



# What Can You Do To Prevent Colic In Your Horse?

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## OVERVIEW

Colic in the horse refers to signs of abdominal pain but it is not specific for the gastrointestinal tract, any segment (stomach, large colon, etc.) of the intestinal tract, or a specific cause (ulcers, impaction, displacement, torsion, etc.). In fact, horses can demonstrate signs suggestive of abdominal pain with other non-gastrointestinal diseases, including such things as pleuropneumonia, uterine torsion, urinary tract stone, laminitis, hyperkalemic periodic paralysis, tying up and some neurologic diseases. An episode of colic can range from mild and intermittent to severe and prolonged. Every colic episode should be taken seriously because many conditions that cause colic can be rapidly progressing and even life threatening. Colic is the most common natural cause of death in horses and is the number one reason horses are referred to the Ohio State University Veterinary Teaching Hospital Galbreath Equine Center on an emergency basis.

The anatomy of the horse's digestive system predisposes it to a number of problems that can lead to colic. Some causes of colic are referred to as intestinal accidents and are difficult or impossible to completely prevent; these typically involve twists (torsion or volvulus), incarcerations or other types of strangulating lesions where the intestinal blood supply becomes compromised. However, proper management can help prevent many forms of colic and the substantial expense that is often associated with treating a horse for colic. Below are some suggested management tips that should be considered in an attempt to reduce the risk of your horse developing colic.

## FEEDING

It is important to establish a daily feeding routine and strictly adhere to it. The majority of a horse's diet should be comprised of roughage, which is usually provided in the form of good quality hay or pasture. The horse's digestive tract is designed to digest roughage in the large intestine with the aid of naturally occurring bacteria, generating volatile fatty acids which are absorbed and supply approximately 75% of an adult horse's daily energy requirements. The horse's digestive tract is most efficient when the horse consumes roughage on an almost continuous basis; therefore, it is preferential to allow a horse free-choice access to pasture or hay. Horses that are engaged in a

strenuous training program or a lactating mare may require concentrates (grain) in their diet to supplement the energy they receive from hay or pasture; however, most horses do not require a concentrate to maintain their weight and body condition. If concentrates are a part of the horse's diet, they should account for no more than 35% to 50% of the horse's energy needs. Concentrated feeds should be divided into two or more feedings rather than one large one to avoid overloading the horse's digestive tract.

Abrupt changes in diet are also precipitating factors that can lead to an episode of colic. For example, horses that are not used to eating fresh grass that are turned out onto a lush pasture will often develop tympanic (gas) colic due to ingestion of highly fermentable carbohydrates that are digested by the bacteria producing numerous gases. The gas causes distention of the intestine which stretches the wall and causes pain. Ingestion of large amounts of grain can have a similar effect in horses not used to eating concentrates, and it can also cause lactic acidosis, systemic toxemia and laminitis (founder). Feeding horses high concentrate diets and feeding them roughage intermittently such as only once or twice daily seems to be associated with the development of gastric (stomach) ulcers. Horses used to grazing pasture or eating certain types of hay (alfalfa, clover, timothy, etc) that are switched rapidly to a Bermuda grass-type hay may be predisposed to development of ileal and cecal impactions. Although this is not proven, there is substantial anecdotal evidence of an association between these events. Therefore, if a horse is used to eating a source of roughage other than Bermuda grass-type hay it should be gradually switched over by adding increasing amounts of the Bermuda grass and decreasing amounts of the other source of roughage.

## SAND AND ENTEROLITHS

Sand is a common cause of colic in New Jersey, Florida, and California, but there are few serious cases seen in Ohio. Nonetheless, horses can still ingest large amounts of sand from arenas or pastures with sandy soil. In areas with sandy soil it is beneficial to provide feed in a feeder or on a clean, dry mat to help prevent ingestion of sand, which can lead to colic. It is also helpful to make sure the pastures remain several inches tall so that horses do not incidentally ingest sand as they are prehending short pasture; this sometimes requires

rotating horses from one pasture to another. Some people also feed psyllium hydrophilic muciloid, a bulk laxative, to help remove any sand that is ingested. There are numerous testimonials to the benefit of such products, however, the only controlled scientific study conducted to date revealed that this product did not increase removal of sand via defecation.

Enterolithiasis, or formation of mineralized stones in the colon, is also relatively uncommon in Ohio, but we do see almost a dozen cases per year in the clinic at OSU. Based on information collected from horses in California and Texas, it appears that geographic location (likely related to soil, water, and feed sources), alfalfa hay, limited turn-out time, and breed (especially Arabian, Morgan, Saddlebred, and Miniature) are risk factors. Although geography and genetics cannot be controlled, limiting alfalfa hay to less than 50% of the diet, and maximizing turn-out time are ways of reducing the risk of enterolith formation. If signs of repeated colic are seen and there are risk factors for enterolithiasis, abdominal radiographs can be performed to detect an enterolith.

## MANAGEMENT

Due to their large size, horses require large volumes of water. The average 1,000-pound horse should drink approximately 6 to 8 gallons of water per day. Lactating mares, horses that sweat profusely due to strenuous or prolonged exercise, and horses in hot, humid climates may require more to maintain sufficient hydration. A constant supply of clean, fresh, potable water should be made available at all times. Sometimes, horses traveling to shows and other events will stop drinking because of a difference in taste of the water. In these instances, sometimes horses can be encouraged to drink by adding electrolytes to their water. The only exception to this is following intense exercise at which time a horse should be allowed small sips of water until it has recovered and is no longer thirsty.

Lack of a regular parasite control program has been reported to more than double the likelihood a horse will experience an episode of colic. It is important to ask your veterinarian what program would be appropriate for your horse and to diligently adhere to the schedule. This program will vary depending on numerous factors including the age of your horse and the density of horses on the pasture. The large

strongyles used to be the main culprit for causing colic, until the advent of ivermectin that has much remedied the problem. However, small strongyles, tapeworms and ascarids can still cause colic in horses of all ages if there is inadequate deworming.

A regular exercise program is another important part of a horse's lifestyle. If free-choice exercise is not available (pasture or large paddock), it is important to ensure that the horse receives daily exercise through riding, lunging, or hand-walking. Horses that are used for regular exercise such as athletic horses or horses that are allowed to roam freely on pasture seem to be at an increased risk of colic when they are confined to a stall for either management or medical reasons. Therefore, these horses should be observed closely to make sure they are passing sufficient quantities of manure and that the feces remain moist.

Some horses, particularly young curious ones, will ingest fibrous objects such as string, rubber, nylon and other foreign bodies, which usually cause colic by obstructing the lumen of the large or small colon. These types of objects should be kept out of reach of horses to prevent accidental ingestion.

Schedule regular dental exams with your veterinarian. Depending on the age of your horse, a dental examination should be performed once to twice a year. In older horses, exams and floating (filing the teeth) are needed more often. Sharp, missing, or infected teeth can impair a horse's ability to thoroughly chew its food and can secondarily predispose to colic. Dropping feed while eating is one sign that your horse may have sharp teeth that are causing discomfort while chewing. Geriatric horses require close attention to the condition of their teeth. As horses age, they may lose the ability to graze or effectively chew hay. In this case, the horse can be offered a complete pelleted feed that provides the energy, protein, and fiber no longer available by ingestion of pasture or hay.

## MEDICATIONS

Administration of some medications can predispose horses to gastrointestinal problems. The most important class of drugs with side effects on the gastrointestinal tract are the nonsteroidal anti-inflammatory drugs (NSAIDs) such as phenylbutazone (Bute), flunixin meglumine (Banamine), and ketoprofen (Ketofen).

These drugs all act to reduce inflammation and pain by the same mechanism. However, the mechanism of action also predisposes them to cause ulceration of the mucosa (lining) of the intestinal tract, especially the stomach and large colon. Although all of these drugs can contribute to ulcer formation, phenylbutazone has been shown to be the most ulcerogenic. Some horses seem to be especially sensitive to the side effects of these drugs even when the drugs are given in normal doses and for an appropriate duration. When the dose of these drugs is increased, the duration of administration is extended, or the drugs are administered in combination, the likelihood of ulceration increases dramatically. Horses that are dehydrated or not eating are at an increased risk for ulceration secondary to NSAIDs. Therefore, it is important to make sure horses are eating and drinking normally and to never give a larger dose of these drugs or for a longer duration of time than prescribed by your veterinarian.

Stress from intense training, trailering, or introduction to a new environment may also predispose to gastric (stomach) ulceration. Approximately 90% of intensely trained racehorses and 60% of pleasure horses in full work have evidence of gastric ulceration. Your veterinarian can help you determine whether your horse is affected by ulcers or at risk of developing ulcers. Omeprazole (Gastrogard) has been shown to be effective in treating and preventing gastric ulcers in horses in training. Medication for ulcers will not prevent other types of colic and it is not a substitute for good management practices.

Proper management can prevent some forms of colic in your horse. Horses kept on pasture and allowed to exercise freely, eat continuously, have an adequate supply of fresh water, and those where parasite control and dental maintenance programs are strictly followed probably have a reduced incidence of colic, compared with horses that have intensive training schedules or that do not have regular dental and deworming care. Unfortunately, even this will not prevent every episode of colic in all horses. Therefore, if you suspect your horse is colicking, you should notify your veterinarian immediately. While you are waiting for your veterinarian to arrive, remove all feed and do not allow the horse to graze. If the horse is attempting to roll, handwalk the horse until your veterinarian arrives in order to prevent self-trauma. If the horse is standing or lying quietly, there is no need to walk the horse.

