



## relyne<sup>GI</sup><sup>®</sup>

### WHAT CAUSES GASTRIC DISCOMFORT?

Research shows that gastric discomfort can result from the constant acid secretion, high grains diets, chronic stall confinement and non-steroidal anti-inflammatory drugs. Unlike ulcers in humans, bacteria do not appear to cause equine gastric ulcers.

Horses are designed to be grazers with regular intake of roughage. Since the horse's stomach continually secretes acid, gastric ulcers can result when the horse is not eating regularly due to there being less feed to neutralize the acid. Additionally, high-grain diets produce volatile fatty acids that can contribute to the development of ulcers.

The horse's stomach is divided into two regions, the squamous and glandular mucosa. The glandular portion secretes acid, and has a protective coating to keep it from being damaged by the acid. Ulcers can occur in the glandular portion of the stomach, but this is less common. The top portion of the stomach is designed for mixing of the contents of the stomach and does not have as much protection from the acid. This is the most common place to find gastric ulcers.

### WHAT ARE COMMON SYMPTOMS OF GASTRIC DISCOMFORT?

The majority of horses with gastric ulcers do not show outward symptoms. They have more subtle symptoms, such as a poor appetite, poor hair coat, and frequent stretching as if to urinate. The effect on performance is not well understood. Thoroughbred and Standardbred racehorses with poor performance have a higher incidence of squamous gastric ulcers.

More serious cases will show abdominal pain (colic) and/or bruxism (grinding the teeth). The only way to definitively diagnose ulcers is through gastroscopy.

### WHICH HORSES ARE MOST PRONE TO GASTRIC DISCOMFORT?

Equine gastric ulcers can affect any horse at any age. Up to 90% of racehorses and 60% of show horses have gastric ulcers, but even non-performance horses and foals can be affected.<sup>1</sup>

Stress (both environmental and physical) can also increase the likelihood of ulcers. Even typical training and recreational showing have been shown to induce ulcers within a five to seven day period. Hauling and mixing groups of horses as well as horses in training, can lead to ulcers. Strenuous exercise can decrease both the emptying function of the stomach and blood flow to the stomach, thereby contributing to the problem.

Other horses at risk are those with chronic administration of non-steroidal anti-inflammatory drugs such as phenylbutazone, flunixin meglumine or ketoprofen. These can decrease the production of the stomach's protective mucus layer, making it more susceptible to the formation of ulcers in the glandular portion of the stomach.

RETHINK the products you use for them



## HOW DO YOU TREAT GASTRIC DISCOMFORT?

Polysaccharides have established themselves as protectants by their ability to confer defense to gastrointestinal mucosal tissues. Levels of epidermal growth factor (EGF) and basic fibroblast growth factor (bFGF) increase in polysaccharide-treated gastric tissues indicating that polysaccharides can help relieve gastric discomfort with the production of these growth factors.<sup>2</sup>

RelyneGI contains a highly researched schizophyllan beta-glucan TBG-136. A double blind study performed by Louisiana State University showed that RelyneGI significantly improved stomach health.<sup>6</sup>

Schizophyllan beta-glucan has been found to have wound healing properties. It works by activating the immune system through binding to certain receptors on macrophages, which are white blood cells. This activation triggers a series of reactions that enhance the immune response, including the clearance of debris and defense against infections at the site of the wound. The activated macrophages release signaling molecules called cytokines, which attract other immune cells to the wound area to promote healing. Schizophyllan also stimulates cell growth and tissue regeneration by promoting the growth and migration of fibroblasts to the wound area. Fibroblasts are cells that play a crucial role in producing collagen, which forms the structural basis of new skin tissue. Due to its unique molecular structure, schizophyllan is believed to have a particularly strong effect on cell regeneration compared to other beta-glucans.<sup>3</sup>

Several studies have suggested that Schizophyllan Beta Glucan can provide benefits to the gut. The structure of Schizophyllan makes it a preferred food source for beneficial bacteria, such as Lactobacillus, giving them a competitive advantage.

As the beneficial bacteria ferment Schizophyllan, they multiply and increase in numbers in the gut microbiome. This ultimately leads to a healthier balance of bacteria in the gut<sup>4</sup>.

Hyaluronan is a natural high molecular weight polysaccharide, found throughout the body of all mammals. Its function includes cell signaling, skin healing, moisture retention, lubricating connective tissue and absorbing shock in joints. In the intestine, hyaluronan is vital in fluid exchange to and from the blood. In addition to functioning in normal gastric and intestinal tissue homeostasis, hyaluronan plays a role in the intestinal innate immune response. Dysregulation of the production and/or breakdown of hyaluronan may promote intestinal inflammation and disease.<sup>5</sup>

## RETHINK Relyne<sup>GI</sup>

### WHAT IS RELYNE<sup>GI</sup> FOR?

Relyne<sup>GI</sup> capitalizes on the immune-boosting effects of a new and improved beta glucan and hyaluronan to maintain a healthy digestive system in horses. It is frequently used as a long-term supplement for horses prone to gastric discomfort.

### HOW DOES RELYNE<sup>GI</sup> WORK?

Relyne<sup>GI</sup> is polysaccharide blend aimed at providing a natural alternative to support gastric health in horses. Relyne<sup>GI</sup> aids in promoting gastric well being in horses that may not respond to traditional therapies, as well as in equine athletes in training, travel and competition.



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2. de la Motte, CA and SP Kessler. The role of hyaluronan in innate defense responses of the intestine. *Intl J Cell Bio*, 2015, 481301.
3. Seo Gayoung, et al. The wound healing effect of four types of beta-glucan. *Appl Bio Chem* (2019) 62:20
4. Singh et al. Synbiotic supplementation with prebiotic Schizophyllum commune derived  $\beta$ -(1,3/1,6)-glucan and probiotic concoction benefits gut microbiota and its associated metabolic activities *Appl Biol Chem* (2021) 64:7
5. Al-Bayaty, F, et al. Evaluation of hyaluronate anti-ulcer activity against gastric mucosal injury. *African Journal of Pharmacy and Pharmacology*. 5(1):23-30 2011.
6. Andrews F, Mordoh S, Keowen M, Garza F. Effects of Relyne GI with Beta Glucan (TBG-136<sup>TM</sup>) on stomach health. Louisiana State University.

## GASTRIC SUPPORT

relyne<sup>GI</sup>®

Relyne<sup>GI</sup> is a polysaccharide blend aimed at providing a natural alternative to support gastric health in equine athletes.

Relyne<sup>GI</sup> aids in promoting gastric well-being in horses that may not respond to traditional therapies, as well as in equine athletes during training, travel and performance.

Relyne<sup>GI</sup> capitalizes on the gastric benefits of Hyaluronan to provide a naturally safe alternative to standard pharmacotherapies for gastric ulceration, and helps maintain a healthy digestive system.

Relyne<sup>GI</sup> partners the gastric perks of Hyaluronan and the immune-boosting effects of the beta-glucan to improve quality of life for animals prone to gastric ulceration.

Relyne<sup>GI</sup> is safe for continuous daily use while promoting healthy stomach pH and digestion. It does not alter gastric pH like PPIs and H2 blockers and therefore does not interfere with digestion and/or nutrient absorption.

Relyne<sup>GI</sup> contains the highly researched beta-glucan TBG-136, which has been shown by LSU Double Blind Study to significantly improve stomach health.

Relyne<sup>GI</sup> utilizes Hyaluronan that is made via microbial fermentation to ensure its purity and vegan status, eliminating the risk of any animal protein allergies from animal-sourced HA.

Relyne<sup>GI</sup> has been thoroughly tested for banned substances across all FEI, USEF and racing jurisdiction guidelines, and is clean sport certified



**Ingredients:**

**Active Ingredients:** 1 Ounce contains  
120mg TBG-136™ Schizophyllan Beta Glucan  
120mg hyaluronic acid

**Inactive Ingredients:** Purified Water, Sodium Chloride, Xanthan Gum, Potassium Sorbate, Citric Acid

**Instructions:**

Relyne<sup>GI</sup> is easily administered on daily feed for convenience, with the first dose mixed with morning feed & the second dose mixed with evening feed. If feed is not available to mix Relyne<sup>GI</sup> with, dose with an oral syringe. Use as directed unless otherwise instructed by your veterinarian.

1 oz. = 1 pump

Loading/Active (first 30 days): Administer 1 ounce (1 pump) twice daily.

Maintenance: Administer 1/2 ounce (1/2 pump) twice daily.

High Stress: Administer 3 ounces (3 pumps) per day.

Syringe: Administer 15 cc orally 1-2 times daily.

**Available Sizes:**

Gallon (64 days at 1 oz. twice daily) - \$199<sup>99</sup> retail (\$3.11/day)

Half-gallon (32 days at 1 oz. twice daily) - \$119<sup>99</sup> retail (\$3.72/day)

Concentrate syringe (60cc, 4 doses) - \$17.95 retail (1 dose per day: \$4.49/day; 2 doses per day: \$8.98/day)