



How can I support overall joint health in my horse?

By Dr. Nathalie Reisbig, VetMed, MS

When people talk about arthritis, they usually mean *osteoarthritis*, a painful condition where the cartilage cushion in a joint breaks down due to inflammation. Osteoarthritis is a disease that affects many species including people, horses and dogs. It's also chronic — it can be managed, but not cured.

Always, the first step is to develop a treatment plan with your veterinarian because each case is different. Your horse's options will depend on the severity of the arthritis, but it's safe to start with the basics. Obesity and excess weight will add stress to the joints, so try to manage your horse's diet to keep his weight at a good baseline level.

Low-stress, low-impact movement is always good. Adequate turnout with safe, active companions will deliver the best type of constant movement. Depending on your horse's level of lameness, riding can be included as part of their exercise regime, but you do have to be careful not to overwork them. Just like people with arthritis, they may feel good when they're exercising, but afterwards, the inflammation can flare up and come back with a vengeance. To help deal with excess inflammation, use cold therapy (cold hosing) on the legs after a workout or during an acute inflammation flare-up.

Let's assume that you've discussed other forms of treatment with your veterinarian. Common options include non-steroidal anti-inflammatory drugs (NSAIDs) such as phenylbutazone (bute) or firocoxib, which can have severe side effects with long-term use.

Corticosteroid intra-articular (joint) injections are often a mainstay of treatment for working animals, but they also have potential side effects and can show diminished returns over time. Arthroscopic surgery to evaluate the severity of the changes in the joint and clean up unhealthy bone and cartilage can also decrease the pain and slow the progression of the disease.

At this point, many owners feel they are out of options and turn to oral supplements. Do these products work? Unfortunately, this is a controversial question. The short version of the answer is we don't know. There is just too much conflicting research for us to definitively say, "Yes, these treatments given as an oral supplement will help your horse."

This is partly due to the nature of research. Treatments currently recommended for horses come from many different areas of research — human, canine and equine studies. In a lab, many of these ingredients have very good results. We take the cells from the cartilage, add the active ingredient and look at how the cells respond. We then try to see if the same supplement taken orally has any measurable impact, and that's where the testing hasn't been quite as convincing.

Even in human medicine where the patients can talk to researchers and tell them about their pain levels, there is still a lot of conflicting evidence. Oral supplements are especially tricky because different species absorb substances at different rates and with different effects.

The second problem that we run into for the studies that are done on live horses (in vivo) is how do we measure a horse's pain and comfort levels? Some studies may look at joint health over time using an arthroscope to view inside the joint capsule. Some studies may only look at measurable impacts on the horse's movement using a force plate, treadmill, flexion tests or lameness locators (sensors that measure head, front leg and pelvis motion).

Some of the more commonly used oral treatments include glucosamine, hyaluronic acid, chondroitin, methylsulfonylmethane — or a combination thereof. For oral supplements, the active ingredient also needs to be present in high enough concentrations in the purchased product because the oral availability (the amount that the body actually absorbs) of these substances is low.

Not surprisingly, the supplements with the highest concentrations of available active ingredient tend to be the most expensive. Overall, irrespective of the product name or active ingredient, these supplements are unlikely to hurt the horse and they might even help — but there are no guarantees.

From human studies, we know that omega three fatty acids have a positive effect on inflammation and thus some potential pain-mediating effects. Sources of omega three fatty acids for horses include flax and hemp. Hemp can be fed as hulled seeds, or hemp oil can be used as a top-dressing on the horse's feed.

Flax can be used to top-dress feed as well; flax seeds are cheap and can be fresh ground using a coffee bean grinder for better bio-availability. Foods containing fatty acids tend to go rancid easily, so horse owners who are feeding them should purchase in small amounts, keep them in the fridge if one is available, and use the "sniff test" before feeding them to the horse. Rancid oil will smell bad and your horse will likely reject it.

Due to the limitations of our current treatment options and the widespread nature of osteoarthritis, extensive research is being performed on alternative options. The area of regenerative medicine is especially active with products like platelet-rich plasma (PRP), interleukin receptor-1 antagonist (IRAP) and autologous protein solution (APS). All of these products come from the horse's own blood.

However, similarly to the oral joint supplements, the research results are not conclusive. Further, just because a particular biological treatment, medication or supplement works in the lab or on individual facets of a joint, it does not mean that it is going to work at the whole horse level where there are myriad factors affecting each and every joint.

To sum up, more research is needed before veterinarians can recommend bullet-proof solutions to the thorny problem of inflammation-related disease in the horse.

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