its lifetime.
- Up until 20 years ago, over 90% of colic was caused by heavy burdens of Bloodworm (Strongylus vulgaris) larvae, but nowadays, with effective wormers and worming programmes to target these worms, the incidence has dropped to 2% on well managed horse properties.
- About 30% of colic is caused by impaction in the large intestine due to over-feeding of grains and dry, fibrous roughages.
- About 10% of colic is potentially fatal.
- The incidence of strangulation colic has increased by 4-5 times over the past 20 years.
- There are at least 14 causes of colic related to poor quality feeds, feeding habits and poor feeding management in horses.

## THE FOLLOWING TABLE SUMMARISES THE COMMON CAUSES OF COLIC, THE RELATIVE SEVERITY OF THE SIGNS, AND THE IMMEDIATE MANAGEMENT REQUIRED.

RESULT	INTENSITY OF COLIC	IMMEDIATE MANAGEMENT
<b>HEAVY WORM BURDENS (Small And Large Intestine)</b>		
Ascarids (Large Roundworms) in foals 6-36 weeks of age cause intestinal irritation and physical blockage of the small intestine.	Mild to severe colic. 'Pot bellied' appearance.	Consult vet before treating with a worming compound. Worm foals at 4-6 weeks of age then every 6-8 weeks.
Intestinal Threadworms in foals 3-16 weeks of age. Can cause intestinal irritation and severe, dehydrating diarrhoea.	Often low grade to mild initially, but can become acute, with dehydration and risk of collapse and death.	Consult vet. The foal may need support treatment with fluids and electrolytes. Worm mares one month before foaling, on the day of foaling and young foals if necessary.
Tapeworms in young horses and adults at pasture can cause erosion of the ileocaecal valve.	Low grade to mild colic. Often history of low grade colic at 2-4 week intervals.	Consult a vet. Specific worming to target tapeworms may help to avoid further attacks.
Large Strongyles (Bloodworms) lay larvae in major abdominal arteries.	Mild to severe. The blood vessels can rupture if arteries are severely damaged.	Consult a vet if colic is severe. Worming at 6-8 week intervals will help break the lifecycle and clean pastures
Small Strongyles (Redworms) the Larvae irritates large intestinal lining, often 3-4 days following worming.	Usually low grade and not common. Seen as ill-thrift initially.	Poor coat and ill-thrift indicate need to worm. Two wormings, three weeks apart, help to break worm lifecycle.

## SAND INGESTION (Large Intestine)

Accumulation of fine particle sand in the base of caecum and large intestine causes pressure necrosis and devitalisation of the gut wall, leading to rupture and peritonitis.	Mild colic if sand causes obstruction, developing into severe colic if peritonitis develops due to bowel rupture.	Fine beach or river sand is the most likely to compact. Increased risk when horses harbour heavy burdens of resting larvae of Small Strongyles, which reduce motility of the large intestine. Regular sand removal with a suitable laxative preparation is recommended.
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## GAS ACCUMULATION - FLATULENT COLIC (Large Intestine)

Highly fermentable fibres, such as lush grass or lucerne, cause accumulation of gas and inability to move it through the intestine.	Spasms of pain as gas expands in large intestine during movement.	Walking the horse for 10-15 minutes will often increase gut movement to allow gas to move through intestine. Relaxant medications will relieve spasms and reduce discomfort and bouts of colic pain.
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## INTESTINAL BLOCKAGE (Large Intestine)

Large amounts of dry high fibre hay ingested quickly with inadequate chewing and water intake can compact in the large intestine.	Usually mild colic initially, but if impacted mass dries out, total blockage can cause severe colic and loss of appetite.	Diagnosis by a veterinarian is essential. Walking may relieve initially, but continued discomfort may need drenching with oil to soften and move the obstruction, relaxant drugs and, in severe cases, abdominal surgery.
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### DILATION (Stomach)

Rapid intake of grain or finely milled feeds, especially in a horse that 'bolts' its feed.	Mild to severe. Increased gastric fermentation with gas which 'balloons' the stomach.	Walking will often help gas to escape back up to the mouth. Severe cases need to be treated by a vet by passing a stomach tube to prevent rupture of the stomach. Feed hay first.
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### DISPLACEMENT - TORSION COLIC (Large Intestine)

High grain and low roughage diet can reduce intestinal movement.	Usually intense pain with sweating and rolling, which may cause injury.	Walk horse initially, restrict excessive rolling and seek veterinary advice. Always feed at least 35-40% hay or roughage with a grain based diet. This is the most common colic requiring surgical correction.
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### SPASMODIC COLIC (Stomach and Small Intestine)

Intake of very cold water immediately after hard exercise when horse is standing.	Spasms of pain, varying in intensity. May result in altered blood flow to the gut.	Walk the horse to generate body warmth. Give 1-2 litres of water initially 10 mins after hard exercise or feed dampened hay after a hard workout.
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### INTESTINAL INFLAMMATORY DISEASE

Rapid ingestion of concentrates, especially pelleted feeds.	Low grade to mild gut pain. Poor absorption of feed – may persist for a few days.	Diagnosis by a vet – often pain relief is required. Avoid feeding pellets to a hungry horse unless diluted by 50:50 with chaff.
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#### ABOUT JOHN KOHNKE:

Dr. John Kohnke is arguably Australia's leading nutritional and practical feeding advisor and his services are sought throughout Australia and worldwide for advice on the feeding and management of horses. He has over 35 years experience as a veterinarian specialising in equine nutrition and management. Dr. Kohnke gained his early professional experience with horses as a veterinarian on a leading Thoroughbred horse breeding and racing stud. In March 2002 he started his own company John Kohnke Products and formulated an innovative range of feed supplements and horse care products, distinguished by the Kohnke's own brand name. The large range of Kohnke's Own supplements are formulated to meet the specific needs of all types of horses, based on the latest research in nutritional standards (NRC 2007) and manufactured to the highest quality standards. Check out the Kohnke's Own website [www.kohnkesown.com](http://www.kohnkesown.com)

### MANAGEMENT TO AVOID COLIC

Careful feeding and regular worming is essential to reduce the risk of colic in horses. Therefore attention to the quality of feed and the amount provided relative to the type of exercise and time of feeding is paramount to reduce the incidence of colic.

1. Always feed only good quality horse food at all times, avoiding mouldy or poorly cured hay and chaff in particular.
  - ❑ Avoid feeding above 2.5kg grain per meal to any horse.
  - ❑ Finely cut cereal chaff has been associated with a risk of impaction colic in horses. A long cut or coarsely shredded white chaff stimulates more chewing and better preparation of the fibre for digestion.
    - ❑ Do not feed left-over damp feeds which may have gone sour, 'musty' or fermented to any horse.
    - ❑ Always dampen hay by wetting it down with clean water to soften and hydrate it before feeding to groups of ponies and miniature horses grazing on dry pasture, especially under cold winter conditions when they may not drink adequate water to maintain their bowel fluid content.
    - ❑ Avoid feeding round bales unless the internal core is checked for mould or decaying animal or bird matter to reduce the risk of botulism. It is best to portion out a feed from a round bale to reduce waste and the risk of hungry or cold horses gorging on dry hay.
      - ❑ Limit the rate of feed intake in fast eaters or greedy horses by placing a sheet of thick welded mesh with 100mm x 100mm boxes, cut to fit snugly into the feed bin, to prevent a horse 'bolting' or 'scoffing' its feed and overloading its digestive tract.
  - 2. Avoid working a horse within 30 minutes of of hard feeding.

3. Ensure that feed bins and hay racks are provided to reduce the risk of sand ingestion on soils containing fine sand. Young horses will often eat sand, which can result in colic and diarrhoea. Observe them carefully and shift them onto a less sandy pasture or yard and provide dampened hay. Consult your vet for advice.

4. Limit access to cold water to 1-2 litres as a first drink for a horse which is hot and resting after hard work or long distance exercise. To encourage a horse to drink after exercise, offer lukewarm water, containing two teaspoonfuls of plain table salt per litre, with an equal amount of glucose.

5. Check a horse's teeth at 6 month intervals to improve the efficiency of food mastication.

6. Prevent access to all poisonous plants, especially those species of fibrous weeds which persist under dry conditions.

7. If a horse exhibits colic after strenuous or long exercise as a result of fatigue, offer it a warm saline drink, ideally with an equal amount of glucose, and walk it for 15-30 minutes to assist recovery. Keep the horse warm with a blanket. Consult your vet for advice.

8. Regular worming with a broad spectrum or liquid formulation at 6-8 week intervals to control the major internal parasites is essential, with rotation to another chemical base of wormer every 10-12 months. Simply changing the brand of wormer is not a rotation to an alternative, differently acting compound. Two wormings, three weeks apart, are recommended to break the Small Strongyle lifecycle. Rigorous pasture and stable hygiene to reduce manure contamination improves effectiveness in controlling worm burdens by 5-10 times, as compared to worming alone. Consult your vet for advice.



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