

A close-up, vertical photograph of a brown horse's head, focusing on its eye and the bridle. The horse is looking slightly to the right. The background is a soft, out-of-focus green and blue.

THE NUMBER  ONE NAME IN
EQUINE HEALTH

HagyardPharmacy.com

HAGYARD
PHARMACY

RETHINK How you care for your horse

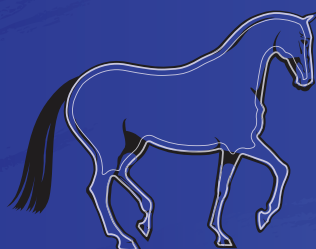
reflex^{HA}



relieve



resolve



revyve



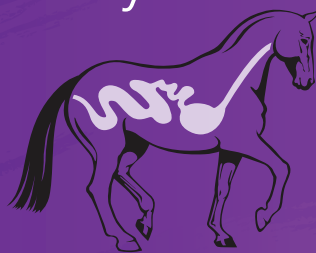
repair



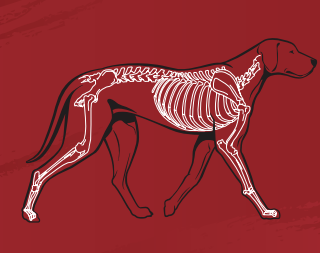
relyte^{HA}



relyne^{GI}



reflex^{K9}



The Resolvvet line of horse care products was created by veterinarians from Hagyard Equine Medical Institute. We've spent decades listening to owners, trainers and riders who've expressed concerns about the products prescribed to their horses. Whether they desire more natural ingredients, have concerns over pH balance, or worry about negative side effects, Resolvvet products have been designed to address the specific needs above and beyond the effective performance of the product.

Inspired by the success of our horse care products, Resolvvet Small Animal products have been created to take care of all of our four-legged friends.



relyne^{GI}[®]

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 medication. 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.¹

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 medication 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.²

Other laboratory findings revealed that a polysaccharide-containing gel promoted migration and proliferation of gastric epithelial cells, indicating that polysaccharides can have a direct impact on gastric ulcer healing. In a rodent model, the treated group exhibited a reduction of ulcerative areas in the gastric wall as well as diminished edema of the gastric mucosa.³ It is proposed that the high molecular weight hyaluronic acid act as a potent anti-inflammatory at the level of the gastric mucosa.⁴

Hyaluronan is a naturally occurring 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.⁵

RETHINK Relyne^{GI}

WHAT IS RELYNE^{GI} FOR?

Relyne^{GI} capitalizes on the dual benefit of a patented stomach buffering hyaluronan and the immune boosting effects of a beta-glucan to maintain a healthy digestive system. It is frequently used as a long-term supplement for horses prone to gastric discomfort.

HOW DOES RELYNE^{GI} WORK?

Relyne^{GI} is a polysaccharide blend aimed at providing a natural alternative to support gastric health in horses. Relyne^{GI} 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.



1. Murray MJ, Grodinsky C, Anderson CW, et al. Gastric ulcers in horses: a comparison of endoscopic findings in horses with and without clinical signs. *Equine Vet J Suppl* 1989;21(Suppl 7):68-72.
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. Matsumoto T, et al. Effect of the antiulcer polysaccharide fraction from *Bupleurum falcatum* L. on the healing of gastric ulcer induced by acetic acid in rats. *Phytotherapy Res* 2002;16:91-3.
4. Nagaoka, M. et al. Anti-ulcer effects of lactic acid bacteria and their cell wall polysaccharides. *Biol Pharm Bull*. 1994 Aug; 17(8):1012-17.
5. Al-Bayat, F, et al. Evaluation of hyaluronate anti-ulcer activity against gastric mucosal injury. *African Journal of Pharmacy and Pharmacology*. 5(1):23-30 2011.

GASTRIC SUPPORT

relyne^{GI}®

Relyne^{GI} 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^{GI} capitalizes on the gastric benefits of patented MHB3® Hyaluronan to provide a naturally safe alternative to standard pharmacotherapies for gastric ulceration, and helps maintain a healthy digestive system.

Relyne^{GI} partners the gastric perks of MHB3® Hyaluronan and the immune-boosting effects of the beta-glucan to improve quality of life for animals prone to gastric ulceration.

Relyne^{GI} 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^{GI} has been shown by Hagyard Veterinarians to heal gastric ulceration in 90% of horses.

Relyne^{GI} utilizes MHB3® 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^{GI} has been thoroughly tested for banned substances across all FEI, USEF and racing jurisdiction guidelines, and is Clean Sport certified.



**CLEAN
SPORT**

Ingredients:

300 mg Proprietary Blend per ounce (patented MHB3® Hyaluronan, pure beta glucan carboxymethyl glucan), purified water, sodium chloride, xanthan gum, potassium sorbate and citric acid. Contains nothing other than listed ingredients. 100% Vegan.

Directions for use:

Relyne^{GI} 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^{GI} with, dose with an oral syringe. Use as directed unless otherwise instructed by your veterinarian.

1 oz. = 2 pumps

Loading dose (first 30 days): Administer 1 ounce (2 pumps) twice daily.

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

During heavy work or high stress: Administer

1 ounce (2 pumps) twice daily.

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

Available Sizes:

Gallon (64 days at 1 oz. twice daily) - \$298 retail

Half Gallon (32 days at 1 oz. twice daily) - \$155 retail

Concentrate syringe (60cc, 4 doses) - \$17.95 retail

RETHINK your horse's joint care



reflex^{HA}

WHAT CAUSES JOINT PAIN AND INFLAMMATION?

Causes of joint discomfort in horses includes synovitis (inflammation of the fluid-producing membrane), capsulitis (inflammation of the fibrous joint capsule), articular cartilage and bone fragmentation, ligamentous tearing, and osteoarthritis. Joint pain primarily involves soft tissue overuse and microtrauma to the bone surfaces.

WHAT ARE THE SYMPTOMS?

Detection of joint discomfort includes subtle changes in the way your horse moves (shortening of stride, hollowing of the back, raising of the head, etc.), stiffness that goes away as your horse warms up, puffiness around a joint, warmth or pain in the area of a joint. Procedures to help make an exact diagnosis may include a lameness evaluation with a flexion test, regional nerve block or joint block, radiography, nuclear scintigraphy, arthroscopy, synovial fluid analysis, or ultrasounds. These can reveal information about the condition of the bone, cartilage, and joint capsule.

WHICH HORSES ARE MOST PRONE TO JOINT PAIN AND INFLAMMATION?

Older horses or actively competing horses are more likely to experience joint discomfort, and HA quantities and production decrease with time.

RETHINK the products you use for them



HOW TO TREAT JOINT PAIN AND INFLAMMATION?

Aggressive treatment is indicated to immediately decrease soft tissue swelling and inflammation as well as postpone the onset of permanent osteoarthritic changes.

RETHINK Reflex^{HA}

WHAT IS IT FOR?

Reflex^{HA} is a high molecular weight hyaluronic acid supplement that supports healthy joints, maintains lubrication, and promotes flexibility. Reflex^{HA} offers all the benefits of naturally produced hyaluronic acid and is rapidly absorbed for maximum efficacy.



HOW DOES REFLEX^{HA} WORK?

Hyaluronan, also known as hyaluronic acid or HA, is a natural biomacromolecule found throughout the body in all mammals. It has many functions and purposes including but not limited to cell signaling, skin healing, retaining moisture, lubricating connective tissue, absorbing shock in joints, filtering synovial fluid, and supplying nutrients to cartilage. Located in high concentration in synovial fluid and cartilage, HA's main purpose is lubrication and shock absorption in order for joints to function comfortably.

Reflex^{HA} has been developed as a liquid because of the very nature of hyaluronan itself. Hyaluronan is among nature's most water-loving molecules. When dry and exposed to moisture, it slowly absorbs up to 1000 times its weight in water, creating a thick viscous fluid. If consumed dry as a powder or a pellet by a healthy horse, the transit time from ingestion to excretion does not provide the necessary time for hydration of this incredibly hydrophilic molecule.¹

Oral hyaluronan has been shown to be absorbed and effective, and recent clinical studies are consistent with these laboratory findings. Studies with high molecular weight hyaluronan administered orally show distribution to the joints in as little as four hours post-administration.²

HA is naturally synthesized locally by synoviocytes within the joint and once produced, it binds to collagen and elastin to form articular cartilage. It is the presence of HA that makes cartilage strong enough to handle compressive forces within the joint. Hyaluronan is also found in unbound form in the synovial fluid, where it provides the major source of lubrication that allows for smooth fluid movements in joints.

Additionally, HA has been shown to regulate bone remodeling by stimulating osteoblasts and osteocytes as well as inhibiting osteoclasts. Oral HA supplementation has been shown to reduce urinary markers of bone resorption and ovariectomy-induced bone loss, indicating that hyaluronan may suppress bone resorption.³

1. Hefner, CS (2012). Oral Hyaluronan Dosage Forms in the Management of Joint Pain. Doctoral Dissertation. Global College of Natural Medicine, Santa Cruz, California. Print.
2. Balogh, L et al. Absorption, Uptake and Tissue Affinity of High-Molecular-Weight Hyaluronan after Oral Administration in Rats and Dogs. J. Agric. Food Chem. 2008, 56, 10582-10593 (2008).
3. Gerdin, B. and Hallgren, R. Dynamic role of hyaluronan in connective tissue activation and inflammation. Journal of Internal Medicine. 242, 49-55 (1997).

JOINT CORE SUPPORT

reflex^{HA}

Reflex^{HA} is formulated with patented MHB3[®] Hyaluronan for a highly researched, premium joint supplement to offer daily joint maintenance and address acute joint conditions.

Reflex^{HA} offers only fully traceable ingredients of the highest quality from only European and domestic sources.

Reflex^{HA} is a highly concentrated, researched, and professionally recommended product at a competitive price, at 240mg per ounce.

Reflex^{HA} contains MHB3[®] Hyaluronan, the most researched and proven joint supplement ingredient available with six patents defining its role in maintaining bone and joint health.

Reflex^{HA} utilizes MHB3[®] 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.

Reflex^{HA} is a convenient, cost effective alternative for natural joint support.

Reflex^{HA} is superior to other oral HA supplements that produce substandard products and fail to conduct proper research on their finished products.

Reflex^{HA} has been thoroughly tested for banned substances across all FEI, USEF and racing jurisdiction guidelines, and is Clean Sport certified.



Ingredients:

240 mg patented MHB3[®] Hyaluronan per ounce, purified water, sodium chloride, xanthan gum, potassium sorbate and citric acid. Contains nothing other than listed ingredients. 100% Vegan.

Directions for use:

Reflex^{HA} is easily administered on daily feed for convenience, with the first dose mixed with morning feed & the second dose mixed with evening feed. Use as directed unless otherwise instructed by your veterinarian.

½ oz. = 1 pump

Loading dose (first 30 days): Administer 1/2 ounce (1 pump) twice daily.

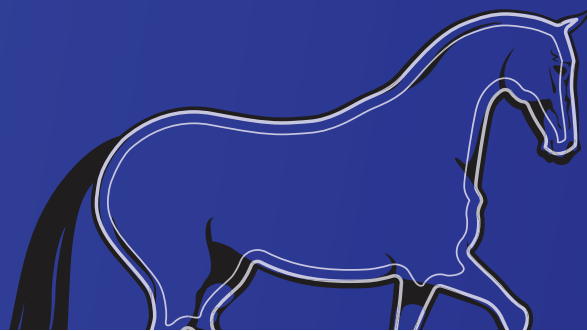
Maintenance: Administer 1/2 ounce (1 pump) daily.

During heavy work & pre-event use: Administer 1/2 ounce (1 pump) twice daily.

Available Sizes:

Gallon (128 days at ½ oz. twice daily) - \$248 retail

Half Gallon (64 days at ½ oz. twice daily) - \$130 retail



resolve

WHAT CAUSES BACTERIAL AND FUNGAL SKIN INFECTIONS?

There are several types of skin infections that horses can get from bacterial or fungal sources. Most of these skin issues are exaggerated by warm, humid weather.

WHAT ARE THE SYMPTOMS?

Rain Rot: Dermatophilosis (rain rot or mud fever) is a bacterial skin infection that causes streaks of hair loss that can resemble paint brush strokes, sometimes with matted hair, oozing, and crusting. White head and leg markings are most commonly affected, especially if horses are constantly exposed to wet grazing areas. This can happen in any climate, but it is more common in tropical and subtropical regions and often worsens in the legs with age.

Ringworm: Dermatophytosis (ringworm) is probably the most common fungal skin disease in horses worldwide. The appearance of ringworm can vary dramatically, but in classic situations, it starts as hair loss in a localized area that slowly expands larger and larger. Ringworm generally heals within a few months without treatment; however, it is uncomfortable for the horse and highly contagious to other horses and humans.

Thrush: Thrush is an infection of the frog that produces a foul-smelling black discharge. There is pain on applying pressure to the area. The hind feet are more often affected than the front feet and, occasionally, infection may result in a general swelling of the distal limb.

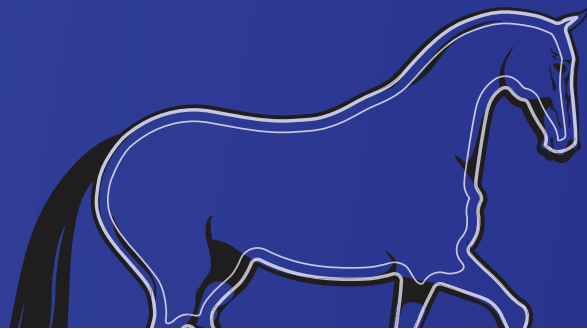
Scratches: Clinical signs vary, but initially owners might notice edema, redness and scaling, rapidly progressing to oozing, hair matting and crusting. Secondary bacterial infection is a common complication and can perpetuate the signs.

WHICH HORSES ARE MOST PRONE TO BACTERIAL AND FUNGAL SKIN INFECTIONS?

All horses are vulnerable to developing skin infections. Horses were designed to live in colder climates, so they have an undercoat as well as a regular coat. Their undercoat works to trap heat radiating from the body and block water coming from the environment. Unfortunately, those same properties cause the undercoat to trap heat and water vapor coming off the body. This creates a sauna at the skin level, creating the perfect environment for bacteria to thrive.

Body clipping increases your horse's risk of skin infections by causing tiny amounts of damage to the skin and removing the protective layer of hair making it easier for water to get all the way down to the skin, and poor grooming practices can also lead to an increased risk of skin infection.

RETHINK the products you use for them



HOW TO TREAT BACTERIAL AND FUNGAL SKIN INFECTIONS?

Decrease exposure to wet environments since excessive bathing or lack of shelter from rain can predispose your horse to skin infections. Prevention starts with regular grooming and good nutrition to keep the immune system strong enough to fight off bacteria. Check for telltale bumps and crusts on your horse's skin and treat immediately if present.

RETHINK Resolve

WHAT IS RESOLVE FOR?

Resolve antimicrobial spray works on bacterial and fungal skin infections such as scratches, summer sores, rain rot, ringworm and thrush.

HOW DOES RESOLVE WORK?

Resolve Antimicrobial Spray utilizes disinfectants that are used to clean and disinfect hospital settings. These disinfectants are diluted so it is very safe for horses. They disrupt the cell walls chemically so it is very hard to develop resistance to these ingredients. It all comes down to contact time and exposure of the bacteria to these products. None of these products will be toxic to the horse either systemically or topically, and the concentrations are actually below the concentrations that are considered safe for humans.



One of the ingredients is Chlorhexidine, a topical antiseptic that is typically used to cleanse wounds and skin to help prevent infection.

Other active ingredients are Bardac® 2080, a twin chain dimethyl ammonium chloride, and Barquat™ MB-80, a blend of alkyl dimethyl benzyl ammonium chlorides.

SKIN CARE SUPPORT

resolve

Resolve is a fast-acting anti-microbial spray for equine bacterial and fungal skin infections.

Resolve will not sting, burn or irritate your horse's skin.

Resolve does not require shampooing the horse, removing scabs or clipping hair to be effective.

Resolve works in wet AND dry environments.

Resolve is still effective even if it's not applied daily.

Resolve combats skin infections by disrupting the cell walls of the bacteria or fungus causing the problem. This makes it very hard for bacteria/fungus to develop a resistance to the product, so it will work over and over again!

Resolve contains ingredients that will not be toxic to the horse either systemically or topically, and the concentrations are actually below what is considered safe for humans.

Resolve has been thoroughly tested for banned substances across all FEI, USEF and racing jurisdiction guidelines, and is Clean Sport certified.



**CLEAN
SPORT**

Ingredients:

Bardac® 2080, Barquat™ MB-80, chlorhexidine and a humectant to keep skin moist.

Directions for use:

Apply generously as often as necessary to treat skin until healing is evident. It is not necessary to shampoo, remove scabs or clip hair to be effective in treating bacterial and fungal skin infections. Additional recommendations for common skin infections include...

Rain Rot: Saturate affected areas once daily until healing is evident, then apply twice weekly until problem is completely eliminated.

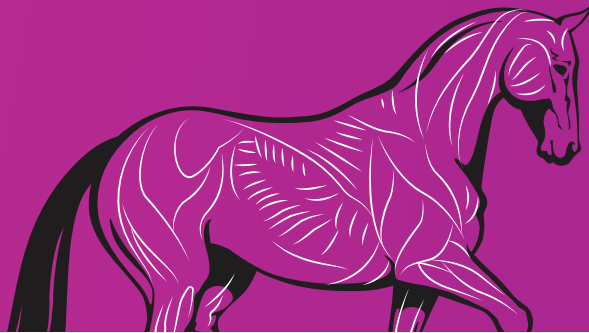
Ringworm: Saturate affected areas daily for 5 days, then apply every third day for 4-6 treatments.

Thrush: Clean hoof area of dirt & debris so Resolve can reach affected tissue. Apply once daily until problem is eliminated.

Available Sizes:

32 oz. spray bottle - \$27.95 retail

RETHINK your horse's electrolyte balance



relyte^{HA}

WHY DOES MY HORSE NEED AN ELECTROLYTE SUPPLEMENT?

Electrolytes are required for almost all bodily functions including nerve function, digestion, muscle contractions, blood pH, fluid balance and the rebuilding of damaged tissue. Electrolytes such as calcium also play a central role in ensuring adequate bone strength. It is very common for horses not to be receiving enough electrolytes, especially sodium.

Horses, like humans, lose electrolytes when they exercise, sweat, and have diarrhea. To maintain appropriate electrolyte concentrations and body fluid levels, these electrolytes must be replaced. Horses will receive some electrolyte replacement from their daily diet; however, some diets are deficient in salt. Therefore, it is important to supplement your horses' electrolytes needs.

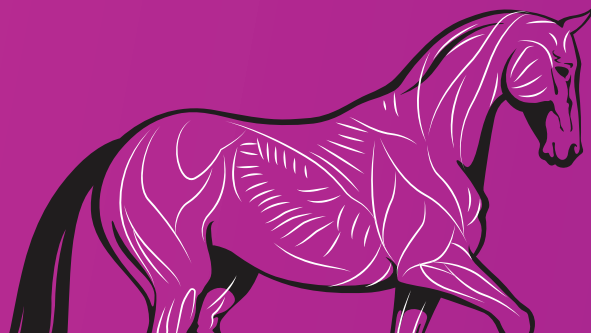
WHAT ARE COMMON SYMPTOMS OF ELECTROLYTE IMBALANCE?

Signs of electrolyte deficiency or imbalance can include poor performance, slow recovery after exercise, muscle problems such as tying-up and reduced sweating. Without a proper electrolyte balance in high-performance athletes, there is an increased risk of sustaining fractures that can occur during muscle fatigue and developing an irregular respiration rate associated with "thumps."

WHICH HORSES NEED AN ELECTROLYTE SUPPLEMENT?

If your horse is exposed to high heat and humidity or is worked heavily, causing them to sweat excessively, they may need the addition of an electrolyte supplement to help maintain necessary fluid balance and body function. Electrolyte supplementation is also highly beneficial for horses who aren't drinking water, have had furosemide administered, as well as horses or foals with diarrhea.

RETHINK the products you use for them



HOW DO YOU RESTORE ELECTROLYTE BALANCE?

Regular oral supplementation is recommended rather than solely relying on salt blocks to meet a horse's salt or electrolyte needs. If your horse is in work, then the addition of a balanced electrolyte on a daily basis is recommended.

RETHINK Relyte^{HA}

WHAT IS RELYTE^{HA} FOR?

Relyte^{HA} fulfills the need for a balanced equine electrolyte supplement that replenishes the minerals lost in sweat, provides added calcium, and supports gastrointestinal comfort with the addition of HA.

HOW DOES RELYTE^{HA} WORK?

Relyte^{HA} is the first electrolyte supplement with added hyaluronan (HA) to buffer against stomach irritation associated with the consumption of concentrated electrolytes. Relyte^{HA} comes in an easy to administer dial-a-dose[®] syringe and contains two doses per tube for adult horses. Each 30 cc dose is the equivalent to a half liter of sweat, and is apple flavored for palatability without adding any sugar.

While Relyte^{HA} is suitable for all horses, it is especially beneficial for horses with gastric ulcers or a history of gastric ulcers. The use of ordinary electrolytes without a buffering agent may cause appetite and thirst suppression, pain and discomfort, and lead to the worsening of existing ulcers and development of new ulcers since it is essentially rubbing salt in a wound.

The HA in Relyte^{HA} provides a buffer so the electrolytes can arrive to the small intestine for proper absorption without irritating the digestive tract getting there.

Relyte^{HA} can also be used in foals, and is extremely helpful in replenishing lost electrolytes when battling bouts of diarrhea. Relyte^{HA} helps to replenish electrolytes lost through the compromised gastrointestinal tract as well as supporting the gastrointestinal mucosal tissues with the HA it contains.



RETHINK Relyte^{HA}

ELECTROLYTE BALANCE

relyte^{HA}

Relyte^{HA} is the first electrolyte supplement formulated with hyaluronan to buffer against stomach irritation, allowing for proper absorption in the small intestine without aggravating or creating ulcers getting there.

Relyte^{HA} offers electrolyte replenishment proportionate to sweat, and each 30 cc dose of Relyte^{HA} is intended to replace electrolytes lost in a half liter of sweat.

Relyte^{HA} combines restorative electrolytes, added calcium and patented MHB3[®] Hyaluronan to ease the gastric side effects associated with regular electrolyte use. This is a tremendous benefit to horses who currently or historically suffer from gastric ulcers.

Relyte^{HA} contains additional calcium to help replenish what is lost after furosemide administration, which has been shown to cause calcium dysregulation for several days.

Relyte^{HA} can be given to foals or adult horses with diarrhea to replenish electrolytes and support gastrointestinal mucosal tissues.

Relyte^{HA} has been thoroughly tested for banned substances against all FEI, USEF and racing jurisdiction guidelines, and is Clean Sport certified.



Ingredients:

Salt, potassium, MHB3[®] Hyaluronan (HA), calcium, magnesium and phosphorus. *Inactive ingredients:* Purified water, potassium sorbate, citric acid, natural flavoring, sodium copper chlorophyllin.

Directions for use:

Adult horses: Administer 30 cc orally 1-2 times per day as needed. Syringe contains two 30 cc doses for an average size horse of 1000-1200 lbs.

Foals: Administer 10-15 cc orally 1-2 times per day as needed.

Available Sizes:

60 cc - \$13.25 retail
Available individually or as a case of 20 syringes.



revvyve

WHAT CAUSES GASTROINTESTINAL AILMENTS?

Horses are hindgut fermenters, meaning they utilize a population of beneficial bacteria and other microbes to help digest the bulk of their feed. Fiber, the main component of forages, is broken down by these microorganisms in the cecum to produce nutrients that are absorbed through the horse's colon. The Volatile Fatty Acids (VFAs) produced and absorbed in this process provide the horse with as much as 70% of its energy requirements, so it is important that all the beneficial bacteria are in place to provide the horse with its main source of energy.

The hindgut microbiome is delicately balanced between beneficial microbes and harmful bacteria, and this healthy balance can easily be damaged by several factors. This includes diet alterations (a change in feed or feeding patterns), environmental stressors (training, travel, competition, illness), and, as in humans, oral antibiotic use.

WHAT ARE COMMON SYMPTOMS OF GASTROINTESTINAL AILMENTS?

A horse's overall health is reliant upon optimal functioning of the gastrointestinal (GI) tract. Therefore, external symptoms could indicate an underlying GI tract issue. This includes generally poor condition, inability to gain weight, dull coat, mild colic, and diarrhea.

The main goal of administering probiotics is to manipulate the normal intestinal microflora in such a way that is beneficial to the overall health of the horse, allowing their condition to improve.

WHICH HORSES ARE MOST PRONE TO GASTROINTESTINAL AILMENTS?

Horses that have an unbalanced diet or are under stress are more likely to experience GI microflora imbalance.

If a horse eats more starch than it needs, it can quickly damage the growth of beneficial bacteria. When undigested starch from concentrated feeds reaches the hindgut, it fuels accelerated population growth among certain microbes, which results in greater volumes of lactic acid and a lower pH, killing off other good bacteria in the vicinity.

Similarly, if hours are spent with no grass or hay or the type of feed is changed without a gradual transition, it will alter the hindgut microflora.

Finally, stressors like training, travel, competition, and illness can wreak havoc on the hindgut microflora. If oral antibiotics are used to treat an illness by killing off bad bacteria, the good bacteria in the gut are inadvertently damaged. Therefore, it is recommended to administer a source of healthy probiotics during and after an antibiotic treatment.

RETHINK the products you use for them



HOW DO YOU TREAT GASTROINTESTINAL AILMENTS?

The theory behind feeding probiotics is that adding in more of the beneficial bacteria needed for digestion will counteract digestive upset caused by an imbalance of bad over good bacteria in the hindgut.

A probiotic is defined as “a live microbial supplement which beneficially affects the host animal by improving its intestinal microbial balance.” In addition to producing many of the vitamins, amino acids and other nutrients the horse needs, the intestinal flora help keep potentially damaging bacteria under control. They do this in several ways, including colonizing the gut wall – by attaching themselves to the epithelium, they block spaces that might otherwise be occupied by invaders.

Prebiotics are ingredients that promote the health and growth of microorganisms already living in your horse’s digestive tract. Prebiotics essentially act as a food source for your horse’s existing gut microbes. Unlike probiotics, prebiotics for horses do not introduce new bacteria to the digestive tract.

RETHINK **Revyve**

WHAT IS REVYVE FOR?

Revyve is a Pre and Probiotic designed to maintain GI health during anti-microbial and gastrointestinal ailments.



HOW DOES REVYVE WORK?

Revyve contains *Saccharomyces cerevisiae* fermentation product, a prebiotic that helps with the growth of beneficial bacteria already in the horse’s gastrointestinal tract, as well as *Saccharomyces boulardii*, a probiotic which has

been embedded into a protective proprietary matrix so that it can reach its desired destination within the GI tract without degradation in the stomach. Revyve also contains L-glutamine, an amino acid that improves GI tract healing.

The *Saccharomyces cerevisiae* fermentation product contains beta-glucans, mannan oligosaccharides and *Saccharomyces cerevisiae*. Beta-glucans are naturally occurring polysaccharides that have been known for thousands of years in Eastern Countries for their healing and immune-stimulating properties. The *Saccharomyces cerevisiae* and beta-glucan are a proprietary fermentation product that helps promote the growth of beneficial bacteria already in the horse’s gastrointestinal tract.

Saccharomyces boulardii has been shown to bind to certain toxin binding sites to decrease the severity of clinical signs in horses with acute enterocolitis. Revyve contains 10 billion colony-forming units (CFU) of *Saccharomyces boulardii* per scoop, because studies have illustrated that this quantity achieves the desired outcome without upsetting the bowel and incurring unnecessary product costs.

L-glutamine is the most abundant amino acid in humans as well as horses, and can be useful in maintaining tight junctions in the gut lining. While it is technically a nonessential amino acid, it can be depleted during times of stress. When the depletion is severe, supplementation of L-glutamine is required. Without it, horses can experience diarrhea, atrophy of intestinal villi, mucosal ulceration, poor nutrient absorption, increased toxin absorption, and even necrosis.

RETHINK Revyve

DIGESTIVE SUPPORT

revyve

Revyve is designed to help prevent antimicrobial-induced diarrhea, as well as aid in the healing process of the gastrointestinal tract during recovery of a variety of gastric ailments.

Revyve contains the prebiotic, dried *Saccharomyces cerevisiae* fermentation product, to help with the growth of beneficial bacteria already in the horse's gastrointestinal tract.

Revyve contains the probiotic, *Saccharomyces boulardii*, and is stabilized and embedded into a protective proprietary matrix so it can reach its desired destination within the GI tract without degradation.

Revyve contains the amino acid, L-glutamine, one of the most important nutrients for a healthy digestive tract because of its ability to maintain the integrity of the intestinal wall.

Revyve can aid in faster recovery from an illness or infection, especially in horses who have received oral antibiotics during treatment.

Revyve can help reduce digestive upset in horses susceptible to chronic diarrhea and/or mild colic by stabilizing the microflora to promote a healthier environment in the gut.

Revyve has been thoroughly tested for banned substances across all FEI, USEF and racing jurisdiction guidelines, and is Clean Sport certified.



**CLEAN
SPORT**

Ingredients:

(Per level scoop): Dried *Saccharomyces cerevisiae* fermentation product (2850 mg), L-glutamine (2500 mg) and *Saccharomyces boulardii* (10 billion CFU).

Directions for use:

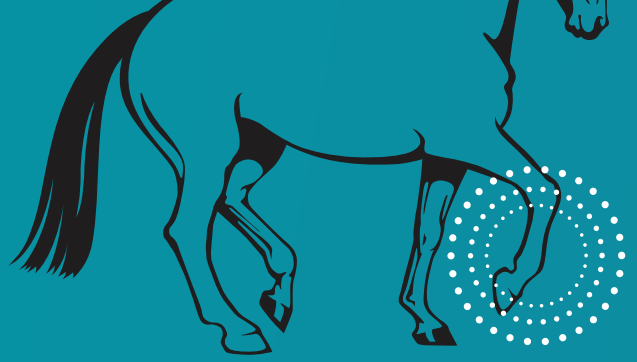
For horses less than 1300 lb: 1 level scoop (6 grams) orally twice daily

For horses more than 1300 lb or mares in late term gestation: 1½ scoops (9 grams) orally twice daily

Available Sizes:

0.8 lb (30-day supply for adult horse) - \$47.99 retail

RETHINK your horse's hoof health



repair

WHAT CAUSES CRACKED, DRY HOOVES?

A horse's hoof is made of a protein called keratin, the same sort of tissue that makes up the outer layers of human skin and nails. Although the protein is the same, in hooves it is arranged differently into both layers and tubes. These unique layered and tubular structures of the horse's hoof are affected by the moisture content of the ground it stands upon. Therefore, hoof condition is often dependent upon how wet or dry their footing is in stalls, paddocks or pastures. Additionally, nutritional deficits or improper management can lead to poor hoof condition.

WHICH HORSES ARE MOST PRONE TO CRACKED, DRY HOOVES?

Hoof tissue is affected by the moisture content of the ground it stands upon, so hoof condition is dependent upon how wet or dry their footing is in stalls, paddocks or pastures. Other underlying reasons for poor hoof condition can be attributed to nutrition and management. A horse that does not have a balanced diet, regular visits from the farrier and regular exercise is more likely to experience poor hoof condition.

RETHINK the products you use for them



HOW DO YOU TREAT CRACKED, DRY HOOVES?

It is important to first see what can be done to alter the environment that is causing the dry or cracked hooves. For growth and maintenance of healthy hooves, balanced nutrition and attention to proper management (regular stall cleaning, farrier care, and exercise) are the best guarantees.

Secondarily, hoof oils can be applied to decrease the rate of moisture loss from the hoof tissue. In a study presented to the American Association of Equine Practitioners, petroleum-based hoof dressings (like Repair) slowed evaporation more than lanolin-based dressings.¹

Pine tar has natural antibacterial and fungicidal properties, making it an ideal choice for softening hard frogs and promoting new, healthy hoof growth. It also aids in making the hoof elastic, flexible, and promotes the development of new hoof growth.

Marine-based oils provide a rich source of omega-3 fatty acids, which work in conjunction with an overall hoof care program to promote healthy hooves. It is especially beneficial as an aid in moisturizing dry and brittle hooves.

RETHINK Repair

WHAT IS REPAIR FOR?

Repair improves hoof strength, quality and growth while keeping the hoof wall and sole supple and healthy.

HOW DOES REPAIR WORK?

Repair hoof oil promotes the correct balance of moisture in the hoof: protecting against cracks in hot and dry months and stopping moisture from penetrating in the wet months. A carefully blended combination of pine tar and marine-based oils, even soft hoofs strengthen with regular application of Repair.



1. Kempson SA. Response of equine hoof defects to Farrier's Formula. Vet Rec. 1991;128(16):387. doi:10.1136/vr.128.16.387-b

RETHINK Repair

HOOF OIL

repair

Repair contains pine tar, which has natural antibacterial and fungicidal properties.

Repair contains marine-based oils, a rich source of omega-3 fatty acids.

Repair promotes the correct balance of moisture in the hoof, protecting against cracks in hot and dry months, and stopping moisture from penetrating in the wet months.



Ingredients:

Carefully blended combination of pine tar and marine-based oils.

Directions for use:

Apply liberally to clean, dry hooves. Brush on entire hoof wall, frog and sole once daily. May maintain with applications 2-3 times weekly. Use caution when applying, may stain hair and surfaces.

Available Sizes:

32 oz – \$24.99 retail



relieve

WHAT CAUSES DIARRHEA?

Although diarrhea can be seen with enteritis, it is not always associated with inflammation of the bowel. In foals, causes of diarrhea may be secondary to non-infectious foal heat diarrhea or dietary issues. In adults and adolescent horses, a bacterial infection (*Clostridium difficile*, *Clostridium perfringens*, *Salmonella*, etc.), viral infection, parasitic infection, or cryptosporidium can be responsible. Obtaining fecal samples for either cultures or PCR (DNA) testing can be utilized to identify the specific cause.

In a general categorization, bacterial toxins cause a secretory diarrhea while viruses can result in a malabsorptive diarrhea. Malabsorptive diarrhea is the inability of the intestinal tract to reabsorb water and nutrients, and secretory diarrhea results in the hypersecretion of both water and electrolytes into the intestinal tract. In severe infections, bacteria and viruses can result in both secretory and malabsorptive diarrhea.

In many cases of adult diarrhea, the horse recovers before the cause is known. Within a horse's GI tract, a healthy microflora is an essential part of the normal digestive processes. If the normal balance of bacteria is upset by a sudden change in diet, stress, or antibiotic treatment, digestion is upset and diarrhea may follow. *To learn more about the intestinal microflora, read Revyve section.*

WHAT ARE COMMON SYMPTOMS OF DIARRHEA?

In most cases, it is obvious when a horse has diarrhea, but often the difficulty is in diagnosing the cause.

WHICH HORSES ARE MOST PRONE TO DIARRHEA?

Unfortunately, diarrhea is common in adolescents as well as adult horses. However, horses that have recently changed diets or been exposed to stress are more prone to diarrhea.

RETHINK the products you use for them



HOW DO YOU TREAT DIARRHEA?

Symptomatic treatment includes removing any obvious cause or exacerbating problems such as green grass, rich feed and antibiotic treatment. If the diarrhea is severe or symptoms persist, then treatment is necessary. Treatment for diarrhea is directed towards supportive care (fluid therapy, nutrition) and targeted treatment for the specific infection as determined by clinical and diagnostic testing. Intestinal adsorbents, antidiarrheals, and electrolytes may be administered as needed.

RETHINK **Relieve**

WHAT IS RELIEVE FOR?

Relieve is an intestinal adsorbent that helps restore digestive balance in foals and adult horses, while offering greater adsorption of viruses and bacterial toxins.

HOW DOES RELIEVE WORK?

Relieve contains the only ultra-purified bentonite clay available in veterinary medicine, offering a superior surface area for greater adsorption of viruses and bacterial toxins to restore digestive balance, and L-glutamine, an amino acid that improves GI mucosal healing.

Bentonite clay, the commercial name for montmorillonite clay, is the active mineral derived from weathered volcanic ash. The molecule has unusual geometric properties of a sheet-type or platelet structure, with an extremely large surface area and inherent negative charge. Relieve utilizes the unique molecular structure of bentonite, and triple-filters it with both hydro and centrifugal forces to remove any non-clay particles. This process produces a bentonite clay that is superior to others, with 100% active ingredients in each gram.

The other key ingredient in Relieve is L- glutamine, the most abundant amino acid in the body. It has properties known to aid in repair of intestinal tissue and enhances the immune system, quickly aiding in bringing your horses intestinal tract back into balance.



RETHINK Relieve

INTESTINAL ADSORBENT

relieve

Relieve is designed to help restore normal gastrointestinal function as an adjunctive treatment for both viral and bacterial causes of diarrhea.

Relieve utilizes bentonite clay that is triple filtered via hydro and centrifugal forces to remove any non-clay particles. This superior ultra-purified product bonds to a variety of toxins and allows for a higher adsorption of toxins and bacteria per gram. There is no other veterinary bentonite clay product available that has gone through this stringent process.

Relieve contains L-glutamine, an amino acid that improves GI mucosal healing and enhances the immune system.

Relieve comes in an easy to administer dial-a-dose® syringe.

Relieve works well in combination with Relyte^{HA} to replenish electrolytes while also adsorbing the cause of the diarrhea.



Ingredients:

Water, ultra-purified bentonite clay, L-glutamine, xanthan gum, salt, pectin (citrus), sodium benzoate, methylparaben and artificial flavors.

Directions for use:

Foals: 30-60 cc orally 2-4 times a day or as directed by your veterinarian.

Adult Horses: 120 cc orally 2-4 times a day or as directed by your veterinarian.

Discontinue use 1 day after normal GI function returns.

If no improvement is noted after 5 days, discontinue and consult veterinarian.

Available Sizes:

60 cc - \$13.50 retail

Available individually or as a case of 20 syringes.



reflex^{K9}

WHAT CAUSES JOINT PAIN AND INFLAMMATION?

Typically, joint problems in dogs fall into two major categories: developmental and degenerative. Developmental occurs when the joint or ligament does not develop correctly causing it to not function as intended. On the other hand, the ligaments around your dog's joints can "degenerate" (or regress) over time. Like humans, your dog's joints need to be properly cared for (proper nutrition, stretching, proper exercise, etc.,) or they can start to breakdown and cause discomfort for your dog.

WHAT ARE COMMON SYMPTOMS OF JOINT PAIN AND INFLAMMATION?

There are a number of signs that your dog may be experiencing chronic discomfort due to joint pain. This includes increased irritability, lagging behind on walks, slower to get up in the morning, stiffness (limping or "slowing down"), not enjoying games and walks like he used to, reluctance to jump in the car or go up or down stairs, and excessive licking of a sore joint.

WHICH DOGS ARE MOST PRONE TO JOINT PAIN AND INFLAMMATION?

Certain large breed dogs are more prone to arthritis and decreased mobility. Those dog breeds include Labrador retrievers, Golden retrievers, German shepherds and Rottweilers.

Additionally, obesity is a big problem in dogs, and the excessive load it places on your dog's joints exacerbates the signs of arthritis. If your dog has been diagnosed with joint pain, one of the best things you can do for him is make sure he is at a healthy weight.

RETHINK the products you use for them



HOW DO YOU TREAT JOINT PAIN AND INFLAMMATION?

First, make sure that your dog is receiving a balanced diet for their lifestyle and nutritional needs. Secondly, the use of anti-inflammatory medication and joint supplements can help ease joint pain and inflammation. Joint supplements are quickly gaining popularity in the canine world as an alternative to prescription pain medication.

RETHINK Reflex^{K9}

WHAT IS REFLEX^{K9} FOR?

Reflex^{K9} is an all-natural, orally administered, high molecular weight hyaluronan supplement that aids in promoting and maintaining joint health.

HOW DOES REFLEX^{K9} WORK?

The active ingredient in Reflex^{K9} is hyaluronan, also known as hyaluronic acid or HA. It is a natural biomacromolecule found throughout the body in all mammals, and has many functions and purposes including but not limited to cell signaling, skin healing, retaining moisture, lubricating connective tissue, absorbing shock in joints, filtering synovial fluid, and supplying nutrients to cartilage. Located in high concentration in synovial fluid and cartilage, HA's main purpose is lubrication and shock absorption in order for joints to function comfortably.



Reflex^{K9} has been developed as a liquid because of the very nature of hyaluronan itself. Hyaluronan is among nature's most water-loving molecules. When dry and exposed to moisture, it slowly absorbs up to 1000 times its weight in water, creating a thick viscous fluid. If consumed dry as a powder or a pellet, the transit time from ingestion to excretion would not provide the necessary time for hydration of this incredibly hydrophilic molecule.

HA is naturally synthesized locally by synoviocytes within the joint and once produced, it binds to collagen and elastin to form articular cartilage. It is the presence of HA that makes cartilage strong enough to handle compressive forces within the joint. Hyaluronan is also found in unbound form in the synovial fluid, where it provides the major source of lubrication that allows for smooth fluid movements in joints.

JOINT SUPPORT

reflex^{K9}

Reflex^{K9} is an all-natural high molecular weight HA supplement that supports healthy joints and maintains lubrication and flexibility.

Reflex^{K9} is formulated with MHB3[®] Hyaluronan, which has six patents defining its role in maintaining bone and joint health and is the most researched and proven joint supplement ingredient available.

Reflex^{K9} contains 25mg of hyaluronan per dose, offering a highly concentrated, researched, and professionally recommended product at a competitive price.

Reflex^{K9} contains ingredients of the highest quality from only European and domestic sources.



Ingredients:

25 mg patented MHB3[®] Hyaluronan per ounce, purified water, sodium chloride, citric acid and potassium sorbate.

Directions for use:

Administer ½ teaspoon orally twice daily.

Available Sizes:

6 oz bottle (36 days at ½ tsp. twice daily) – \$35 retail