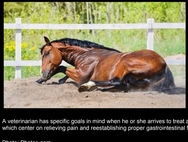
Medical Colic Management: What to Know



A veterinarian has specific goals in mind when he or she arrives to treat a colic in the field which often relieving pain and reestablishing proper gastrointestinal function.

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When faced with a colicking horse, especially one in a great deal of pain, you might not be in the frame of mind to ask questions of your veterinarian as your veterinarian treats your horse—and understandably so! But do you know why the practitioner put a tube down your horse's nose? Or why he chose one pain reliever over another? And why is he dosing up an antibiotic if your horse has gastrointestinal issues?

Understanding the process behind treating colic cases in the field can help an owner be more at ease when faced with an emergency situation. At the 2016 Western Veterinary Conference, P.O. Eric Mueller, DVM, PhD, Dipl. ACVS, professor and director of equine programs at the University of Georgia's College of Veterinary Medicine, reviewed the steps veterinarians can take to manage colic medically in the field.

The goal of treating colic in the field centers around breaking the pain cycle associated with the abdominal insult and reestablishing proper gastrointestinal function, Mueller said. While it might sound like a fairly straightforward task, it's often a more complex endeavor. Medical therapy includes:

- Taking steps to relieve pain;
- Administering laxatives and/or cathartics;
- Giving oral or intravenous (IV) fluids;
- Managing endotoxemia, if present; and

Providing nutritional management.

Pain Relief
The first steps to helping relieve a colicking horse's pain are to administer analgesics and insert a nasogastric tube to decompress (or remove fluid and gas from) the stomach. Regarding analgesics, Mueller noted that certain products work better than others:

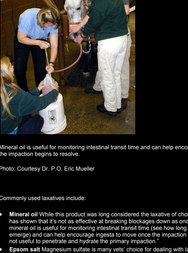
- Flunixin meglumine (Banamine) and detomidine hydrochloride (Dormosedan) have "excellent" efficacy at reducing abdominal pain, he said;
- Xylazine hydrochloride (Rompun), butorphanol tartate (Torbugesic), ketoprofen (Ketofen), N-butylscopolammonium bromide (Buscopan), and morphine have "good" efficacy, and
- Dipyrone (Novin) and phenylbutazone (Bute) are relatively ineffective for treating abdominal pain, he said.

"Flunixin meglumine is probably the most commonly used analgesic for treatment of the acute abdomen," Mueller said. "It has excellent visceral analgesic (abdominal-pain-relieving) properties with an onset of action of 20 to 30 minutes."

Another benefit is that a single dose of flunixin—250-500 mg for a horse weighing 450 kilograms (about 1,000 pounds)—generally will not mask a surgical lesion for an extended period of time, he said.

"If the horse's pain is not alleviated by a full dose of flunixin within 30 minutes, do not give additional doses," he stressed. Rather, consider referring the patient to a hospital, as the lack of response to analgesics is often indicative of a surgical lesion or a severe colic that will require intensive monitoring and supportive care. Administering xylazine or detomidine with or without butorphanol might provide some additional temporary pain relief while transporting the horse, he added.

Laxatives
In many colic cases being treated in the field, the veterinarian will administer a laxative in hopes of increasing water content in the gastrointestinal tract, softening ingested (ingested feed), and getting the gut moving again. Mueller said veterinarians turn to laxatives most commonly in cases of cecum, large colon, and small colon impactions.



Mineral oil is useful for monitoring intestinal transit time and can help encourage ingesta to move once the impaction begins to resolve.

Photo: Courtesy Dr. P.O. Eric Mueller

Commonly used laxatives include:

- **Mineral oil** While this product was long considered the laxative of choice for impactions, research has shown that it's not as effective at breaking blockages down as once thought, Mueller said: mineral oil is useful for monitoring intestinal transit time (see how long it takes the oily poop to emerge) and can help encourage ingesta to move once the impaction begins to resolve, but "it is not useful to penetrate and hydrate the primary impaction."
- **Epsom salt** Magnesium sulfate is many vets' choice for dealing with large colon impactions, but should not be used for more than two days at a time, Mueller said. Extended use could lead to enteritis (inflammation of the intestines) and magnesium intoxication (depression).
- **Psyllium** Mueller said psyllium might be useful for cecal impactions and sand colics and can be administered every six to 12 hours until the blockage resolves. ...Water in many cases, however, plain old water is most effective at penetrating and hydrating primary impactions, he stressed. Mueller also noted that researchers have determined that nasogastric administration of fluid—regardless of what type—can help encourage colonic motility. They attribute this phenomenon to stimulation of the gastrocolic reflex (one of the physiologic reflexes that controls gastrointestinal tract motility).

For best results, Mueller said, the veterinarian should give oral or IV fluids plus or minus a laxative. He cautioned against administering oral fluids to horses already producing gastric reflux.

Fluid Administration
Horses' gastrointestinal tracts must be well-hydrated to function properly. So, not surprisingly, one key goal of treating colic is to ensure the patient isn't—or if he is, doesn't remain—dehydrated.

Veterinarians can administer fluids intravenously or directly into the horse's stomach using a nasogastric tube. When administering intravenous fluids, Mueller recommended veterinarians use balanced electrolyte solutions to help maintain intravascular fluid volume (the volume of fluid in the blood in a horse's circulatory system).

"Horses experiencing acute abdominal pain may require fluids for rehydration (to replace fluids lost to excessive sweating, diarrhea, or reduced oral intake), ongoing fluid loss (due to continued reflux or diarrhea), or to replace fluid lost during normal body processes (the normal maintenance fluid requirement)," Mueller said.

He reminded attendees to monitor horses' hydration status, as well as electrolyte and blood gas levels, and adjust fluid solutions and treatments accordingly.

Managing Endotoxemia
In some cases, colicky horses develop endotoxemia, a condition in which Gram-negative bacterial toxins cross the intestinal wall and enter the bloodstream, potentially leading to serious complications such as shock, laminitis, organ failure, and death.

Mueller said veterinarians have several options for getting endotoxemia under control, including antiserum, equine plasma, and the antibiotic Polymixin B. These products help neutralize, bind, or eliminate the endotoxins from the bloodstream.

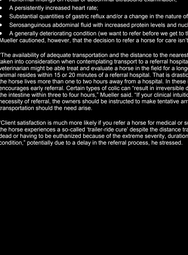
If a practitioner suspects an underlying infectious agent is at work—most commonly in horses with duodenitis/proximal jejunitis (inflammation of the small intestines) caused by Clostridium perfringens type A—he or she might administer an antimicrobial, Mueller added.

Nutritional Support
Finally, your veterinarian will likely give you instructions on how to manage a colicky horse's nutrition for a period following the episode.

"Horses demonstrating abdominal pain should have hay and grain withheld for 12 to 18 hours," he said. "If they do not have gastric reflux, they should be allowed free choice water and have access to trace mineral salt."

If the horse responds favorably to treatment, he said it can return to a normal diet gradually over the next 24 to 48 hours. He recommended feeding moist bran or senior feed, alfalfa pellet mashes, and/or grass initially before transitioning back to the horse's normal hay and grain.

Mueller stressed that "horses being referred for possible exploratory surgery should not be fed during transport to the referral facility."



Horses in severe and unrelenting pain that has little or no response to analgesic therapy should be referred for further evaluation.

Photo: Courtesy Dr. P.O. Eric Mueller

The Decision to Refer
Try as they might, veterinarians can't manage all colic episodes in the field. Some cases are too severe to correct without constant monitoring, treatment, and/or surgery. Mueller said indications for referral include:

- Severe and unrelenting abdominal pain that has little or no response to analgesic therapy;
- Abnormal findings on rectal or abdominal ultrasound examination;
- A persistently increased heart rate;
- Substantial quantities of gastric reflux and/or a change in the nature of the gastric reflux;
- Serosanguinous abdominal fluid with increased protein levels and nucleated cell count; and
- A generally deteriorating condition (we want to refer before we get to this point, he stressed).

Mueller cautioned, however, that the decision to refer a horse for care isn't always clear-cut.

"The availability of adequate transportation and the distance to the nearest referral facility must be taken into consideration when contemplating transport to a referral hospital," he said. For example, a veterinarian might be able treat and evaluate a horse in the field for a longer period of time if that animal resides within 15 or 20 minutes of a referral hospital. That is drastically different, however, if the horse lives more than one to two hours away from a hospital. In these instances he strongly encourages early referral. Certain types of colic can "result in irreversible deterioration and necrosis of the intestine within three to four hours," Mueller said. "If your clinical intuition even hints to the necessity of referral, the owners should be instructed to make tentative arrangements for transportation should the need arise."

"Client satisfaction is much more likely if you refer a horse for medical or surgical treatment in which the horse experiences a so-called 'trailer-ride cure' despite the distance traveled, verses either arriving dead or having to be euthanized because of the extreme severity, duration, and extent of the condition," potentially due to a delay in the referral process, he stressed.