



HEALTH ZONE

Long-term Wellness

Joint Health



Joints undergo concussion during training and competition

COADY PHOTOGRAPHY

Supplement industry continues to expand upon joint health issues

BY AMANDA DUCKWORTH

JOINT HEALTH IS CRUCIAL in horses, especially ones as athletically inclined as Thoroughbreds, and as a result, there are a wealth of options when it comes to joint supplements. In general, that is a good thing, but it does mean owners need to be aware of what they are purchasing.

“Nutritional supplements in general are popular among Thoroughbreds,” said Dr. Stacey Oke, who has published multiple studies on the subject. “Because of the concussion that Thoroughbred horse joints undergo during training and competition, any help that we can provide to ensure the cartilage has all the building blocks it needs to function appropriately—i.e., provide a smooth, frictionless surface during locomotion and absorb/distribute concussive forces—will benefit the horse both short and long term.”

Keeping racehorses in good joint health short term helps lead to long-term wellness, too, as they transition from being on the track to their next careers.

Horses are susceptible to a number of issues, which is why different supplements come into play.

“The supplement industry is extensive worldwide and is continuing to expand,” said Dr. Michael Hore of Hagyard Equine Medical Institute. “Many supplements are used alone or in conjunction with another, based on previous scientific research and studies. Traumatic joint diseases and degenerative joint diseases in horses include synovitis, capsulitis, joint cartilage and bone fragmentation (OCD, or osteochondrosis dissecans), ligament tearing, and eventually osteoarthritis.

“Aggressive treatment in joint disease decreases the inflammatory reaction at the site but also aids in the prevention of

permanent osteoarthritic changes. The main aim of any systemic or intra-articular medications is to prevent issues from arising before they occur. Inflammatory enzymes that degrade and destroy the normal microflora of the joint environment can be altered by the use of medication and many supplements.”

While it is an area that is ripe for more research, it is important for owners to be up to date on the information available and have a baseline understanding of what various supplements actually do, while realizing that not all of them are created equal.

“I think that even though the million dollar question of ‘do joint supplements work’ hasn’t been demonstrated using evidenced-based medicine as of yet, the safety profile of joint supplements, the demonstrated anti-inflammatory effects of certain ingredients, and the number of studies that have pointed to a positive effect certainly make these products desirable and most certainly worthwhile,” said Oke.

KEY INGREDIENTS

Of the ingredients that make up joint supplements, the one people are likely to be the most familiar with is glucosamine. It is a sugar source created within the horse’s body, and it is found in many of the body’s molecules, including articular cartilage (the tissue that covers the ends of bones where they come together to form joints). As a supplement, it has been shown to help support cartilage production and improve joint comfort by inhibiting the inflammatory mediators that cause joint pain.

“Glucosamine is the matriarch of joint supplements,” said Oke, whose studies include the evaluation of glucosamine levels in commercial equine oral supplements for joints. “Without glucosamine, joint supplements don’t seem to be taken

seriously; they're just clowns in a car. Does it work better than ASU (avocado/soybean unsaponifiables) or chondroitin sulfate? Who knows! But it has been studied probably the most extensively of all the other ingredients, and is safe and, according to some studies, effective."

According to the American Association of Equine Practitioners, studies show ASU supports cartilage production and slows breakdown as well as inhibits inflammatory mediators. Chondroitin sulfate, meanwhile, is a sugar molecule found in ligaments, tendons, bones, and cartilage that supports production and slows breakdown of cartilage as well as improves joint comfort.

Other common supplements include hyaluronic acid (HA), which is normally synthesized by the horse's synovial membrane (a connective tissue that lines the inner surface of capsules of tendon sheaths and synovial joints) and acts



Dr. Michael Hore of Hagyard Equine Medical Institute

as a joint lubricant of its articular cartilage; MSM (methylsulfonylmethane), which acts as a beneficial antioxidant in the bloodstream and is reported to have anti-inflammatory properties within articulations (joints); and omega-3 fatty

acids, which inhibit inflammatory mediators and slows breakdown of cartilage.

For owners looking for other alternatives to supplements, one growing area Hore pointed to was IRAP therapy.

"Interleukin receptor antagonist protein (IRAP 1 and IRAP 2) is a novel therapy that is now available and showing some promising results, especially for the treatment of osteoarthritis in horses," he said. "Trauma to the joint surface causes the production of inflammatory protein mediators called cytokines, IL-1 (interleukin-1), and other cytokines that cause cartilage degeneration. IRAP was developed to counteract the production of IL-1."

According to Hore, the IRAP procedure involves drawing approximately 50ml of a horse's blood. It is collected and incubated for 24 hours in a special syringe, which stimulates the production of the antagonist protein. After incubation,

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the blood is placed in a special freezer for use at any given time. The IRAP is then thawed and injected sterilely into the affected joint or tendon sheath.

ies have shown that supplements are likely to work better together than alone, which is why they are often found as package deals. For instance, according

to the AAEP, one study showed that the combination of glucosamine and chondroitin sulfate plus ASU has been shown to work better at inhibiting certain inflammatory mediators in equine cartilage cell studies than glucosamine and chondroitin sulfate alone.

BEST PRACTICES

Of course, the whole idea behind supplements is, as the saying goes, that an ounce of prevention is worth a pound of cure. The trick with many supplements is figuring out the best way to make sure a horse can absorb them in a useful way. There are still many unknowns when it comes to efficacy.

“The source of chondroitin sulfate, for example, greatly influences the ability of the horse to utilize and absorb it, as it varies drastically, depending on its origin,” said Hore. “The fact this molecule is so difficult to be absorbed by the horse leaves us questioning whether it is of any benefit. Studies have also shown approximately only 5% of the actual glucosamine that is fed to the horse is available to the horse directly.”

Additionally, multiple stud-



Knees and joints are extensively studied during the examination and sale process at Thoroughbred auctions

ANNE M. EBERHARDT

There is no straightforward answer, and although no supplements can replace good horsemanship, they have been shown to be helpful in promoting good health.

“While there is no magic elixir, I do believe that a combination of smart training techniques, weight management, overall good nutrition, seeking the advice of specialists that work together with your veterinarian—acupuncture, physical therapy, farriery—and offering joint supplements to help protect the entire musculoskeletal system will prevent joint trauma or at least hold joint trauma and the development at bay for as long as possible,” said Oke.

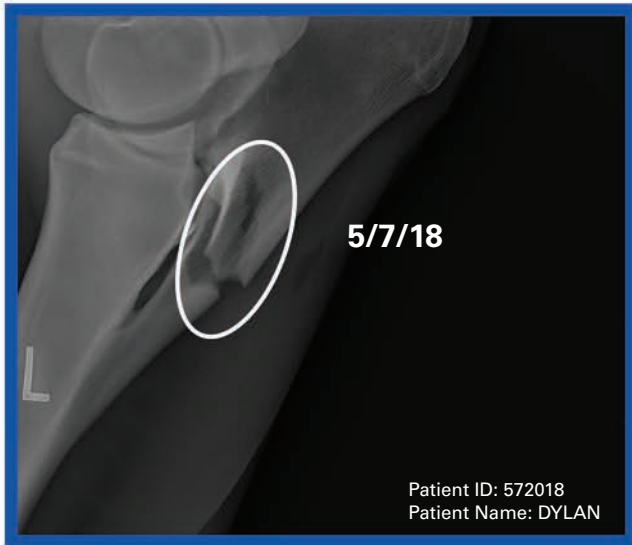
In addition to deciding what supplements should be given,



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as seen in these x-rays



“YOU **SAVED MY HORSE’S LIFE**”

“As horse owners, you know we will try anything especially when we are desperate.

My 24-year-old Thoroughbred, Dylan, broke his leg (Olecranon fracture) on May 7, 2018. It was a bad break for a 24-year-old and, at that age, you know it’s a long road to recovery, if it heals at all.

My vets were amazed at the quick progress after we started Dylan on OCD Pellets. They said the improvement was remarkable and were impressed that he was still alive!

I have to say, going from the first day of injury wondering if I would have to put down my best friend to now trotting him in hand with no sign of lameness... Thank you, Doc’s and OCD Pellets!

YOU SAVED MY HORSE DYLAN’S LIFE.”



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owners must also decide how they should be given, as they can be available both orally and as injections. The popularity of oral supplements is due largely to their convenience.

“Oral joint health supplements, among recent surveys, indicate that they are the most popular among owners, veterinarians, and trainers,” said Hore. “Most oral supplements can be purchased in tack shops without a prescription, are commercially available, easy to administer, and proven safe in horses. There is more research with medical-based evidence for medicinal intra-articular injections; however, this process then requires a lameness exam, followed by a detailed diagnostic examination to locate the injured site.”

DECISION TIME

Deciding a horse would benefit from a joint supplement might be the easiest part of the process. Because supplements are so readily available, it means that some inevitably come from less than reputable sources that do not deliver on quality.

“Before selecting a supplement to get the most for their money, clientele should follow the seven-step ACCLAIM system for identifying and recommending oral supplements developed by Dr. Oke,” said Hore.

In addition to being listed below, this system is also on the AAEP’s website under joint health supplements.

“The ACCLAIM approach simply offers owners/consumers a quick and easy way to evaluate a product label/website and sift through the profusion of poor-quality supplements and find the hidden gems that could actually benefit their horse,” said Oke.

ACCLAIM:

A company name you recognize:

Joint health supplements made by established companies that offer educational material to both you and veterinarians are generally a better choice over companies that you’re not familiar with and that offer no educational information about their products.

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Clinical experience:

Look for a company that supports clinical research showing safety and efficacy of its products in horses. Results should be published in peer-reviewed journals to which your veterinarian will have access.

Contents:

Ingredients should be clearly noted on the label.

Label claims:

The products should not include unrealistic claims. Stay away from products using words like “cure” or “prevent.” Testimonials aren’t necessarily a bad thing, but a company with only testimonials and no scientific data to support its claims is less likely to be producing a quality supplement.

Administration recommendations:

How to administer the supplement to your horse should be clearly stated on the label. You should be able to determine how much of each active ingredient you’re giving your horse per day.

Identification of lot and expiration date:

Choose a joint health supplement with a lot number and expiration date noted on the label. A lot number means that the company has a tracking system in place to ensure product quality. An expiration date shows that the company has evaluated product quality over time.



MEGAN ARSZMAN

Supplements can be added to a Thoroughbred’s feed

Manufacturer information:

Directions for administering the supplement and information about the manufacturer should include name, address, phone number, and website. You should have a way to contact the company if you have a question.

“The key point is that based on my study, pretty much anyone can buy some bottles, fill them with who knows what, slap a label on it, and call it a joint supplement,” said Oke. “If you are going to spend the money and take the time to offer a joint supplement, then you need to be confident that what you are buying actually contains what the label promises.

“Administering a poor-quality product with little or no ingredient designed to support joint health is economically wasteful and delays the application of potentially useful products, treatments, or techniques that will maximize joint health and prolong a horse’s athleticism.”

When it comes to horse wellness, it is rare that a singular approach will work for all equines, and joint health is no different. It is an ever-evolving field, and while there is no across-the-board perfect supplement, it is an area where knowledge is power.

“Equine researchers continue to try to find ways to protect articular cartilage and other tissues within the joint,” said Oke. “Identifying key factors contributing to inflammation within the joint and degradation of articular cartilage continues to be a focus.

“Nutritional supplements, surgical techniques to repair or resurface a joint, new technologies, and medical and alternative techniques—like acupuncture—all hold promise. Currently, a multimodal approach to preventing or slowing the progression of osteoarthritis is advocated in the absence of a cure.” **BH**

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