The Joint Health Portfolio from Boehringer Ingelheim® Vetmedica Inc., with products including Vetalog®, Surpass®, Hyvisc™ and Hyalovet®, gives veterinarians a range of options to treat joint pain. Our products combine advanced technology to help keep equine athletes competing and making us your point of contact for joint health.
HYVISC®
(HYALURONATE SODIUM)

IMPORTANT SAFETY INFORMATION:
A mild, transparent post-injection inflammatory response may occur.
For intra-articular injection in horses only. Do not use in horses intended for food.

High performance that meets your high expectations

- High molecular weight hyaluronic acid
- Extremely pure
- No known contraindications
- One convenient injection
- FDA approved for intra-articular injection with a high margin of safety

IMPORTANT SAFETY INFORMATION: A mild, transparent post-injection inflammatory response may occur. For intra-articular injection in horses only. Do not use in horses intended for food.
HELP MANAGE JOINT PAIN AND INFLAMMATION®
IMPORTANT SAFETY INFORMATION: Like any medication, non-steroidal anti-inflammatory drugs (NSAIDs) such as SURPASS may cause side effects. These are usually mild and affect primarily the gastrointestinal system, but more serious side effects can occur. NSAIDs should only be administered under the direction of a licensed professional. SURPASS topical cream is only approved for use in horses and has not been evaluated in breeding, pregnant, or lactating horses, or in horses under 1 year of age. Do not exceed the recommended dose. Wear gloves when administering SURPASS. If direct contact with skin occurs, wash immediately with soap and water. Please refer to the package insert for complete product information.
For more information, contact your Boehringer Ingelheim sales representative.
Visit www.jointhehealthmanagement.com or www.bi-vetmedica.com

Consult the rules and regulations of respective associations for more information about use of these products in competitive horses.

1 SURPASS® (1% diclofenac sodium) Freedom of Information Summary, Greensboro, NC, IDEXX Pharmaceuticals, Inc; 2004.
3 Frisbie DD, McIlwraith CW, Kawcak CE, Werpy NM, Pearce GL. Evaluation of topicality within one to two weeks after Hyalovet® Injection.
4 Hyalovet® (hyaluronate sodium) Freedom of Information Summary; Fort Dodge, IA, Fort Dodge Laboratories; 1988.

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**HYALOVET®**
(HYALURONATE SODIUM)

**IMPORTANT SAFETY INFORMATION:**
As with any intra-articular injection, a mild inflammatory response may be seen in the joint following Hyalovet injection. The response is self-limiting but may last from 2 to 5 days after treatment. If inflammation is excessive or severe, the possibility of infection should be considered and appropriate antibiotic therapy instituted.

**Track record of consistent performance**

- **A single injection of Hyalovet has been shown to significantly reduce lameness, swelling, pain, heat and pain on joint flexion associated with acute synovitis of the carpal joint**

- **2 mL vials and 2 mL syringes**

- **No refrigeration required — stores at room temperature**

- **FDA approved, economic hyaluronic acid**

**IMPORTANT SAFETY INFORMATION:** As with any intra-articular injection, a mild inflammatory response may be seen in the joint following Hyalovet injection. The response in self-limiting but may last from 2 to 5 days after treatment. If inflammation is excessive or severe, the possibility of infection should be considered and appropriate antibiotic therapy instituted.
PERFORMANCE HAPPENS IN THE JOINTS
IMPORTANT SAFETY INFORMATION: As with all corticosteroids, Vetalog should be used with care in all stages of pregnancy. Do not use with viral infections. Please see full product safety information. Following intra-articular administration, pain and other local symptoms may continue for a short time before effective relief is obtained.
syndrome. Existence of congestive heart failure, diabetes and osteoporosis are relative contraindications. Evidence of infection has disappeared.

Contraindications:
- Are suggestive of a septic arthritis. If these complications should occur and the diagnosis of sepsis is confirmed, antimicrobial therapy should be instituted immediately and continued until all symptoms have disappeared.

Intra-articular injections. A thorough understanding of the pertinent anatomic relationships is essential. The inadvertent administration of the corticosteroid into the soft tissues surrounding a joint can lead to pain and local tissue necrosis. The dose injected at any one site should not exceed 0.6 mg to minimize local tissue intolerance and atrophy, and should be made well into the cutis to prevent subsequent rupture of the injected tissue.

The dose of triamcinolone acetonide for intra-articular or intrasynovial administration is dependent on the size of the joint to be treated and on the severity of symptoms. A single injection of 1 mg to 3 mg triamcinolone acetonide is effective for treatment of joint disease.

Using a tuberculin syringe with a small bore needle (23-25 gauge) for accuracy of dose measurement and ease of administration.

The dose is 0.01 mg to 0.02 mg triamcinolone acetonide per pound of body weight as a single injection; the usual range is 12 mg to 24 mg for large joints.

Intralesional: Dogs and Cats:
- Vetalog Parenteral is a highly potent synthetic glucocorticoid which is primarily effective because of its anti-inflammatory activity. The apparent analgesic effect is a result of the anti-inflammatory properties of the corticosteroid.

- It is indicated for use in dogs and cats for the management and treatment of acute arthritis, allergic and dermatologic disorders.

- Allergic and Dermatologic Disorders:
  - Vetalog Parenteral is effective for treatment of dermatological disorders such as chronic dermatitis, pyoderma, pruritus, and atopic dermatitis.

- Indications:
  - Intralesional and intramuscular or subcutaneous injection.
  - Dogs and Cats:
    - Injection of Vetalog Parenteral provides rapid relief from pain and reduces inflammation and swelling.

-禁忌症：
- Cushing's Syndrome in dogs has been reported in association with prolonged or repeated steroid therapy.

- Osseous metaplasia. Side effects such as serum alkaline phosphatase (SAP) and serum glutamic pyruvic transaminase (SGPT) enzyme elevations have occurred following use of synthetic corticosteroids in dogs. Cushing's Syndrome in dogs has been reported in association with prolonged or repeated steroid therapy.

- Corticosteroids administered in the pregnant animal may induce the first stage of parturition if used during the last trimester of pregnancy and may precipitate premature parturition. The safety of most corticosteroid drugs for use during all stages of pregnancy has not been adequately established. However, clinical and experimental data have demonstrated that corticosteroids administered orally or by injection to animals may induce the first stage of parturition if used during the last trimester of pregnancy and may precipitate premature parturition. The administration of corticosteroids to pregnant animals may result in vaginal discharge, fetal death, retained placenta, metritis, lambing, dystocia, fetal death, retained placenta, and metritis. Additionally, corticosteroids administered to dogs, rabbits, and rodents during pregnancy have resulted in cleft palate in offspring. Therefore, before use of corticosteroids administered to pregnant animals, the possible benefits to the pregnant animal should be weighed against potential hazards to its developing embryo or fetus.

- The administration of corticosteroids, depending on dose, duration and specific steroid, may result in inhibition of endogenous steroid production following drug withdrawal. In patients presently receiving or recently withdrawn from systemic corticosteroid treatments, therapy with a rapidly acting corticosteroid should be considered in unusually stressful situations.

- Caution:
- NADA 012-198, Approved by FDA.

- Sodium hydroxide or hydrochloric acid may have been added to adjust the pH. At the time of manufacture, the air in the container is replaced by nitrogen.

- Storage:
- °To limit the number of entries through the stopper, these two vials are for use in HORSES ONLY.

- How Supplied:
- Vetalog® is a registered trademark of Boehringer Ingelheim Vetmedica, Inc. All Rights Reserved.

- © 2013 Boehringer Ingelheim Vetmedica, Inc.
Caution: Federal law restricts this drug to use by or on the order of a licensed veterinarian. Description: Vetalog Parenteral is available for veterinary use as a sterile suspension in vials providing 2 mg or 6 mg triamcinolone acetonide per mL, with 0.9% (w/v) benzyl alcohol as a preservative, sodium chloride for isotonicity, 0.75% carboxymethylcellulose sodium and 0.04% polysorbate 80. Sodium hydroxide or hydrochloric acid may have been added to adjust the pH. At the time of manufacture, the air in the container is replaced by nitrogen. Actions: Triamcinolone acetonide is a highly potent synthetic glucocorticoid which is primarily effective because of its anti-inflammatory activity. The apparent analgesic effect is a result of the anti-inflammatory properties of the drug. Rationale For Use: Inflammation and related disorders: Dogs, Cats and Horses: Injection of Vetalog Parenteral provides rapid relief from pain and reduces inflammation and swelling. Depending on the nature of the condition, Vetalog Parenteral may be injected intramuscularly, intra-articularly or intrasynovially. The usual pattern of response is improvement of motion and decrease of pain within 24 hours, followed by diminution of swelling. The extent of return to normal is limited by the degree of irreversible pathologic change present. Triamcinolone acetonide will not reverse permanent pathologic changes. Allergic and Dermatologic Disorders: Dogs and Cats: Intramuscular or subcutaneous administration of Vetalog Parenteral has been found to provide prompt and prolonged relief in the management of allergic symptoms such as conjunctivitis or reactions to insect bites and in various dermatoses. Inflammation, edema and pruritus are suppressed and discomfort is eased, usually within 24 hours. Since scratching is reduced or eliminated, lesions are permitted to heal more rapidly. In many cases a single injection is sufficient to terminate symptomatic inflammation, if necessary, repeat treatments can be administered. Intralesional administration of Vetalog Parenteral is effective for treatment of dermatological disorders such as moist eczema, frictional acanthosis and other dermatitides in dogs and cats. Inflammation and pruritus are often abated within one to three days. A single intralesional injection is often sufficient to effect remission or elimination of the lesion within a period of one to two weeks. Indications: Vetalog Parenteral is indicated for the treatment of inflammation and related disorders in dogs, cats and horses. It is also indicated for use in dogs and cats for the management and treatment of acute arthritis, allergic and dermatologic disorders. Dosage and Administration: Intramuscular or subcutaneous: Dogs and Cats: The dose is a single injection of 0.05 mg to 0.1 mg triamcinolone acetonide per pound of body weight in inflammatory or allergic disorders and 0.1 mg per pound of body weight in dermatologic disorders. Remission of symptoms, if not permanent, usually lasts 7 to 15 days. After this time, if symptoms recur, the dose may be repeated or oral corticosteroid therapy may be instituted. Horses: The dose is 0.01 mg to 0.02 mg triamcinolone acetonide per pound of body weight as a single injection; the usual range is 12 mg to 20 mg. Intralesional: Dogs and Cats: The usual intralesional dosage is 1.2 mg to 1.8 mg triamcinolone acetonide. Injections should be circumscribed around the lesion in various sites to insure adequate distribution of the dose. Injections should be spaced 0.5 cm to 2.5 cm apart, depending on the size of the lesion. The spacing of the dose also reduces pain and/or pressure necrosis. The dose injected at any one site should not exceed 0.06 mg to minimize local tissue intolerance and atrophy, and should be made well into the cuts to prevent subsequent rupture of the epidermis. When treating dogs and cats with multiple lesions, do not exceed a total dose of 6 mg. Repeat courses of treatment may be administered if necessary. It is preferable to employ a tuberculin syringe with a small bore needle (23-25 gauge) for accuracy of dose measurement and ease of administration. Intra-articular and intrasynovial: Dogs, Cats and Horses: The dose for intra-articular or intrasynovial administration is dependent on the size of the joint to be treated and on the severity of symptoms. A single injection of 1 mg to 3 mg triamcinolone acetonide for cats and dogs and 6 mg to 18 mg for horses is recommended. Additional or other four days, injections may be repeated, depending on the severity of symptoms and the clinical response. Initial results are inadequate or too transient, dosage may be increased, but the recommended dose should not be exceeded. Routine aseptic preparation of the area should be made prior to all intra-articular injections. A thorough understanding of the pertinent anatomic relationships is essential. The inadvertent administration of the corticosteroid into the soft tissues surrounding a joint is not harmful, but is the most common cause of failure to achieve the desired local results. Following intra-articular administration, pain and other local symptoms may continue for a short time before effective relief is obtained, but an increase in joint discomfort is rare. A marked increase in pain accompanied by local swelling, further restriction of joint motion, fever and malaise are suggestive of a septic arthritis. If these complications should occur and the diagnosis of sepsis is confirmed, antimicrobial therapy should be instituted immediately and continued until all evidence of infection has disappeared. Contraindications: Do not use in viral infections. Except for emergency therapy, do not use in animals with tuberculosis, chronic nephritis, or cushingoid syndrome. Exposure of congestive heart failure, diabetes and osteoporosis are relative contraindications. Warnings: Do not use in horses intended for human consumption. Usage in Pregnancy: The safety of most corticosteroid drugs for use during all stages of pregnancy has not been adequately established. However, clinical and experimental data have demonstrated that corticosteroids administered orally or by injection to animals may induce the first stage of parturition if used during the last trimester of pregnancy and may precipitate premature parturition followed by dystocia, fetal death, retained placenta and metritis. Additionally, corticosteroids administered to dogs, rabbits and rodents during pregnancy have resulted in cleft palate in offspring. Corticosteroids administered to dogs during pregnancy have also resulted in other congenital anomalies including deformed forelegs, phocomelia and anasarca. Therefore, before use of corticosteroids in pregnant animals, the possible benefits to the pregnant animal should be weighed against potential hazards to its developing embryo or fetus. Precautions: Vetalog Parenteral should not be used to alleviate pain or reduce inflammation arising from infectious states unless concomitant antimicrobial therapy is given. Because of the anti-inflammatory action of corticosteroids, signs of infection may be hidden and it may be necessary to stop treatment until diagnosis is made. Overdosage of some glucocorticoids may result in sodium retention, fluid retention, potassium loss and weight gains. Corticosteroids have been used in the treatment of laminitis; Vetalog Parenteral is not recommended for that use. Cases of laminitis have been reported following the administration of Vetalog Parenteral; the mechanism of that response has not been fully elucidated. Care is necessary when using any corticosteroid in the equine species. Use of corticosteroids, depending on dose, duration and specific steroid, may result in inhibition of endogenous steroid production following drug withdrawal. In patients presently receiving or recently withdrawn from systemic corticosteroid treatments, therapy with a rapidly acting corticosteroid should be considered in unusually stressful situations. Adverse Reactions: As with any corticosteroid, polydipsia or polyuria may occur with high dosage or frequent administration of triamcinolone acetonide. The likelihood of their occurrence can be minimized by giving a brief course of corticosteroid therapy as possible, and by waiting for the reappearance of symptoms before repeating therapy. If polydipsia or polyuria should occur, therapy should be discontinued until these unwanted effects have disappeared; therapy should then be resumed at a lower dosage level. Other adverse reactions that have occurred with the use of corticosteroids are weight loss, anorexia and diarrhea (occasionally bloody). Anaphyalactic reactions have occasionally been seen following administration. Intra-articular injection in leg injuries of the horse may produce osseous metaplasia. Side effects such as serum alkaline phosphatase (SAP) and serum glutamic pyruvic transaminase (SGPT) enzyme elevations have occurred following use of synthetic corticosteroids in dogs. Cushings Syndrome in dogs has been reported in association with prolonged or repeated steroid therapy.

To report suspected adverse reactions, or to obtain a copy of the Material Safety Data Sheet (MSDS), call 1-866-638-2226.

How Supplied: Vetalog Parenteral is supplied for veterinary use in two concentrations and various vial sizes:
• NDC 0010-4703-02 - 2 mg/mL 100 mL (For Horses Only) • NDC 0010-4703-01 - 2 mg/mL 25 mL • NDC 0010-4704-03 - 6 mg/mL 25 mL (For Horses Only)* • NDC 0010-4704-02 - 6 mg/mL 5 mL
• NDC 0010-4704-01 - 6 mg/mL 3 mL (For Horses Only)

*To limit the number of entries through the stopper, these two vials are for use in HORSES ONLY.

Storage: Store at controlled room temperature 20-25°C (68-77°F), with excursions between 15-30°C (59-86°F) permitted. AVOID FREEZING. Protect from light; store vial in carton.

Vetalog® is a registered trademark of Boehringer Ingelheim Vetmedica, Inc.

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Made in Italy

Manufactured for:
Boehringer Ingelheim Vetmedica, Inc.
St. Joseph, MO 64506 U.S.A.
Revised 03/2013

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1134124A5
Hyvisc® is a registered trademark of Anika Therapeutics, Inc.


HYALURONIC ACID INTRA-ARTICULAR THERAPY

**INTRA-ARTICULAR ADMINISTRATION**

**MAP-5**
- N/A
- No
- 2 mL or 10 mL vials
- 10 mg/mL or 5 mg/mL
- Yes
- N/A
- No

**HYLARTIN-V®**
- Yes
- Intra-articular
- 2 mL syringe
- 10 mg/mL
- Yes

**LEGEND®**
- Yes
- Intra-articular or intravenous
- 2 mL or 4 mL vials
- 10 mg/mL
- No

**NEXHA™**
- Yes
- Intravenous
- 4 mL vials
- 10 mg/mL

**Dosage and Administration:**

- Intra-articular therapy is recommended for the treatment of pain and lameness associated with chronic osteoarthritis and degenerative joint disease in horses.
- The recommended dose of Hyvisc (hyaluronate sodium) Injection is 2 mL of Hyvisc (10 mg/mL) injected intramuscularly or subcutaneously once or twice during the second or third stage of pregnancy.
- More than one joint may be treated at the same time. If necessary, the injection may be repeated after one or more weeks, but not to exceed 2 injections per week.
- As with any intra-articular injection, a mild inflammatory response (tenderness, heat, and swelling) may be seen in the joint following the injection. This response is self-limiting but may last from two to five days after treatment.
- If inflammation is excessive or severe, the possibility of infection should be considered and appropriate antibiotic therapy instituted.

**Warning:**
- Do not use in horses intended for human consumption.
- There are no known contraindications to the use of Hyvisc (hyaluronate sodium) Injection.

**Actions:**
- Intra-articular therapy with exogenous hyaluronate sodium exerts its therapeutic effect in arthritic joints in a dosage dependent fashion.
- In chronic osteoarthritis secondary to carpal fracture in horses, a single intra-articular injection of 20 mg Hyalovet resulted in statistically significant (p<0.05) functional improvement with regard to lameness, swelling, pain, heat, and joint flexion.
- As with any intra-articular injection, a mild inflammatory response (tenderness, heat, and swelling) may be seen in the joint following the injection. This response is self-limiting but may last from two to five days after treatment.
- In the clinical trial with Hyvisc (hyaluronate sodium) Injection, a mild, transient post-injection inflammatory response in the joint was reported.

**Storage:**
- Store at or below 25°C (77° F).

**Adverse Reactions:**
- To obtain a Material Safety Data Sheet or for technical assistance, call 1-866-638-2226.
- Injection site reactions such as mild swelling and minimal discomfort at the injection site may occur. These effects are generally self-limiting and will resolve within a few days.
- Hemorrhage may occur with repeated injections into a joint that has been traumatized or injured.

**References:**
Hyalovet®
(hyaluronate sodium)
Veterinary Injection for
Intra-articular Administration

NADA 140-806, Approved by FDA
For intra-articular administration in horses only
Caution: Federal law restricts this drug to use by or on the order of a licensed veterinarian. Description: Hyaluronic acid is the prototype of a wide range of saccharide biopolymers (glycosaminoglycans or mucopolysaccharides) consisting of repeating disaccharide units of N-acetyl-D-glucosamine and D-glucuronic acid linked by beta 1-3 and beta 1-4 glycosidic bonds. A component of all mammalian connective tissue, hyaluronic acid confers viscoelastic and lubricating properties to synovial fluid and structural integrity to cartilage matrix. As a therapeutic agent, hyaluronic acid injected into articular joints has been shown, in a variety of animal models including horses, to improve joint function and to activate tissue repair processes in articular cartilage. Hyalovet (hyaluronate sodium) is clear, colorless, viscous solution of a specific fraction of highly purified hyaluronic acid obtained by a molecular filtration procedure from biological material (rooster combs). The specific hyaluronic acid fraction from which Hyalovet is made has a high degree of molecular definition with an average molecular weight of 500,000-750,000 D.

Each filled 2 mL glass syringe or 2 mL glass vial contains:
- Hyaluronate sodium ..................................................20.0 mg
- Sodium chloride ....................................................17.0 mg
- Monobasic sodium phosphate.................................0.1 mg
- Dibasic sodium phosphate ..........................................1.2 mg
- Water for injection ....................................................q.s., 2 mL

Indications: Hyalovet is indicated for the intra-articular treatment of carpal or fetlock joint dysfunction in horses due to acute or chronic, non-infectious synovitis associated with equine osteoarthritis. Dosage and Administration: The recommended dose of Hyalovet (hyaluronate sodium) is 2 mL (20 mg hyaluronate sodium) in small or medium sized joints (carpal, fetlock) given by intra-articular injection. More than one joint may be treated at the same time. If necessary, the injection may be repeated after one or more weeks, but not to exceed 2 injections per week for a total of 4 weeks. Hyalovet should be injected using strict aseptic technique. Excess synovial fluid should be removed prior to injection. For best results horses should be given two days of rest or limited exercise before resuming normal training. Contraindications: There are no known contraindications. Warning: Do not use in horses intended for human consumption. Not for human use. Hyalovet Injection must not be administered intravascularly. Precautions: Used or partially used syringes should be crushed and disposed of in an approved landfill. Adverse Reactions: As with any intra-articular injection a mild inflammatory response (tenderness, heat and swelling) may be seen in the joint following Hyalovet injection. The response is self-limiting but may last from two to five days after treatment. If inflammation is excessive or severe, the possibility of infection should be considered and appropriate antibiotic therapy instituted. To report suspected adverse reactions, to obtain a Material Safety Data Sheet or for technical assistance call 1-866-638-2226. Clinical Pharmacology: Results of gel chromatography studies demonstrate that Hyalovet (hyaluronate sodium) induces aggregation of cartilage proteoglycans sub-units as previously described for other fractions of hyaluronic acid2. In equine model studies of acute synovitis of the carpal joint, a single intra-articular injection of Hyalovet resulted in statistically significant (p<0.05) functional improvement with regard to lameness, swelling, pain, heat and joint flexion in a dosage dependent fashion. In chronic osteoarthritis secondary to carpal fracture in horses, a single intra-articular injection of 20 mg Hyalovet resulted in statistically significant (p<0.05) reduction in radiopharmaceutical uptake in subchondral bone, as compared to saline injected controls, a finding consistent with reduced inflammation. In controlled clinical trials in horses with lameness due to arthrosis of the carpal or fetlock joints, intra-articular injection of 20 mg Hyalovet resulted in marked reduction in clinical lameness, pain on palpation, pain on flexion and facilitated return to training. A measurable and statistically significant (p<0.005) decrease in joint circumference was detected in the horses.

Animal Safety: In subacute toxicity studies, in horses, intra-articular injection of Hyalovet at the recommended dosage (20 mg/joint) and at 3X and 5X multiples of that dosage, daily for four days followed by twice weekly injections for four additional weeks, resulted in no evidence of toxicity either locally within the joint or systemically in the horses. Small increases in synovial fluid leucocytes and protein were attributed to the trauma associated with frequent joint injections. Results of skin testing in horses following repeated intra-articular injections of 40 mg Hyalovet into tibiotalar joints indicated that the product is non-antigenic in horses; no sensitization was detected. Storage: Store at or below 25°C (77°F).

How Supplied: Hyalovet Veterinary Injection is supplied in a 2 mL syringe or vial containing 20 mg hyaluronate sodium per 2 mL.
NDC 0010-4705-01: 2 mL syringe
NDC 0010-4705-02: 2 mL vial

References:

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Product of Italy
12360
D4450C
680370/3

Manufactured for:
Boehringer Ingelheim Vetmedica, Inc.
St. Joseph, MO 64506 U.S.A.
Hyaluronate sodium is a natural constituent of connective tissue and synovial fluid in both man and animals. In synovial fluid, hyaluronate sodium confers viscoelastic as well as lubricating properties. In connective tissue, hyaluronate sodium specifically interacts with cartilage proteoglycans to form stable aggregates. The mechanism of action by which Hyvisc (hyaluronate sodium) Injection, 11 mg/mL, is available in 2 mL in 5 mL syringes individually packaged. Store under refrigerated conditions, 2° - 8°C (36° - 46°F). Protect from freezing and avoid excessive heat.

### Indications:
Hyvisc (hyaluronate sodium) Injection is recommended for the treatment of joint dysfunction in horses due to non-infectious synovitis associated with equine osteoarthritis.

### Dosage and Administration:

1. Carefully diagnose each case using routine methods. The origin of lameness should be pinpointed to be within a specific joint or joints (e.g., lameness is localized to a specific joint using intra-articular anesthesia). Radiographs or other diagnostic aids should not reveal recent fractures or other serious abnormalities which would suggest a poor prognosis.

2. Aseptically remove as much synovial fluid from the afflicted joint as can be easily withdrawn.

3. Two or four days of rest or light exercise is recommended before resumption of normal activity. Improvement of joint function should be seen within one to two weeks after Hyvisc Injection.

4. Inject a single 2 mL dose (one syringe) of Hyvisc into each joint to be treated; if the joint being treated is the hock joint, inject 4 mL (two syringes). Since Hyvisc is a viscous fluid, care should be exercised on injection so as not to dislodge the needle from the syringe.


### Actions:
D-glucuronic acid and N-acetyl-D-glucosamine. Each mL of Hyvisc Injection contains 11 mg of hyaluronate sodium and 8.47 mg of sodium chloride, USP, in sterile water for injection, USP, q.s. The recommended dose of Hyvisc (hyaluronate sodium) Injection is 2 mL (22 mg) given to horses intra-articularly in small and medium-sized joints (carpal, fetlock). In larger joints (hock), the dosage is 4 mL (44 mg). Treatment may be repeated at weekly intervals for a total of three treatments. As with any intra-articular injection, aseptic technique is used. The following are suggested use directions regardless of the type of joint to be treated.

### Contraindications:
There are no known contraindications to the use of Hyvisc (hyaluronate sodium) Injection.

### Adverse Reactions:

- A mild, transient post-injection inflammatory response in the joint was reported throughout the solution.
- Must not be administered intravascularly.
- For intra-articular injection in horses only
- For use with properly trained veterinarians only
- Resource: Hyvisc®, Proclaim®

### Safety Margin in Horses:

- In toxicity studies of Hyvisc (hyaluronate sodium) Injection in horses, intra-articular doses at one, three, and five times the recommended dose once weekly for three consecutive weeks did not result in any drug related local or systemic toxic effects.
- The mild, transient post-injection inflammatory response observed within the joints of some horses was qualitatively and quantitatively similar to that detected in the physiologic saline injected controls.
- In a reproductive study in mares, 16 and five times the recommended dose once weekly for three consecutive weeks did not result in any drug related local or systemic toxic effects. The mild, transient post-injection inflammatory response observed within the joints of some horses was qualitatively and quantitatively similar to that detected in the physiologic saline injected controls.
Hyvisc®
(hyaluronate sodium)
Sterile Injection, 11 mg/mL
For intra-articular injection in horses only

Caution: Federal law restricts this drug to use by or on the order of a licensed veterinarian. Description: Hyvisc® (hyaluronate sodium) Injection is a clear, colorless, viscous fluid contained in a 5 mL disposable syringe, as a single 2 mL dose. Chemically, hyaluronic acid is a high molecular weight mucopolysaccharide composed of repeating disaccharide units, each unit consisting of D-glucuronic acid and N-acetyl-D-glucosamine. Each mL of Hyvisc Injection contains 11 mg of hyaluronate sodium and 8.47 mg of sodium chloride, USP, in sterile water for injection, USP, q.s.

Actions: Hyaluronate sodium is a natural constituent of connective tissue and synovial fluid in both man and animals. In synovial fluid, hyaluronate sodium confers viscoelastic as well as lubricating properties1,2. In connective tissue, hyaluronate sodium specifically interacts with cartilage proteoglycans to form stable aggregates3,4,5. The mechanism of action by which exogenous hyaluronate sodium exerts its therapeutic effect in arthritic joints is not known at this time. Indications: Hyvisc (hyaluronate sodium) Injection is recommended for the treatment of joint dysfunction in horses due to non-infectious synovitis associated with equine osteoarthritis. Dosage and Administration: The recommended dose of Hyvisc (hyaluronate sodium) Injection is 2 mL (22 mg) given to horses intra-articularly in small and medium-sized joints (carpal, fetlock). In larger joints (hock), the dosage is 4 mL (44 mg). Treatment may be repeated at weekly intervals for a total of three treatments. As with any intra-articular injection, aseptic technique is used. The following are suggested use directions regardless of the type of joint to be treated.

1. Carefully diagnose each case using routine methods. The origin of lameness should be pinpointed to be within a specific joint or joints (e.g., lameness is localized to a specific joint using intra-articular anesthesia). Radiographs or other diagnostic aids should not reveal recent fractures or other serious abnormalities which would suggest a poor prognosis.
2. Aseptically remove as much synovial fluid from the afflicted joint as can be easily withdrawn.
3. Remove tip cap from the Hyvisc syringe and inject through a sterile needle, 20 gauge or larger.
4. Inject a single 2 mL dose (one syringe) of Hyvisc into each joint to be treated; if the joint being treated is the hock joint, inject 4 mL (two syringes). Since Hyvisc is a viscous fluid, care should be exercised on injection so as not to dislodge the needle from the syringe.
5. Two or four days of rest or light exercise is recommended before resumption of normal activity. Improvement of joint function should be seen within one to two weeks after Hyvisc Injection.

As with any intra-articular injection, a mild inflammatory response (tenderness, heat and swelling) may be seen in the joint following the Hyvisc Injection. This response is self-limiting, but may last from two to five days after treatment. If inflammation is excessive or severe, the possibility of infection should be considered and appropriate antibiotic therapy instituted. Contraindications: There are no known contraindications to the use of Hyvisc (hyaluronate sodium) Injection. Warnings: Do not use in horses intended for human consumption. Hyvisc (hyaluronate sodium) Injection must not be administered intravascularly. Precautions: Used or partially used syringes should be crushed and disposed of in an appropriate landfill. Do not use if numerous small air bubbles are present throughout the solution. Adverse Reactions: In the clinical trial with Hyvisc (hyaluronate sodium) Injection, a mild, transient post-injection inflammatory response in the joint was reported in 12% of the cases treated. There were no other side effects. Safety Margin in Horses: In toxicity studies of Hyvisc (hyaluronate sodium) Injection in horses, intra-articular doses at one, three, and five times the recommended dose once weekly for three consecutive weeks did not result in any drug related local or systemic toxic effects. The mild, transient post-injection inflammatory response observed within the joints of some horses was qualitatively and quantitatively similar to that detected in the physiologic saline injected controls. In a reproductive study in mares, 16 mL of Hyvisc (10 mg/mL) injected intramuscularly or subcutaneously once or twice during the second or third stage of pregnancy resulted in no adverse effects on the mares or newborn foals. Storage: Store under refrigerated conditions, 2° - 8°C (36° - 46°F). Protect from freezing and avoid excessive heat. How Supplied: Hyvisc (hyaluronate sodium) Injection, 11 mg/mL, is available in 2 mL prefilled, disposable syringes individually packaged.

References:

Hyvisc® is a registered trademark of Anika Therapeutics, Inc.
Manufactured by: Anika Therapeutics, Inc.
Bedford, MA 01730 U.S.A.

Distributed by:
Boehringer Ingelheim Vetmedica, Inc.
St. Joseph, MO 64506 U.S.A.
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Code 413015

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Surpass topical cream contains 1% diclofenac sodium. Diclofenac is a non-steroidal anti-inflammatory drug (NSAID) of the phenylacetic acid class. The chemical name for diclofenac is sodium [o-(2,6-dichloroanilino)phenyl]acetate. The empirical formula is C₁₄H₁₀Cl₂NNaO₂ and the molecular weight is 318.13. Surpass topical cream contains 1% diclofenac sodium.
Surpass®
(1% diclofenac sodium)
Topical Anti-Inflammatory Cream For Use in Horses

(see information for Owner or Person Treating Animal and Adverse Reactions).

Caution: Federal law restricts this drug to use by or on the order of a licensed veterinarian.

Description: Surpass® Topical cream contains 1% diclofenac sodium. Diclofenac is a non-steroidal anti-inflammatory drug (NSAID) of the phenylacetic acid class. The chemical name for diclofenac is sodium [o-(2,6-dichloroanilino)phenyl]acetate. The empirical formula is C14H10Cl2NNaO2 and the molecular weight is 318.13. Surpass topical cream contains 1% diclofenac sodium in a base composed of Phospholipon 90H, propylene glycol, alcohol (9.54%), vitamin E acetate, benzethonium chloride and purified water in the Wisdom® liposomal formulation.

Indications: Surpass topical cream is indicated for the control of pain and inflammation associated with osteoarthritis (OA) in tarsal, carpal, metacarpophalangeal, metatarsophalangeal and proximal interphalangeal joints in horses.

Dosage and Administration: Always provide the Client Information Sheet with the prescription.

Dosage: Apply a five-inch (5”) ribbon of Surpass topical cream twice daily over the affected joint for up to ten days.

Administration: Wear rubber gloves to prevent absorption into the hands. Rub the cream thoroughly into the hair covering the joint until it disappears.

Contraindications: Surpass topical cream is contraindicated in animals with known hypersensitivity to diclofenac.

Warnings: Not for horses intended for human consumption.

User Safety: Keep out of reach of children. Not for human use. Consult a physician in case of accidental ingestion by humans. Wear gloves to prevent absorption into the hands. Direct contact with the skin should be avoided. If contact occurs, the skin should immediately be washed with soap and water.

Animal Safety: For topical use in horses only. Owners should be advised to observe for signs of potential drug toxicity (see Information for Owner or Person Treating Animal and Adverse Reactions).

Precautions: Exceeding the recommended dosage or treating multiple joints may increase plasma concentrations of diclofenac (see Animal Safety). The systemic effects of excess diclofenac doses that exceed the recommended label amount and duration have not been evaluated.

Horses should undergo a thorough history and physical examination before initiation of NSAID therapy. Appropriate laboratory tests should be conducted to establish hematological and serum biochemical baseline data before and periodically during administration of any NSAID. Owners should be advised to observe for signs of potential drug toxicity (see Information for Owner or Person Treating Animal). Treatment with Surpass cream should be terminated if signs such as inappetence, colic, fecal abnormalities, anemia or depression are observed. As a class, NSAIDs may be associated with gastrointestinal and renal toxicity. When NSAIDs inhibit prostaglandins that cause inflammation, they may also inhibit prostaglandins that maintain normal homeostatic function. These anti-prostaglandin effects may result in clinically significant disease in patients with underlying or preexisting disease more often than in healthy patients. Patients at greatest risk for renal toxicity are those that are dehydrated, on concomitant diuretic therapy, or those with renal, cardiovascular and/or hepatic dysfunction. Studies to determine the effect of Surpass topical cream when administered concomitantly with other drugs have not been conducted. Since many NSAIDs possess the potential to induce gastric ulceration, concomitant use of Surpass cream with any other anti-inflammatory drugs, such as other NSAIDs and corticosteroids, should be avoided. Drug compatibility should be monitored closely in patients receiving adjunctive therapy. The safety of Surpass cream has not been investigated in breeding, pregnant or lactating horses, or in horses under one year of age.

Adverse Reactions: During the field study, one diclofenac-treated horse developed colic on day four of the study and responded to symptomatic treatment. One placebo-treated horse exhibited mildly jaundiced mucous membranes on day five. Adverse reactions during the safety study included a gastric ulcer in one horse that received 5.6X the recommended dosage, diarrhea and uterine discharge in one horse that received 2.8X the recommended dosage, and weight loss in four of the six horses in the 5.6X dosage group. To report suspected adverse reactions, to obtain a Material Safety Data Sheet or for technical assistance, call 1-866-638-2226.

Information for Owner or Person Treating Animal: Owners should be advised of the potential for adverse reactions and be informed of the clinical signs associated with NSAID intolerance. Adverse reactions may include: weight loss, colic, diarrhea, or icterus. Serious adverse reactions associated with this drug class can occur without warning and, in rare situations, result in death. Owners should be advised to discontinue NSAID therapy and contact their veterinarian immediately if signs of intolerance are observed. The majority of patients with drug-related adverse reactions recover when the signs are recognized, drug administration is stopped, and veterinary care is initiated.

Clinical Pharmacology: Diclofenac is a non-steroidal anti-inflammatory drug (NSAID) with analgesic properties. The mechanism of action of diclofenac, like other NSAIDs, is believed to be associated with the inhibition of cyclooxygenase activity.

Effectiveness: In a controlled field study, 82 horses with osteoarthritis were treated with Surpass topical cream (42 horses) or placebo (40 horses). Lameness examinations were performed in horses with osteoarthritis associated with the tarsal, carpal, metacarpophalangeal, metatarsophalangeal and proximal interphalangeal joints. Investigators were masked to treatment. Investigators and owners were instructed to apply the test article over the affected joint twice daily (BID) for five days. Actual doses received by individual horses were calculated using tube weight measurements. The mean dose applied during the study was 73 mg per application. Average lameness scores showed statistically significant improvement following treatment with Surpass topical cream. One diclofenac-treated horse developed colic and responded to symptomatic treatment on day four of the study. Day five bloodwork for the horse that colicled showed decreases in RBC, Hb and HCT, with an increase in PMPN, compared to pretreatment values. One placebo-treated horse exhibited mildly jaundiced mucous membranes on day five. No other adverse reactions were noted during the study.

Animal Safety: A controlled safety study was conducted with Surpass topical cream. Four groups of six healthy adult horses received 0, 0.6, 1.7 or 2.8X the recommended daily dose for twenty-eight days. The daily dose was divided into two applications on day one of the study. For the remainder of the study, the entire daily dose was given at one time on 0, 1, 3 or 5 joints (tarsal, carpal, metacarpophalangeal, metatarsophalangeal, and proximal interphalangeal joints), depending on the dosage group. The control group of six horses was sham-dosed by rubbing the joints daily for twenty-eight days. An additional study group evaluated six horses that received 5.6X the recommended daily dose of Surpass topical cream distributed over five joints on a single day. This dose group was observed for fourteen days without additional treatment. Clinical examinations, hematology, serum chemistry, synovial fluid analyses, gross necropsy and histopathology were performed. At necropsy, one horse in the 5.6X group had a glandular gastric ulcer. A horse in the 2.8X group had diarrhea and uterine discharge throughout the study. Four of the six horses in the 5.6X group lost weight during the study. Dose-dependent increases in diclofenac plasma concentrations were detected in horses in the 1.7X and 2.8X treatment groups.

Storage Information: Store at up to 25°C (77°F). Protect from freezing.

How Supplied: Surpass topical cream is white to pinkish-white and is packaged in 124-gram trilaminate tubes.

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