**Equine colic** is a relatively common disorder of the digestive system. Although the term **colic**, in the true **definition** of the word, simply **means** “abdominal pain,” the term in **horses** refers to a condition of severe abdominal discomfort characterized by pawing, rolling, and sometimes the inability to defecate.

There are a variety of different causes of colic, some of which can prove fatal without surgical intervention. Colic surgery is usually an expensive procedure as it is major abdominal surgery, often with intensive aftercare. ***Among domesticated horses, colic is the leading cause of premature death***. The incidence of colic in the general horse population has been estimated between 4 and 10 percent over the course of their lifetime. Clinical signs of colic generally require treatment by a veterinarian.

It is commonly **caused** by a change of diet, a lack of roughage or parasites. The clinical signs are generally mild and respond well to pain relief and spasmolytic medications, such as buscopan (*Buscopan* relieves painful stomach cramps). Impaction **colic**: This is when a blockage occurs in the intestine.

**Signs of colic in horses**

In addition to general changes in behavior a horse with colic may exhibit some or all of the following signs:

* Restlessness and pawing at the ground
* Sweating and increased breathing rate
* Irritated kicking to the stomach
* Stretching as if to urinate
* Rolling or attempting to roll
* Elevated pulse rate

If there's minimal fluid, your veterinarian can use the tube to give mineral oil, water, and/or other laxatives. Mineral oil and laxatives may relieve an impaction, and water can rehydrate your **horse**. Both mineral oil and water can stimulate gut motility.

**Risk factors of colic**

* Digestive disorder such as tooth problems, worm burdens and gut damage (including previous colic surgery)
* Poor feeding regime: soiled food, inappropriate quantities, lack of fibre and/or water, or a sudden change in diet
* Stress such as hard exercise while unfit or after eating, traveling, sudden change of routine or environment
* Poor and over-grazed pasture, especially if the soil is sandy

**Types of Colic in Horses**

**Gas Colic**

Gas colic occurs when there is excessive build up of gas within the intestines of the horse. These horses can often have a lot of flatulence.

**Spasmodic Colic**

Spasmodic colic is the result of intestinal cramps or spasms. This type of colic can also have intestinal hyper motility.

**Impaction Colic**

Impaction colic accounts for 10% of all colics attended by veterinarians. These occur where partially digested feed, typically roughage, builds up in the large intestine of the horse and stops moving, resulting in a blockage or impaction. With impaction colic, the horse is not passing dung.

**Sand Colic**

Sand colic occurs in horses living in sandy areas, or horses fed from sandy ground. Fine particle sand builds up in the large intestines resulting in colic.

**Twisted Gut**

A twisted gut occurs where a portion of the intestine twists on itself (intestinal torsion) or where a portion of intestine inverts into itself (intussusception). This uncommon type of colic accounts for less than 4% of colics overall, but it is very serious and life threatening.

**Displacement/Entrapment Colic**

Displacements occur when an area of the intestine moves from its normal location in the abdominal cavity to somewhere else, naturally this is not a common type of colic. When the displacements cannot freely move back to its original location, it becomes an entrapment. Displacements and entrapments are very serious because this change in location stretches the blood supply to the area of intestine and can result it being compressed or squashed.

**Strangulation Colic**

Strangulation colic is very uncommon, but very serious. Strangulation colic occurs when the blood supply to an area of intestines is cut off (strangulated). Cutting off the blood supply, results in rapid death of the intestine wall, a serious life threatening situation.

It is important to realize however, that the vast majority of colics never have their exact causation determined. Happily, this “unidentified type” of colic, also has a recovery rate of over 95%. This can be interpreted as; most horses get a mild form of colic, which is successfully treated by their veterinarian, making further investigation unnecessary.

**Symptoms of Colic in Horses**

Despite the myriad types of colic, the signs of colic in horses are non specific. The typical signs of colic which most horse owners are familiar with include the following:

* Pawing the ground
* Looking at the flank
* Kicking or biting at the flank
* Tail swishing
* Repeatedly lying down and getting up again
* Lying on their back
* Violently throwing themselves to the ground
* Rolling
* Curling upper lip
* Stretched stance with hind legs far behind
* Sweating
* Increased breathing rate
* Inappetence
* Extreme dullness
* Extreme agitation
* Bloodshot eyes/lips

A horse with colic however, will exhibit only some of these signs. And which signs they exhibit give little indication of which type of colic they have. Regardless, horse owners should contact their veterinarian as soon as they suspect colic in their horse. In many cases earlier treatment results in better outcomes.

While waiting for your veterinarian to arrive, you should bring the horses into a stable or small sectioned off area for closer observation and remove any feed. Horses that are rolling or getting up and down, can be hand walked, if safe to do so. Observe the horse for worsening of signs, interest in food and water and defecation or flatulence.

**Treatments for Colic in Horses**

Your veterinarian will examine the horse thoroughly, recording their mucus membrane color, hydration status, heart rate, respiratory rate and gut sounds. They may also perform a rectal examination, naso-gastric intubation, abdominal ultrasound, a belly tap or blood sampling. All of these tests help your veterinarian get a more accurate picture of the type of colic affecting your horse, so they can implement an appropriate treatment plan. Treatment options which your vet will consider include:

**Pain Relief**

Horses with colic are in pain, common equine pain relieving medications such as phenylbutazone are used in the treatment of colic.

**Antispasmodics**

Some horses with colic have over-active spasming intestines. Medicines which reduce intestinal motility can be used in such cases.

**Electrolytes/Fluid Therapy**

Horses that are dehydrated can have electrolytes and fluids administered via a stomach tube or intravenous dip.

**Laxatives**

Laxatives such as liquid paraffin are given using a stomach tube and particularly employed for cases of impaction.

**Surgery**

Although dreaded by owners, surgical treatment for cases of twisted gut, strangulation and displacement/entrapment is the only option. It is estimated that there are 2-3 colic surgeries per hour in the USA. Unfortunately, not only are these expensive, the statistics indicate, only 50% of horses operated on for colic survive.

**Effects of Colic in Horses**

Unfortunately, because of the diverse types of colic and the unique challenges of equine digestive system, horses will always be prone to colic. There are some risk factors associated with colic that owners however, can impact on, including:

* Worm control – heavy worm burdens increase the risk of colic.
* Dietary change – rapid dietary change increases the risk of colic.
* Dental health – poor dentition is associated with impaction colic.
* Roughage quality – Diets predominately containing coarse roughage (such as straw) are associated with impaction colic.
* Concentrate feeding – feeding over 5kg of concentrates, in one or two feeds increases the risk of colic. Feed little and often to reduce this risk.
* Pasture access – horses with greatest time at pasture have least incidence of colic.
* Exercise – reduced exercise increases the incidence of colic.
* Cribbing – horses that crib have an increased incidence of colic.
* Transport – post traveling horses have a greater incidence of colic
* Post Pregnancy – mares have a greater incidence of colic in the 2-6 months after having a foal.

Not all of these risk factors can be altered by owners in every case, however, knowledge of these risk factors, can help with horse and dietary management to help minimize their impact.

Horses will always be prone to colic, good dietary and husbandry management can minimize their chances of being affected by colic. Knowledge of the signs of colic and vigilance regarding their observation results in quicker veterinary intervention and referral, leading to better recovery rates for the horse. Finally, although colic is a serious condition, requiring prompt treatment, it should be remembered, the risk of an individual horse of suffering from colic is quite low.

If you have further concerns about colic in horses or if we haven’t answered all your questions, you can contact one of our equine specialists for [further advice](http://www.redmills.ie/Horses/Advice/ask-our-experts).

**Goals**

By looking at some of the information provided in this colic dataset (get source) to determine if some of the symptoms and characteristics of the horse have some sort of influence on its need for surgery and the outcome (either of surgery or the horse - died, lived, euthanized). This is a near and dear problem for horse owners. I have had one horse that suffered from colic 2 times that required surgery. She survived the first and lived 2 more years. However, she was euthanized the second time she was on the table. I have also had other horses that have had various degrees of colic that were able to recover with pain medication, diet change and rest.

Insurance companies use information like this - similar to any actuary for life and medical insurance - to determine if a horse can be insured for colic. Horses that have coliced traditionally are not insurable for at least another year. After a colic-free year, they can have this exclusion removed. This is important for horse owners as well to understand if surgery will actually give their horse a shot a survival or if it is not worth the expense.

Missing Data 1. How long ago was the horse’s last colic?

1. Mare or gelding?
2. Any recent stressors? Move, Show, Pregnancy, etc.
3. Breaking up age into more groups: under 6 months, yearling, 1 <= 3 years, 4 <= 10 years, 10 <= 15 years, 15 <= 20 years, over 20
4. How long experiencing colic symptoms
5. On any medication? Doxyclicine, tetracycline, etc.
6. Any reflux or not (indicates impaction).