

PREVENTING JOINT INJURIES IN THE PERFORMANCE HORSE



Though powerful, horses are also fragile. Since we are consistently pushing their limits, performance horses are the most vulnerable of all. The saying “illness comes on horseback but departs on foot” could easily be referring to the joint injuries that afflict far too many of our horses. Unfortunately, these injuries are quite difficult to treat. Our best option is to use nutrition as a simple and effective prevention strategy.

First off, all horses must be provided with a food program that is able to fulfill all of their nutritional needs. This includes sufficient quantities of water, energy (calories), fibre, vitamins and minerals. Each of these nutrients must not only be served in adequate quantities, but also according to the correct ratios.

Trace minerals such as copper, zinc and manganese may act as cofactors in the production of the tissues and structural materials required for building joints. Vitamin C is also necessary for the formation of collagen (Duren, 2005). Collagen is a family of fibrous proteins. The fibres in collagen allow cartilage to resist forces of tension; collagen’s effect might be compared to a sort of glue. As for vitamin C, we require more research to determine its precise role.

During the first years of life, before your horse reaches performance age, ensuring adequate nutrition will prevent any developmental orthopedic problems caused by dietary deficiencies. Our equine advisers would be happy to help set you up with a complete and balanced nutritional program that meets your young horse’s needs. By age two, foals are ready to gradually begin to train in preparation for their intended discipline.

Sport horses typically have higher nutritional needs, especially when it comes to vitamins and minerals whose minimum requirements increase with exercise. Compensatory supplements such as Equilizer and Optimal are excellent products which help balance your horse’s ration and promote optimal health and performance.

CALORIC INTAKE

Body condition provides a clear indication as to whether or not your horse’s ration contains enough energy (calories). Is your horse too fat, too thin or just right? A performance horse who expends a great deal of calories during training sessions will typically require more calories. To meet these needs, you can increase the amount of feed at each meal, add an additional meal, or choose a higher calorie feed such as the Trimax formula. Body condition is determined by evaluating the amount of subcutaneous fat present on six locations of a horse’s body; using the Henneke scale, a horse will obtain a score anywhere from 1 (emaciated) to 9 (obese). An adult horse’s body condition score should fall between 5 and 6. For the performance horse, a score of 6 is desirable for beginning the competition season, allowing for a small margin of leeway in case of long journeys or other stressful situations.

Calories come in four different forms: protein, starches, fat and fibre. It is essential that the calorie source be as easily digestible as possible. Both protein and starch can cause behavioural

changes in horses with stronger insulin responses. Fat and fibre provide long-term energy sources that will not affect your horse's behaviour.

Although its protein requirements are relatively low compared to other animals, a horse needs protein for the synthesis, development and repair of vital tissues such as muscles, tendons and ligaments. The majority of horses will also require a certain amount of starch in order to replenish their muscles' glycogen reserves which are expended during intense aerobic exercise. A ration that is high in fat will help horses to conserve muscle glycogen and build endurance. As a final point, fibre is necessary for maintaining a healthy digestive system.

To sum up, balancing your horse's caloric intake with these four main energy sources will allow your horse to fulfill its full potential.

OMEGA-3 INTAKE

As we have seen, fat provides an important source of energy. It is also essential in the metabolism of the liposoluble vitamins A, D, E and K. Alpha-linolenic acid (omega-3) and linoleic acid (omega-6) exist among the many fatty acids. Most commonly obtained in the form of flaxseed, omega-3 fatty acids provide an excellent source of polyunsaturated fats. Easily digested in the small intestine, omega-3s offer a cornucopia of health benefits.

Essential fatty acids should not be served in large, arbitrary quantities. Rather, you must aim to offer your horse the optimal balance of omega-6s and omega-3s. According to the most recent research, the ideal omega-6 to omega-3 ratio is said to be 3-5:1. This means that your horse's ration should contain 3 to 5 times more omega-6 fatty acids than it does omega-3s. Found in fodder and grains, omega-6s are already naturally present in your horse's food. For this reason, your horse's additional daily requirements will be higher in omega-3s. Ensuring the proper omega-6 to omega-3 ratio has many benefits, particularly when it comes to blocking intermediaries involved in the inflammation response. (Block, Katan & Van der Meer, 1996).

For anyone who owns a performance horse, one of the greatest challenges lies in preventing joint inflammation. Inflammation generally begins to affect a joint's soft tissues after the joint is subject to repetitive trauma or stress. As an example, reining consistently calls upon a horse's fetlock joints, knees and hocks. With omega-3s role in the inflammation response, a horse who regularly consumes the fatty acid will be better prepared for intense physical exercise (Wilson et al., 2003). Designed specifically for the performance horse, many of our feeds contain additional omega-3 sources. Try our Integri-T, Revelation, Trimax or Elite formulas. You will also find excellent omega-3 levels in Athlete, our specially extruded supplement. As another option, you can add flax oil or flaxseed to your horse's ration, boiled or ground for optimal results.

PURINA'S ADVICE

Protect your horses' joints by serving a preventative dose of balanced omega-3s. Opt for *Equilibrium Integri-T*, *Equilibrium Trimax Omelene Sport Plus*, or any other feed from our *Evolution* line. The supplements Equilizer and Optimal also contain flaxseed. Incorporate approximately one cup of ground flaxseed to your horse's daily ration. Flaxseed should not be

ground more than 5 days in advance. Your Purina equine adviser will be able to evaluate your horse's ration to determine more precise requirements.

References

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