

Your Aging Horse: Arthritis

Four basic measures can help slow the progression of joint deterioration in older horses and minimize their discomfort.

By Christine Barakat

Arthritis is a fact of life for older horses—virtually every horse over the age of 20 will have some evidence of the condition. But unlike the joint deterioration that usually afflicts equine athletes and other younger horses, age-related arthritis tends to be fairly predictable and manageable.

“Arthritis that results from traumatic injury to a joint, such a chip in the fetlock of a racehorse, can in some cases be difficult to treat,” explains David Frisbie, DVM, PhD, DACVS, of the Equine Orthopaedic Research Center at Colorado State University. “But the arthritis we typically see in older horses is more often a cyclical problem that comes on gradually; that is, it’s related to the number of movement cycles a joint goes through. It all comes down the basic fact that, over time, parts wear out—in cars, humans and horses.”

Contributing to this wear-and-tear are other normal, unavoidable consequences of aging: the breakdown of collagen in joint ligaments and the loss of muscle mass and strength. “Joints, in both horses and humans, will get what we call ‘lax’ with age,” says Frisbie. “This means they are less stable and have more abnormal movement that can lead to arthritis.”

Regardless of the precipitating factors, arthritis has the same underlying physiology. As a joint moves, minute damage is done to the articular cartilage that covers and cushions the ends of the bones. To facilitate repair of the damage, the body mounts an inflammatory response. But instead of subsiding with time, the inflammatory process proceeds unchecked, breaking down cartilage, collagen, synovial fluid and other critical joint components. This, in turn, triggers more inflammation. Once set in motion, this self-perpetuating cycle is difficult to stop.

Any joint can become arthritic, says Frisbie, but knees seem particularly vulnerable in older horses. “I don’t really see the ‘big knee’ syndrome in younger horses,” he says. “But in older animals, one of the more common problems we encounter is the knees go very lax and start getting significant, painful changes in the bone.” If the knee becomes too painful to bend, the horse will have trouble getting to his feet after lying down, and horse who can no longer get to his feet cannot survive long. “In that respect, arthritis can be a very serious condition in an elderly animal,” says Frisbie.

Although it’s not possible to prevent arthritis in your aging horse, several measures, implemented individually or in combination, can slow the progression of the disease and alleviate the discomfort associated with it. “Most older horses, with a little help, manage quite well with mild to moderate arthritis. Just as we deal with our own achey bones as we get older.” Here are four steps you can take to help your older horse cope with arthritis:

1. Keep him fit

“Movement and exercise is a very good thing for an older, arthritic horse,” says Frisbie. “Regular exercise will keep a horse fit. And if a horse is fit, the muscles and ligaments around the joints are going to be strong, and the joints themselves will be more stable.” Exercise will also keep a horse’s weight in check, minimizing stress on joints.

When it comes to conditioning an older, arthritic horse, Frisbie says consistency is key. “One of the worse things you can do is let an older horse get out of shape, then try to work them back into fitness. Or have them standing in stall all week and only ride them on weekends. It’s much better to keep them in constant condition.” This may mean riding an arthritic horse on days when he seems particularly creaky, but that’s okay. “An older horse may start out a bit stiff, just like an older person might,” says Frisbie, “but if you are sensible about it and go slow, the structures warm up and stretch out and in the end, they’ll be better off. Purists may say that the more you ride a horse, the faster you’ll wear it out, but the bottom line is that light riding isn’t going to speed up the progression of arthritis.”

Nonetheless Frisbie says arthritic horses will have good days and bad days, just like people, and you’ll need to adapt your riding plans accordingly. “If a horse doesn’t

work out of stiffness or he seems to get more uncomfortable as you ride, obviously it's not the day to be riding him. You might want to give him a bit of bute and check back the next day." Although he hasn't studied it specifically, Frisbie suspects the weather and barometric pressure can affect how an arthritic horse feels, just as humans claim to "feel it in their bones" before a storm rolls in.

In addition to riding, turnout will go a long way towards keeping arthritis in check. "Assuming he isn't turned out with bullies, an older horse will benefit as much turnout as you can give him," says Frisbie. A horse who is turnout out will exercise himself as he walks to graze and to the water trough and back. A turned out horse also has the ability to moderate his exercise on his "off" days, so there's little chance of him overdoing it on their own. "These older guys walk out of a stall stiff, but they don't walk out of a field that way," says Frisbie.

2. Consider Nutraceuticals

A seemingly endless variety of nutritional supplements, referred to as nutraceuticals, formulated to improve joint health are now available. The evidence to support (or refute) their benefits is still emerging and often conflicting, but Frisbie says "they are worth looking into as something you can do early, before more potent medications are needed."

Many of the joint supplements contain glucosamine and chondroitin sulfate, two naturally occurring substances that are thought to play a role in joint repair. In addition, you'll also find products that offer MSM (methylsulfonylmethane) a nutritional form of sulfur, which is essential to the formation of connective tissue. Hyaluronic acid, a component of synovial fluid, usually has been delivered via injection but can also now be found in some oral supplements. Among the newest ingredients found in joint health products are avocado/soybean unsaponifiable (ASU) extracts, which are added to reduce inflammation and stimulate tissue repair.

Because nutraceuticals are regulated as foods rather than drugs, the Food and Drug administration does not require them to be tested for efficacy. As a result, you aren't likely to find the reams of replicated double-blind studies to guide your selection. You'll have to rely more on your common sense, comfort level, and the guidance of your

veterinarian. “Every thing is a risk/benefit ratio,” says Frisbie. “Some of these products might not be able to deliver all the benefits you’d like to see, but have a very low risk associated with them. In your particular situation, that might come out as a favorable thing. And if it doesn’t seem to help, you can always move on.”

3. Utilize NSAIDS wisely

Non-steroidal anti-inflammatory medications, such as the barn staple phenylbutazone, block inflammatory enzymes, minimizing the pain of arthritis and—if incorporated into a treatment program early enough—even preventing further damage.

“Most people will give an NSAID to an older arthritic horse after they ride to counteract discomfort that may result, but it’s a better idea to give it before the ride,” says Frisbie. Pre-loading an older horse with NSAIDs before an activity can help keep inflammatory cytokines in check as they are released by the body. “If I had an older horse I knew was going to be stiff after I ride, I’d medicate him beforehand to block the inflammation before it could set up shop. I think it’s perfectly acceptable to do that on occasion. I do it for myself before I go skiing.” Keep in mind that studies have shown that higher doses of bute do not equate to more pain control, so never give more than the prescribed dose over a 24-hour period.

Of course, long-term use of NSAIDs can lead to serious side effects including gastric ulcers and even kidney damage. One alternative is a relatively new class of NSAIDs known as COX-2 inhibitors. Research has shown that COX-2 inhibitors, such as firocoxib (Equioxx), to be as effective as bute but with fewer systemic side effects. A relatively new alternative to oral products is the **topical NSAID** diclofenac (Surpass®), which is applied directly to the arthritic joint. “If you can localize the problem—if you know it’s a particular knee, for instance—applying an NSAID cream directly to that area can be a really good way to go,” says Frisbie. “You can apply it two or three times over the course of a weekend without worrying about side effects.”

4. Consider injections

If nutraceuticals and NSAIDs aren’t keeping your older horse’s arthritis in check, you may want to consider injections. Injections deliver medication directed into the joint,

or in a few cases, intravenously. They can provide significant and long-lasting relief, but not all are suitable for older horses.

- Hyaluronic acid (HA), the long molecule that gives synovial fluid its sticky texture, has been injected into equine joints since the 1970s. In addition to improving the lubrication, HA has also been shown to have an anti-inflammatory effect. HA can also be administered via intravenous injections.

- PSGAGs (polysulfated glycosaminoglycans) are complex sugars found in articular cartilage. PSGAGs can be injected directly into a joint to stimulate production of HA and improve the overall health of cartilage. HA and PSGAG injections carry the same—very small—risk of injection site infection for younger and older horses.

- Corticosteroids are powerful anti-inflammatories and injections of these medications can relieve pain and halt the progression of arthritis. However, corticosteroids need to be used with some caution in older horses: steroid use can be associated with laminitis in horses with metabolic imbalances, such as Cushing's disease, often develop with advancing age. "There are some endocrine conditions that make us more cautious about using corticosteroids," says Frisbie. "Besides horses with Cushing's, ponies and fat horses seem to be more sensitive to the metabolic triggers for laminitis. You want to explore all your other options before going to a corticosteroid injection to help an older, arthritic horse with any type of metabolic disorder.."

Whether an older arthritic horse may benefit from injections and which product would be most useful is a decision to be made in conjunction with your veterinarian.

It's not particularly fair that years of faithful service in the show arena or on the trails leads to aching, arthritic joints in our older horses. But we can make it up to them through diligent management and carefully selected treatments that keep them moving and minimize pain as much as possible as time goes by.

Box: Go High-Tech?

Two cutting edge therapies for arthritis have recently gained popularity. Although they do require an investment---costing between \$1,200 and \$2,500 per treatment---you may find them to be suitable for your older horse.

- **IRAP** (interleukin-1 receptor antagonist protein) is a substance created by the body that blocked the action of proteins that damage joints. IRAP therapy requires taking blood from the arthritic horse and stimulating white blood cells to increase the production of IRAP. The resulting serum is injected into the arthritic joints of the same horse.
- **Stem-cell** therapy uses regenerative cells from the horse's own body to repair the damage of arthritis. The cells are extracted by a lab from body fat or bone marrow your veterinarian removes from the horse to be treated.