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Ulcers Demand Your Attention

And they get it. In advertising. In barn chatter. Even in veterinary offices. No matter how you look at it, though, symptomatic relief may help.

You've read the ads, seen the endoscope studies results and heard the talk: Gastric ulcers are incredibly common in domesticated horses. The incidence is higher in heavily stressed horses, like racehorses and endurance horses, but ulcers are being found in quiet horses that seem to have a plain, ordinary, easy life, too.

If your horse doesn't quite seem like himself at



A horse who has an unusual change in attitude or becomes touchy around their abdomen may have an ulcer.

Put It To Use

- Be sure the product you use long-term doesn't upset dietary balances.
- Work to rule out other potential problems that can cause similar signs.
- For purely symptomatic relief, use antacid-type products.
- Anticipate high-risk situations with treatment.
- Maximize your horse's hay and turnout.

times, not colicky, but definitely somehow uncomfortable, he may be battling an ulcer. Or maybe he doesn't eat with the enthusiasm he used to have, or just lacks the "spirit" he used to have. You've ruled out other possibilities and are left to face the fact that you may well be seeing the symptoms of a chronic gastro-intestinal (GI)-related problem, such as an ulcer.

Risk factors for developing ulcers include:

- Stall confinement.
- Sporadic feeding rather than constant access to grass.

- Exercise faster than a walk. (This causes enough rise in abdominal pressure to cause some acid movement into the unprotected areas of the stomach. The faster the horse moves, the more pressure and back wash of acid.)

- Feeding processed feeds rather than whole grains.

- Prolonged fasting (e.g. long trips, long period of time between last feed of the day and the morning feed).

- Any problem elsewhere in the gastrointestinal tract.

- Use of nonsteroidal anti-inflammatory drugs and corticosteroids.

The only way to definitively diagnose gastric ulcers is to examine the stomach directly with an endoscope at a veterinary clinic or do a sucrose-absorption test (see page 13). However, most horses are "diagnosed" by symptoms only.

Signs most suggestive of gastric ulcer include:

- Grinding of the teeth.
- Belching noises.
- Slow eating, often walking away without finishing meals all at once.
- Picky appetite that includes the horse refusing foods or supplements that were consumed readily before.

These symptoms aren't diagnostic of ulcers, but they do suggest discomfort associated with the upper GI tract/stomach. Less-specific signs frequently attributed to ulcers are:

- Sour, sulky attitude.
- Poor coat.
- Weight loss.
- Poor performance.
- Irritability.
- Sensitivity to touch



The antacid products bring quick symptom relief.

around the horse's lower belly/ sternum area.

Since the signs and symptoms are nonspecific—and overlap quite a bit with other causes of low-grade intestinal-tract discomfort and with pain from any cause—ulcers may be blamed when another problem is actually the cause. It's important to involve your veterinarian in the diagnosis and treatment.

While horses can develop some degree of gastric ulceration easily and under a wide variety of conditions, ulcers can and do heal spontaneously. On a scale of 1 to 3, with 1 being only obvious reddening of the stomach lining and 3 is a deep ulcer, a horse with a grade 3 ulcer is more likely to actually have symptoms as a result and definitely requires treatment, while a grade 1 stomach irritation could be symptom-free and resolve on its own.



U-Gard is our first choice in non-prescription ulcer treatments for most horses.

EXERCISE AS A RISK FACTOR

Studies performed at the University of Florida have shown that

horses moving at a rate faster than a walk experience increased abdominal pressure that essentially back flushes highly acidic stomach contents from the lower, acid-producing (glandular) portion of the stomach back to the nonglandular portion. The Florida researchers found that when a horse is standing or walking, the pH of the stomach just inside the junction with the esophagus is in the range of 5 to 6, but as soon as the pace is picked up the acid back flow can drop it to as low as 1.

The more time the horse spends moving around faster than a walk, the greater the exposure of these portions of the stomach to highly acidic conditions. It's a small wonder that a preliminary study looking for gastric ulceration in endurance horses found lesions in 67%. Most lesions were located in

Ulcer-Treatment Guidelines

Symptoms	Classification	Action
Markedly depressed appetite, dull attitude, mild colic, sensitive to touch in the lower, cranial (toward the head) portions of the abdomen, possible weight loss.	Severe	Initial treatment with acid-suppressing medications is usually indicated in these horses. If the management and work level that precipitated the problem aren't changed, long-term treatment with either low-dose medications or intensive antacids may be needed to prevent recurrence. Efficacy of herbal approaches hasn't been formally studied.
Fails to finish grain on a regular basis but eats hay well, slow grain eating with multiple interruptions, may observe some tooth grinding or belching, little-to-no weight loss, possible attitude or performance changes.	Moderate	Intensive antacid therapy may control these symptoms without the need for expensive prescription medications, but if symptoms persist longer than 30 days, or fail to improve, a complete work-up, including scoping to confirm ulcers and determine severity, is indicated.
Goes off feed for one or more days following shipping, competition or heavy work.	Moderate, intermittent.	Management changes to avoid having the horse go without access to hay for longer than three to four hours, combined with antacid use shortly before work, may avoid this pattern. Otherwise, use of half dose of Merial's Gastrogard, active ingredient omeprazole, or their new product, Ulcergard, is the only treatment FDA- approved for preventing gastric ulceration in horses. Treatment should start two to three days prior to the known stressful event, and be continued that day.
Picky about grain but cleans up, no weight loss, may be irritable or reluctant to perform.	Mild	Although mild gastric irritation could certainly cause these symptoms, this is the group where diagnosis is the least certain and upsets elsewhere in the intestinal tract may be causing the symptoms. If the horse responds well to intensive antacid treatment, index of suspicion is higher but this doesn't rule out hyperacidity, or some other irritation/inflammation, lower in the intestinal tract as a cause. This group is probably the best candidate for symptomatic relief from the multi-ingredient herbal products that target the entire digestive tract, but a work up to determine the cause is indicated.

the nonglandular portion, same location as in other performance horses, but 27% also had ulceration in the glandular portion, a condition that is usually only seen in horses following a critical illness of some type.

Given the prolonged, strenuous exercise it was surprising that more horses did not show ulcers, but common practices on rides may be why. Many endurance riders feed alfalfa, which has an excellent buffering effect in the stomach. Beet pulp is another favorite and remains in the stomach longer than other types of feed. Allowing the horse to stop for water at every opportunity will also at least temporarily dilute the acidity.

OUR TRIAL

Our field-trial horses included



Keep toting that hay: Constant access to hay may help prevent ulcers.

both horses with a documented history of gastric ulcerations and horses with symptoms suggestive

of ulcers. As we stated, symptoms alone aren't enough to make an ulcer diagnosis. In addition, other digestive upsets, particularly from high grain feeding or poor digestive efficiency, may cause similar symptoms. However, since poor digestive efficiency or overfeeding will likely result in drop in pH in the large intestine and some irritation of the mucosa there, it's possible that many of these products could be of benefit under those conditions as well. (The response to these products was judged solely on the basis of symptomatic control and doesn't necessarily correlate with actual healing.)

We found the antacid products were the most consistently effective in providing symptomatic relief for the greatest number of horses. Best results are obtained when

Antacid-Type Ulcer Products

Product	Price	Comments
Allay, Adeptus www.adeptusnutrition.com 866-233-7887	\$49.99/4 lbs.	Fine granules. Blend of antacid magnesium and calcium carbonates, licorice extract, yeast cultures. Well-accepted. Slower to work than the liquid antacids, but improvements start to become evident at about the one- to two-week mark. One horse developed bloating on this product (possibly a yeast sensitivity). Calming effect occurred within days in two horses, possibly from the mineral content.
Gold Buffer, Equine Gold www.equinegold.com 800-870-5949	\$36.96/gal.	Calcium and magnesium buffers in a soothing, thick base of glycine, kaolin, methylcellulose and pectin. Very well-accepted when dosed or put on feed. Effective at between 2 to 4 oz./dose, depending on severity of symptoms. Calming effect may be noted during periods of intensive treatment.
Pro-CMC, Absorbine www.absorbine.com 800-628-9653	\$34/half gal.	Calcium and magnesium buffers in a pink liquid base thickened with natural and artificial thickeners. Pleasant aroma, fairly well-accepted. Most effective at higher than recommended doses (4 to 6 oz./dose). Calming effect may be noted during periods of intensive treatment.
U-Gard 2X, Corta-Flx www.corta-flx.com 800-838-7524	\$26.99/2 lbs.	Fine powder with same formula as the U-Gard solution. Highly palatable. Horses with mild symptoms may show improvement as rapidly as within three days, especially if an extra dose suspended in water is given at night and before exercise. Best results if started with intensive dosing using the liquid product.
U-Gard Solution, Corta-Flx www.corta-flx.com 800-838-7524	\$26.95/gal.	White calcium- and magnesium-based liquid antacid with kaolin, pectin and other natural ingredients. Fairly well-accepted when dosed or put on feed. Effective at between 2 to 4 oz./dose, depending on severity of symptoms. Calming effect may be noted during periods of intensive treatment.
Ulsus, Peak Performance Nutrients www.peakperformancenutrients.com 800-944-1984	\$49.99/3 lbs.	High potency, primarily calcium carbonate-based antacid, combined with Marshmallow, licorice and antioxidant support, including MSM. Fine powder, palatable. Results similar to U-Gard powder.

Non-Antacid-Type Ulcer Products

Product	Price	Comments
Digestion and Anti-Colic Formula, Earth Lodge Herbals www.earthlodgeherbals.com 860-350-5965	\$30/lb.	Blend of dried Western herbs traditionally used for soothing and supporting the intestinal tract. Fresh, fragrant, high palatability. Interesting result with this one in one belching horse that was immediately attracted to the product, would pick it out of his feed and had relief of belching and improved disposition for 30 to 90 minutes after consumption. Otherwise, like the other dried whole herbs, it was slow to show effect, two to three weeks. Likely would be best to try as a maintenance supplement after initial symptom control with a more rapidly acting product like the antacids.
G.U.T. (Gastric Ulcer Transnutrients), Uckele www.uckele.com 800-248-0330	Paste \$9.45/2 doses, powder 2 lbs./\$37.95	Viscous base with blend of antacid, chlorophyllin, deglycerized licorice, gamma oryzanol and probiotics. Bright green color. Highly palatable. Horses with mild-to-moderate symptoms showed greatly improved appetite and ability to finish meals within one to three days if started with paste treatments (given before meals), five to seven days when added to feed. We would suggest syringing this in to start. Horses with moderate symptoms may require double dosing first few days with a full syringe of paste or one ounce of powder mixed to a total volume of 60 to 80 cc. Hint: The paste syringe can be reused as a dosing syringe for powder mixed with water and a little corn oil.
Gastri X, Hilton Herbs www.chamisaridge.com 800-825-9120	\$96.95/1.5 kg	Dried herbal blend containing traditional Western choices for soothing intestinal linings and calming cramping. High quality. Highly palatable. Doesn't work rapidly enough to be suitable for initial control of symptoms but a nice choice for maintenance of an ulcer-prone horse after the first 30 days of treatment. One trial horse that had moderate symptoms and did not respond satisfactorily to the dry herbs did show a rapid and obvious improvement when treated with a tea made from two of the ingredients, Slippery Elm and Chamomile. A liquid formulation of this product might be a nice addition to their product line.
Gastro Aid, Cavalor www.farmvet.com 888-837-3626	\$66.50/2.2 lbs.	Powder. Blend of traditionally used herbs, including licorice, bioflavonoid and cabbage extract. Horses with relatively mild symptoms responded to this product alone after seven to 14 days when added to each meal. For more severe symptoms (e.g. very poor appetite, tooth grinding), begin with antacids until appetite is improved. Fair palatability.
GastroSaver, Figuerola Laboratories www.Figuerola-Labs.com 800-219-1147	\$149.99/3 lbs.	Powdered extract of aloe, licorice and other herbs, zinc, MSM, lactic acid probiotics, multiple enzymes. One horse with confirmed gastric ulceration that wouldn't eat it, and when given the product as paste became agitated after dosing (pawing, head tossing), was not continued on the product. Two others with mild symptoms showed either no improvement or a gradual reduction in symptoms over time. Not palatable but amount suggested is small.
Herbal Ulcer Blend, Equine Science www.herbs4horses.com 800-479-3537	\$28.50/3 lbs.	Pelleted herbal blend including three of the most commonly used stomach soothing Western herbs (Licorice, Marshmallow, Meadowsweet). Small pellets mix into meals well and are readily consumed. No improvements seen when fed as instructed, up to four weeks of use. Might be more appropriate as a preventative or maintenance supplement. Note: Contains Kava.
Natural Plan Stomach Soother, Healthmate Products www.stomachsoother.com 800-584-8642	\$12 to \$14/qt.	100% papaya puree. Dose 2 oz. twice a day. Palatable. Papaya has been documented to have a protective effect on gastric ulcers and may reduce acid secretion. Effective in horses with mild-to-moderate gastric ulcer/digestive upset symptoms consisting of poor appetite for grain, mild depression or irritability and sporadic belching or tooth grinding. Rapid relief within three to five days. One horse with more severe signs (almost totally off grain, appetite very poor, gaunt) appeared in some discomfort after the initial dose and was then treated with antacids instead. Do not use in breeding stock. Refrigerate after opening. Note: Manufacturer also reports isolated cases of mild abdominal discomfort after a few days use. The cause is unclear, but it may relate to some direct stimulant effect of the fruit on smooth muscles of the intestinal wall. We did not see this problem in our trial.
Rapid Response, Amerdon International www.amerdon.com 800-331-1036	\$36.95/qt.	Aloe vera gel with proanthocyanidins (plant antioxidant), glucosamine, chondroitin. Extremely effective for rapid relief of ulcer symptoms, with appetite returning as quickly as in horses treated with antacids. Use 2 to 4 oz./treatment, same treatment schedule as with antacids. Once horse is back on feed, can be added to meals rather than dosed. Maintain with 2 to 4 oz/meal. Palatable. Expensive but does double duty as a joint supplement.

Succeed Digestive Tract Conditioner www.succeeddcp.com 866-270-7939	\$125/30 tubes	Well-accepted and tolerated paste with faint oat aroma. Minimal to no change in symptoms with one tube/day dosing up to the 30-day mark. Same horses did respond rapidly to the liquid antacids. We didn't continue longer than 30 days. Company reports they have changed their instructions since our trial to two tubes/day during early periods of supplementation. An unpublished field trial conducted by the company documented improvement in average ulcer score in racehorses after 90 days of supplementation.
TractGard, Foxden Equine www.foxdenequine.com 540-942-4500	\$27.50/5 lbs.	Combination of antacid ingredients, soluble fiber source and mineral salts. We didn't see any effects of increased drinking or better hydration of manure as claimed, but at high doses (2 to 3 oz. several times a day) the product did appear to have an antacid effect with improved appetite and longer eating times noted after two days of use. Palatable.
Ulcer-Plex, Multivet USA www.multivetusa.com 800-356-8776	\$69/gal.	Liquid blend of both Western and Ayurvedic herbs to provide soothing effects, improve antioxidant status in the stomach lining, promote healing. Also contains antacid minerals. Palatable to most of our horses. Some immediate improvement in appetite noted when dosed shortly before offering feed, but this effect lasted only for that meal. Better results initially with repeated daily doses, before each meal. Gradual return to full appetite over two to three weeks in mildly affected horses.
Ulcrin, Med-Vet Pharmaceuticals www.unitedvetequine.com 800-328-6652	2 lbs./\$41.50	Powder. Same as G.U.T.
Ulseraze, Natural Animal Feeds www.naf-usa.com 813-920-7613	\$98.99/1.8 kg	Powder. Blend of Western herbs, with whey and lactoferrin for healing support, designed to stimulate mucin production and provide antioxidant support. Fair palatability, be sure to mix the powder into feed well. Improvements are slow to occur (two to three weeks), but it's a good choice as a maintenance product for ulcer-prone horses after initial symptom control.



Margaret Freeman Photo

Plenty of turnout—time for a horse to be a horse—is important to your horse's health.

using liquids given by oral syringe for the first one to two weeks, minimum of two times/day, before each feed, preferably three to four times/day, as well as immediately before work. The appetites of the horses improve within one to four days and most rapidly with intensive treatment.

Studies on the use of antacids in horses usually call for much higher doses than we found effective for

control of symptoms. However, those studies are focusing on the dose required to decrease acidity in a horse that has been fasted, while our horses were allowed constant access to hay and offered concentrate on their

regular schedules. Since the presence of food in the stomach also has a buffering effect, this may explain the lower effective doses.

It's important in choosing a product for long-term use that it doesn't upset your horse's nutritional balances/intake. For example, magnesium is a common ingredient in many of these

formulations. While low dietary magnesium can be a cause of excitability/nervousness in horses, overdoing magnesium can cause the same symptom, as it inhibits the absorption of calcium. Too little calcium can also cause nervousness, bone weakening, achy and weak muscles and abnormal heart rhythms. The proper Ca:Mg ratio is 2.5:1.



Many of the herbal-based products may be good long-term choices.

As with any illness/disorder, always consult with your veterinarian first before instituting any treatment program.

BOTTOM LINE

Our favorite liquid antacid was U-Gard Solution. Other liquids performed similarly at equivalent or higher dosages,



Stall confinement increases your horse's risk for ulcers.

but U-Gard then beat them on price. Similar rapid results were obtained with Stomach Soother (use cautiously if horse is showing severe symptoms and largely off feed), G.U.T. paste and Rapid Response.

These are much more expensive than the liquid antacids, and they avoid the possible calming effect seen with the high-dose calcium or calcium/magnesium products. The G.U.T. is less costly than Rapid Response, but Rapid Response doubles as an effective joint supplement.

If liquids/pastes aren't a good choice, and for follow-up after a course of liquids or paste once the horse is eating well, powders are convenient. Again, the U-Gard 2X gets the nod for effectiveness and being most economical.

When prolonged symptom control is needed, effects of the antacids on the calcium/phosphorus/magnesium balance of the diet should be considered. To avoid the possible need to correct for mineral imbalances, consider using G.U.T powder or one of the herbal formulations. 🐾

Sucrose Test For Ulcers

A simple urine test originally developed to screen for stomach ulcers in people may work in horses, too. The "sucrose permeability test" measures the amount of the sugar sucrose found in the urine after a test dose is given orally.

Sucrose is not synthesized in the body, so if it shows up in the urine it must have been absorbed intact through an erosion/damage in the intestinal lining. Hence, the ulcer detection. This test could prove to be a fairly reliable way to screen suspected ulcer cases at home and limit the number of endoscopic examinations required for diagnosis (see March 2004 issue).

Be Proactive (Think Ahead!)

If a horse has a known history of problems related to gastric ulceration, or shows typical symptoms when stressed by transport, showing or racing, anticipating high-risk situations and treating accordingly may prevent the problem.

Frequent watering and constant access to hay when in transit is a start, but many competitors are leery of working the horse on a full stomach, which can make them sluggish. Horses that aren't drinking well in transit also should not be given unlimited access to hay. If hay isn't a workable solution, or something you prefer to do only on the ride home, consider oral dosing with an antacid, beginning four hours after the horse last ate, continuing at four-hour intervals.

We tried this with five racehorses that shipped to race, with a strong history of refusing grain after shipping home and for one to three days afterward. Four of the five responded by finishing 75 to 100% of the offered grain when they got home, on full feed by the next day. The fifth horse continued to prefer hay on race day, but was also back on full grain by the following day.

Long-Term Anti-Ulcer Drugs

Merial's GastroGuard for horses, and other human antiulcer medications, can work extremely well and should be the first line of treatment for severe ulcer disease. However, every drug comes with a down side. In addition to being expensive, the suppression of stomach acid isn't necessarily a good idea long term. One of the important functions of stomach acid is to destroy bacteria that could cause intestinal tract infections, such as salmonella. The extremely low pH of the stomach will also kill viruses and fungi. Prolonged acid suppression causes vitamin B12 malabsorption in people, but it's unclear whether or not this could occur in horses. Exposure to stomach acid is the first step in the breakdown/digestion of protein, leading to poor utilization of dietary protein. One study in mice showed that the presence of larger, poorly digested proteins in the small intestine also led to food allergies. The undigested protein is then presented to the cecum and large bowel, where fermentation can cause bloating, discomfort and distinctly more foul smelling manure.

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