

Getting the Point of Joint Injections

Top veterinarians share opinions on the risks and rewards of joint injections.

1-23-2006

By Amber Heintzberger

Galloping down a cross-country course, leaping three-foot fences or sliding to a stop puts an enormous amount of stress on fine, delicately built equine legs. But there is a lot going on behind the scenes. A sound horse maintains balanced joint function. But joints that bend and give to absorb that shock are comprised of structures—bone, cartilage, soft tissues, protective synovial fluid—that can all break down. Horse owners seek out both oral supplements and systemic injections, which are popular defenses against joint problems. But sometimes therapy goes beyond these approaches and directly into the joint itself.

It's a relief to know that there are options available to help your horse, but intra-articular joint injections can be costly, and there are risks. Thomas M. Daniel, DVM, of Southern Pines Equine Associates in Southern Pines, N.C., concentrates on sporthorse medicine and was a veterinarian for the U.S. Equestrian Team in 2000. He says, "Some vets overplay the difficulty or danger involved with joint injections; [the procedure] is not without potential downfalls, but it can help horses a lot."

To Inject or Not to Inject

Rebuild or Restore

While intra-articular injections of steroids, hyaluronic acid and polysulfated glycosaminoglycan are used as direct treatment, some intramuscular and intravenous treatments can also be preventative.

Adequan I.M. helps relieve pain and decrease inflammation. Additionally, it restores synovial lubrication, helping the horse produce healthy synovial fluid to prevent the breakdown of healthy joint tissue. It also does something other treatments don't: It stops the cycle of degeneration by inhibiting cartilage damage and collapse. Since it is given intramuscularly, the idea is that the treatment travels into injured joints and stimulates production of new cartilage, while relieving non-infective degenerative joint disease symptoms.

Another joint lubrication product that works systemically to relieve pain, reduce inflammation and restore synovial fluid is Legend I.V. (intravenous sodium hyaluronate). As with any treatment, results depend on the individual horse. Talk to your veterinarian about your horse's soundness and performance issues to determine whether joint injections will be beneficial. Bill Moyer, DVM, head of the Large Animal Department at Texas A&M University, has been practicing veterinary medicine for more than 30 years. Along with Jim Schumacher, DVM, of the University of Tennessee, he co-authored *A Guide to Equine Joint Injections* (Veterinary Learning Systems Co., 2002). "Athletes seldom have just one thing wrong. Often we are looking at changes in the hocks, a sore back, some navicular changes and maybe the feet are in bad shape. In performance horses, there's just a lot of wear and tear," Dr. Moyer says.

Many things can go wrong in an equine joint, but one of the most common problems is arthritis, or degenerative joint disease, which leads to progressive destruction of joint structures. There is no cure for this disease, but managing it starts with a veterinary lameness exam to confirm diagnosis. Simple flexion tests, diagnostic nerve blocks and radiographs (X-rays) to evaluate bony changes are all used during the exam. MRI technology is also available, which gives veterinarians a good look at both bone and soft tissues, but the cost is prohibitive for the majority of horse owners.

Dr. Moyer says the most common joints to inject include the hock, pastern, coffin joint, fetlock, carpal (knee) and stifle joints. Keep in mind that some joints (knee, stifle and hock) are complex joints made up of more than one joint (for example, the hock has four joints).

Dr. Moyer continues, "Treating joints, the first thing that you need is a diagnosis to know what you are attempting to treat. If you have a swollen knee and it has a chip or fracture, and you inject it and the horse feels better, then you can end up doing more damage." According to Dr. Moyer, some questions horse owners should ask themselves after talking to their veterinarians are, "Do I have the right diagnosis?" and "Do I understand the damage in the joint?"

Dr. Moyer points out that he has three things to think about with each case: 1) Is the horse lame? 2) Can the problem be treated, or should the horse be retired? 3) Is the owner willing and able to pay for the treatment?

Early signs of joint disease can be subtle, so owners must carefully monitor their horses for signs of joint swelling, heat, lameness or reduced ability to perform. Sometimes, by the time symptoms are noticed, damage may have already started.

Just as with people, in some cases the joints are simply beyond repair, and a career change may be necessary. For instance, a 20-year-old show jumper or eventer may need to compete only at the lower levels, over smaller fences.

What Are They Putting in There?

Exercise and Maintenance

In general, the more fit a horse is, the more the skeletal system is supported by the muscular system. Having a horse with degenerative changes, the more consistent the exercise, the better, even if that means a 20-minute walk every day. On the other hand, intermittent work is not good because it stresses rather than maintains the joints. Acting similarly to the grease around ball bearings, joints are lubricated via synovial fluid. It is normally clear, pale yellow and viscous; in the face of joint damage it tends to lose viscosity—it becomes watery and is not as efficient.

“For therapeutic reasons, joints that have experienced wear and tear can be injected with a variety of medications that help them heal and remain flexible. This can prolong the usefulness of the horse,” Dr. Moyer says. There is a long list of possible medications to inject; what is used depends on the diagnosis.

In cases of arthritic changes, corticosteroids can offer pain relief and reduced inflammation. “Injecting [corticosteroids] directly into the joint as opposed to intravenously, or systemically, is much more profound,” Dr. Moyer says.

He explains that in the joint, inflammation can release all sorts of substances that can damage the cartilage and joint capsule. “In some cases, decreasing inflammation has a long-term beneficial effect because inflammation itself can be damaging. That’s why it is important to look at what is going on in the joint before you inject it.”

There are options for steroids, some long-acting, some short-acting. Short-acting steroids provide results that are likely to be seen in about 12 hours rather than a couple of weeks. Dr. Moyer says that long-acting steroids work similarly to time-release drugs in humans, providing relief over an extended period of time.

Dr. Daniel warns, “The downside is that sometimes people overuse steroids. They can be extremely beneficial if used properly, but they can be detrimental if used improperly. They are often misunderstood—it’s not that your horse will never be the same again because you have put steroids in a joint.”

Sodium hyaluronate, often called hyaluronic acid (HA), helps restore the function of the naturally occurring hyaluronic acid within the joint to improve the lubrication, stimulate natural production of HA and generally improve the synovial fluid. Injectable forms of varying molecular weights exist and have been demonstrated to have a positive effect in reducing the pain of arthritis. Also, HA is often used in conjunction with steroids. Oral forms of HA are also available on the consumer market, but their effectiveness is still being researched.

Adequan I.A. (polysulfated glycosaminoglycan) is an additional option, available for the treatment of non-infective joint disease in the carpal (knee) joint.

Risks Joint injections are not without risk, including:

Infection

Questions to Ask Your Vet

1. Does my horse really need joint injections? 2. Which joint is affected? 3. What substance is being considered for injection? 4. What is the cost involved? 5. How much rest will my horse need? 6. Will my horse be sound for performance, or simply comfortable at rest? 7. How long can I expect results to last? Any time you insert a needle into the body there is the potential to introduce bacteria, which can lead to infection. With proper handling and technique, and thorough preparation of the limb, the risk of infection can be minimized to a large degree. Yet even under the best of conditions, there is always some risk of infection following a joint injection. Symptoms of infection include heat, swelling

and tenderness around the joint, and a reluctance to use the joint normally. Despite prompt treatment with antibiotics, once a joint infection is established, extensive destruction of the articular cartilage may still occur, resulting in debilitating lameness or permanent loss of use. If you have an infection there can be some time delay, and the onset of symptoms can be rapid and severe. Contact your veterinarian immediately if your horse shows any signs of infection.

Masking pain Injecting corticosteroids into a damaged joint can help reduce inflammation and relieve pain, but then the joint is more at risk for re-injury when the horse returns to work.

Broken needle In very rare instances, a needle can break. Though it sounds horrendous, the chances of this happening are slim. Dr. Moyer explains that this used to be a more common occurrence when needles were made of stainless steel and were brittle. Now they are made of alloys and are more flexible, thus less likely to break. "It's been years since I've heard of it, but the potential is always there, so we have to mention it," he says.

Adverse Reaction to the Chemicals Rarely, some horses react adversely to medication, the same way some people react to a flu shot. Any adverse reaction should be treated as an emergency.

Joint Degeneration There is a long-term risk of corticosteroids causing cartilage breakdown. This depends on the individual horse: how much damage there was to begin with and how much joint stress the horse will continue to endure.

Laminitis While corticosteroids are very useful in treating joint disease, some vets think that in certain instances steroids, especially triamcinolone, can contribute to the onset of laminitis or founder. Sticking to a small dose and regular schedule, and using steroids only when truly necessary, should help reduce this possible risk.

Lay-up Following an injection, a return to work depends on the joint involved. "The ivory tower approach is extended lay-up, but we don't find that necessary," Dr. Daniel says. "Nobody is wrong here, but we give the horses 24 hours of stall rest and then two to three days of turnout, then they can start light flat work. We are often dealing with horses that can't take extended time off. That has forced our hand at minimal lay-up, but it seems to work well."

Often, older horses have a lot of lumps and bumps to show for their years. If a joint has been swollen for a long time, the vet will need to remove the fluid, inject the joint, and then the horse will probably need a couple of weeks off.

Take Home Message While not for every horse, and not without risk, joint therapy can be a tool for prolonging your horse's athletic usefulness. But Dr. Moyer warns that he never uses therapeutic joint injections as a preventive measure where there is no existing problem. "I won't be sticking needles into [a joint] because it might have a problem," he says. "Every time someone sticks a needle into a joint, there is a risk."

Author Spotlight

Amber Heintzberger is a freelance equine journalist based in South Carolina. An active member of the horse community, she competes at the Preliminary level of eventing. Success with joint injections has many variables. Everyone has different goals: One owner may be happy if a horse can walk across the paddock comfortably, while another will rate success by how an athlete can perform. "One of the things you have to ask yourself is, 'How am I defining success?'" Dr. Moyer points out. "Was your horse lame and now he isn't? Was he lame and then sound, and then even worse than ever? The result is going to vary with the severity of the problem and what is being expected of the horse. Dressage is more forgiving than steeplechasing, for example." In the end, each individual responds differently to the various treatments, so tailoring a program to each horse is essential to success.

*This article was featured in Horse Illustrated - February 2006. Subscribe today!