

Equine Colic (Abdominal Pain): Part 1

It always surprises me when an experienced horse person asks me how I treat “colic.” That question is akin to asking a physician how they treat a “limp.” Equine colic is simply abdominal pain. Signs of equine colic are what we see – a horse’s behavior when it is experiencing abdominal pain. Like a limp, colic can be caused by any of a large number of conditions (diagnoses). The key question we (vets and horse owners) must always ask is: *What is the condition (diagnosis) that is causing the colic?* The answer provides the information needed to determine how it should be treated.

The term “colic” tends to cause confusion and panic among horse owners. There are many misconceptions and oversimplified statements about colic in horses. Examples that I hear frequently:

- Horses colic when the barometric pressure drops.
- If you keep a horse from rolling, he can’t twist his intestine.
- Putting a colicky horse in a trailer and driving around will “fix” him.
- If a colicky horse passes manure, they are getting better.

Too often, I see the results of this flawed logic, which leads to delayed treatment and sometimes death.

THE EQUINE GASTROINTESTINAL TRACT

Since intestinal problems are so common in horses, it’s important for every horse person to know something about colic, and the basics of equine intestinal health.

The equine gastrointestinal tract is unique in its ability to utilize cellulose and other structural carbohydrates (the

fibrous part of grass that is poorly digestible). The process of breaking down this carbohydrate into useable nutrition is called fermentation, which requires a specialized and complicated intestinal tract. Fermentation produces large quantities of gas and requires a complex ecology of microbes. This sophisticated system has worked well for wild horses for millions of years, but does not function as well for our stabled horses that are sedentary and fed 2 meals per day.

A TRIP DOWN THE EQUINE GASTROINTESTINAL TRACT

From the mouth, feed travels through the esophagus to a small, 3-5 gallon stomach, and then moves into a narrow, slick and slithering, 70-foot long hose – the small intestine. From here, the partially digested feed moves into a 3-foot long, sock-shaped, 5 – 7 gallon cecum. The cecum mixes and ferments feed, absorbs water, and empties into a truck tire sized (tractor tire sized in some horses), double horseshoe shaped large colon with a narrow, hairpin turn. The large colon is the “fermentation vat” where roughage is broken down into nutrients and absorbed. After leaving the large colon, manure moves into the 10-foot long small colon, where fecal balls are formed. The manure finally exits at the rectum and anus.

SIGNS OF COLIC

Horses are very sensitive to abdominal pain and demonstrate it differently than other animals. Signs of abdominal pain in horses range from mild to severe and include: lack of appetite, lethargy, seeming “not quite right”, lip curling, teeth grinding, looking at the side, stretching, pawing, kicking at the belly, lying down, rolling, and many others.

CONDITIONS CAUSING COLIC – CCC’S

Colic signs may result from disturbances that occur anywhere along the gastrointestinal tract, or even from problems with other abdominal organs like the kidney or liver. Intestinal pain can even be confused with pain coming from other areas of the body (examples include muscular pain and chest pain).

Examples of conditions causing colic – lets call them CCC's for short – can be broken down by the intestinal region that is being affected. For example, the stomach can develop ulcers or an impaction of feed material. The small intestine can be affected by something simple like spasm, or something serious like a twist. The large colon may be affected by simple gas, blocked by a stone or strangled by a twist. Any of these regions can be affected by inflammatory disorders or bacterial infections. These are just a few of many examples of problems causing colic. As a horse owner watching a horse showing signs of colic, you truly have no idea of the condition that is causing it.

What exactly causes pain in horses experiencing colic? Pain arises from a CCC through at least one of the following ways:

- Tension on attachments of the intestine to the body wall (mesentery).
- Over-filling (distension) or muscular spasm of part of the intestine. Example: gas accumulation, spasmodic colic.
- Irritation to the inner surface of intestine. Example: gastric ulcers, blister beetle toxicity.
- Loss of blood supply to a segment of intestine. Examples include large colon volvulus and thromboembolic colic.

BREAKING THE PAIN CYCLE

Many horses showing signs of colic resolve quickly on their own or in response to a pain-killer like Banamine®. It helps to use a human illustration: When you double over because your belly hurts, most of the time it's just because you have some gas pain and not because you have appendicitis, but an observer that sees you in pain might not know that. The majority of people who experience a bout of intestinal pain will get over it by just suffering through it or with some simple medication. So, too, do many horses.

Of 100 horses that we notice showing signs of colic, 60-70

will recover if we simply give the horse a little time, or a shot of Banamine® (flunixin meglumine – a potent anti-inflammatory and pain reliever). But it is critical for us to understand what we are doing when we give Banamine®. We are taking away pain. If the condition causing the colic pain happens to be minor, then it will likely resolve on its own. If the condition is more severe, we may make the horse appear improved for a time, but we are probably delaying proper diagnosis and treatment, and this could cost the horse its life. See *Bute & Banamine™: What Horse Owners Should Know for more details*.

Once a horse is in colic pain (from any condition) there is a sequence of events that tends to worsen the problem. In a healthy horse, normal movement of the gut propels food, fluid and gas down the tract. Blockage of this normal movement from any cause leads to gas and fluid backup, stretch on the intestinal wall, and pain. Pain causes the nervous system to shut down normal intestinal movement. Shutdown of the gut leads to more gas and fluid accumulation, which leads to more stretch on the gut wall, and more pain, and the cycle continues and worsens.

If this cycle is broken by appropriate treatment, including pain relief, there is a better chance of the problem resolving. This is why it is important to start treatment early. This also assumes that the condition is a “simple” cause of colic and not a mechanical obstruction. If the problem is a true mechanical obstruction like a displaced, twisted or impacted segment of intestine, it will not resolve with conservative treatment or time. Instead it may require colic surgery or intensive medical veterinary care.

It is impossible for an observer of horse in colic pain to distinguish between the less serious and the more serious CCC's. More severe pain and longer lasting pain is more likely to be caused by a more serious condition, but this is not always the case.

An experienced veterinarian can often quickly identify the CCC based on the results of a history, physical examination, various diagnostics, and intuition. Early treatment of horses with more serious problems may be the difference between life and death. Quick and correct diagnosis leads to quick and correct treatment.

COLIC OCCURENCE

CCC's are common. Roughly 5%- 10% of domestic, stabled horses will experience an episode of colic in a given year.

CCC's affect all groups and breeds of horses in all geographic locations. Simple intestinal spasm is common everywhere, but certain types of CCC's are more prevalent in different geographic areas. Specific conditions are also seen more commonly in specific breeds, ages and types of horses. For example, certain large colon displacements are more common in large warmblood-type breeds. Large colon volvulus (twist) is very common in post-foaling Quarter Horse and Thoroughbred broodmares. Generally, the incidence of CCC's is higher in stabled versus pastured horses, and more commonly arise in horses that are fed a high grain to forage (hay or grass) ratio.

In Part 2 of this discussion on colic, I discuss some of the CCC's in colic in greater detail, your role when your horse has colic, your veterinarian's role in coming to a diagnosis and instituting proper treatment, and preventative measures you can take to reduce the likelihood of colic in your horses.

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