

# Ulcers In Horses



*Horse Care*

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by **HEATHER SMITH THOMAS**

Equine ulcers were first recognized in horses more than 30 years ago. Excess acid in the stomach can lead to erosions and ulcerations of the lining. Now we know that gastric (stomach) ulcers affect many horses in stressful performance careers, even though some horses do not show obvious signs. Reports in the *Equine Veterinary Journal* in 1989 and 1996, by Dr. Michael J. Murray and his associates, stated that gastric ulcers affect up to 93 percent of racehorses, about 60 percent of horses in other performance careers and up to 59 percent of foals—particularly in foals raised in confinement. Subtle symptoms may go unnoticed. The best way to properly diagnose this condition is to look inside the horse's stomach with an endoscope.

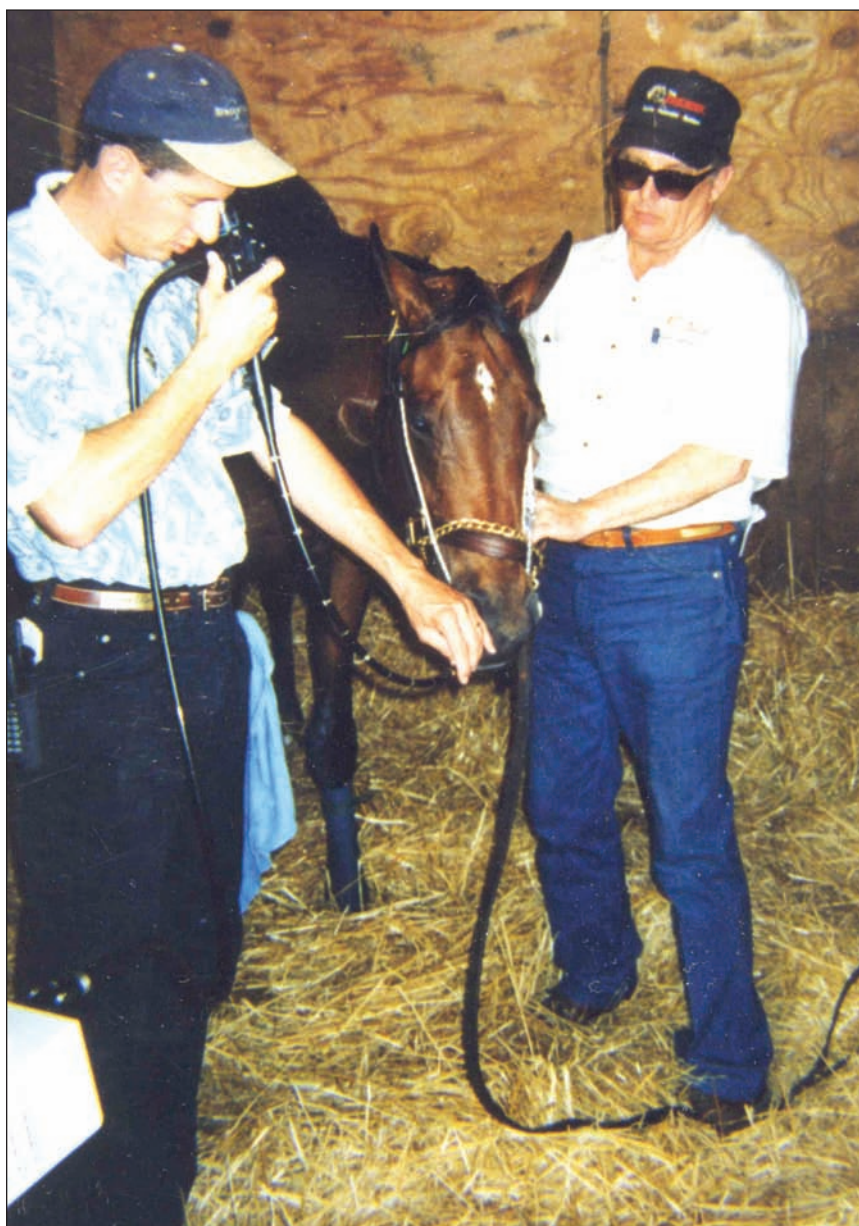
Dr. Rick Mitchel (Fairfield Equine Associates, Newtown, Connecticut) did a two year study on ulcers in 134 horses and presented his findings in 2001. The purpose of his study was to determine the presence of ulcers in athletic horses who show poor performance and health related issues, and to help veterinarians identify horses who should have endoscopic examinations and treatment. The horses in his study found to have ulcers were treated for 28 days with omeprazole (originally marketed as *Gastrogard* and now also in preventative dosage and marketed as *Ulcergard*). Most of them improved and didn't have to be treated again. A few continued to have ulcers on follow-up exams until significant changes were made in their training, feeding and competition schedules to reduce stress levels. In most horses, a lower dose of omeprazole was adequate for maintenance therapy after initial healing, to prevent recurrence of ulcers during stressful conditions such as rigorous training, competition or shipping.

Even though cheaper products are often used in an attempt to prevent or treat ulcers, omeprazole is still the only prescription medication approved by the FDA (Food and Drug Administration) for horses. *Ulcergard* is the same drug as *Gastrogard*, but packaged in a way to make it more useful and easier to administer. The dosing mechanism for *Ulcergard*

allows you to treat a horse with active ulcers, giving the whole tube, or use it as a preventative—giving just a quarter tube per day to the average 1,200-pound horse. This dosage is an effective preventative level, according to information presented by Dr. Gary White (Salisaw Equine Clinic, Salisaw, Oklahoma) at the 2003 meeting of the AAEP (American Association of Equine Practitioners) in New Orleans.

"I've actually done two trials on this, using *Ulcergard*,"

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*A filly being scoped for ulcers by a track veterinarian*



### *Horse Care Cont'd.*

says White. The second trial was looking at an eight-day dose for prevention, which also proved to be beneficial. "The one I talked about at the AAEP meeting was a trial in which we looked at horses who were just beginning in race training." These were young horses just starting into a stressful period of their lives, and vulnerable to ulcers.

"We scoped all of these horses prior to the start of the trial, to make sure they were free of ulcers. Then they began their training. These were two-year-olds, being broke and trained for racing. Some of them received a quarter dose of Ulcergard instead of the full therapeutic dose. Some of them received a placebo treatment—a paste that had no medication in it. We did this daily, for 30 days, then rescoped the horses," he says. This was a blinded study, in which he was not aware of which horses received the medication or the placebo, during the trial and the scoping, until the study was finished.

"We found most of the horses who were on the low dose of omeprazole did not have ulcers, and most of the horses who were on the placebo paste did have ulcers. In the placebo treated group, 35 of 39 horses had developed ulcers. In the low dose group, 31 of 38 horses had no ulcers," says White. This was very impressive.

In the second study (results published in June of 2007, in the *Journal of the American Veterinary Medical Association*), 102 horses with normal gastric linings were divided into groups at four trial locations. Some were sham-dosed daily with an empty syringe and others were treated with a paste formulation of omeprazole daily (one quarter the dosage for treating active ulcers), for eight days. Training regimes varied among locations and included early training for western performance events, and race training. Prevalence of ulcers at the end of the eight-day treatment was compared between groups. In the omeprazole-treated groups, 88 percent of the horses were still free of gastric ulcers, whereas the in the sham-dosed horses, only 27 percent were free of ulcers. These results showed that horses in light to heavy training for as short as eight days were at risk for ulcers, and that administering omeprazole at preventative levels decreased the incidence of developing ulcers.

"All the omeprazole studies have been some of the most dramatic results I've ever seen, since these were all blinded studies (not knowing which horses received the actual treatment and which did not). When you have a blinded study and find that a treatment has worked that well, it is really amazing," says White.

"There are a lot of other products claiming to be effective for ulcers, but they have not been proven to be effective in blinded clinical studies. I don't recommend any of the other treatments," says White.

He feels the trials he did were important because this allows the horseman to prevent ulcers at a much lower cost than using the therapeutic dose of treatment. "It's \$10 rather than \$40 per day," he says.

He treats a lot of horses for ulcers in his practice. "We

have a performance horse practice; our patients are almost all in competitive careers—racehorses, barrel horses, rodeo horses, western performance horses, cutting horses, etc. We see ulcers across the board in all of them," he says.

#### **Factors That Lead To Ulcers**

The lifestyle of many horses, which includes confinement, high level competition and high energy diets rather than pasture, contributes to ulcers, due to stress. "These horses are confined and worked hard. I'm not sure whether it's the confinement itself or just the stress related to the confinement that makes the horse vulnerable. Horses turned out on pasture are usually ulcer free," says White. They lead a more natural life and can eat whenever they want.

Several studies have shown that some of the common situations and activities that may contribute to the start of ulcers include anything that produces stress, or any significant change in the horse's routine or lifestyle, such as confinement with little or no turnout or grazing, trailering, training, lay-up due to sickness or injury, changes in herd dynamics in a group of horses, etc.

"In our hard-working horses, we feed them large amounts once or twice a day and load them up with a high-energy diet. Some people feel this may contribute to ulcer development," he says.

Strenuous exercise may also be a factor. "Exercise churns up the acid in the stomach and splashes it up into the non-glandular part of the stomach at the top. This unprotected area gets burned by the acid, and ulcers can get started," explains White.

The top portion of the stomach is not as well-protected from acid because it has less mucus-producing glands. Most stomach ulcers occur in this portion of the lining. At slow gaits the contents of the stomach do not move up into this part, but at fast gaits, and more intense physical effort, there is more abdominal pressure on the stomach and acidic contents are forced higher. The longer and more intense the exercise, the more damage can be done to the stomach lining. This was documented by studies at the University of Florida done by Dr. Alfred M. Merritt.

Some horses seem more prone to ulcers because they were more stressed by training and the racetrack environment. Though there have been no studies to prove this, the mental/emotional attitude of a horse (and how stressed he might be) may make a difference in whether they will be at risk for ulcers when subjected to unnatural conditions.

#### **Treating Ulcers**

Ulcers can come on suddenly, in just a few days—after a change in environment or a higher stress level—and can also heal quickly if the horse can be put back into a more healthy environment, or treated.

"There have been a lot of good surveys showing us how prevalent ulcers are," says White. "As far as learning how to manage and treat them, the definitive studies have been the omeprazole studies," he says. This product has definitely been shown to work. Following the recommended 28-day treatment, omeprazole has been proven to improve ulcers

in up to 99 percent of horses treated. Gastrogard and Ulcergard (different dosage formulations of omeprazole) are the only FDA approved treatments for equine ulcers.

The horse owners and trainers who are trying to save a little money by using other products are often wasting their money and doing more harm than good, since they may think the horse is protected when it is not. In the past, many types of antacids and human ulcer medications have been used for horses, but some of these don't work very well. In one of the ulcer studies, medications such as buffers (antacids), sucralfate (medication to coat and protect the mucosal lining of the stomach) and human ulcer medications containing cimetidine or ranitidine (the ingredients in Tagamet and Zantac), did not make any significant difference in helping ulcers heal.

Many products are being sold as preventatives or treatments for ulcers. "Some recently introduced products are antacids or vegetable oil, making claims to inhibit the development of ulcers," says Mitchell. "Clinical information on horses who have been treated with these products would not substantiate these claims, however. I've seen images of horses from the track who were on these products and their gut lining looked terrible," he says. Some people also try to use herbal products, but these won't work if a horse already has ulcers.

There is some research data that suggests a high-fat diet may be of benefit in preventing ulcers (by reducing the amount of carbohydrates needed) but a high-fat diet by itself won't treat ulcers. High carbohydrate diets, with some of the grain moving out of the stomach before its fully digested, and fermenting in the intestine—and producing acid that seeps back into the stomach—puts a horse at

greater risk for ulcers. "You may be able to enhance ulcer prevention by using fat in order to cut down a grain ration, but I would never advocate using it instead of Ulcergard," says Mitchell.

Fat is a nutrient, not a medication. "One well known product has become popular, with claims to be a replacement for Ulcergard, but it is basically just vegetable oil," says Mitchell. "Dr. James Orsini from the University of Pennsylvania scoped a number of horses at the track who were on this product, and some that were on a popular antacid treatment, and all of those horses had terrible ulcers. I saw the images and have copies of them, so I know these products do not meet the claims being made for them," says Mitchell.

"There isn't much evidence to support the claims for other products for equine ulcers," says White. "It seems like most of the companies marketing those are more interested in spending money on advertising than on research. This is the reason I won't recommend a product until I see something that tells me it is truly effective," he says.

"I always encourage people to use a drug that has been tested and FDA-approved, if at all possible," says White. This is usually safer, better for the horse, and more effective than just using a product because another horseman says it works. "Even though everyone would like to save money, to me there is nothing more costly than an ineffective treatment."

Gastrogard (omeprazole) is a prescription product that is to be used under veterinary supervision for treating equine ulcers. Ulcergard is a non-prescription product (but available only through veterinarians) for prevention of ulcers. This is a lower dosage of omeprazole and is effective for horses who are at risk for development of ulcers. ■

## Are There Any Long-Term Effects From The Use Of Omeprazole?

One of the questions often asked by horse owners and veterinarians regards potential side effects from long-term ulcer treatment using omeprazole, wondering about its effects on digestion, etc. This question was addressed during the panel discussion on ulcers at New Bolton Center in July of 2007. Dr. Thomas Divers (Cornell University) stated that at first he was concerned about this after horsemen started using Gastrogard (full strength dose: four milligrams per kilogram of body weight), since many stables kept their horses on it for months and months, but he never saw a problem with it.

"There was a recent article from Europe, in which researchers looked at performance horses who had been on omeprazole long-term. They looked at body weight, and activity level as an indication of whether long-term full-dose omeprazole would have an effect. Their hypothesis was that if the drug affected digestion, the horses would probably lose weight and also might not

have the same energy level they did before. In their study they found no difference," said Divers.

Dr. Frank Hurtig (Director of Veterinary Services at Merial) stated that the pH required to ensure that stomach enzymes can digest proteins is fairly high. Gastrogard and Ulcergard raise the pH up to about four or a little higher, which is enough to ensure that the stomach can heal, while still leaving enough acid for require digestion. Protein digestion is the main thing that stomach acid would affect, so nutritionally the horse will do better with less acid. "The most common feedback we've had is that the horses look better, do better and eat better once they get the stomach ulcers under control," says Hurtig. The other veterinarians on the panel concurred, admitting they had all had some reservations about effects of long-term treatment, but since the horses look so much better after being on the ulcer medication, they realize that whatever implications or concerns there may have been seem to be negligible.