

Hard-Working Hocks

Know the options for treating degenerative joint disease

An active horse's hocks are constantly hard at work, especially during starts, stops, turns and backing. At the intersection of the tibia and the tarsal bones, the hock contains an intricate balance of cartilage and synovial fluid that provides lubrication, cushion and overall smooth sliding. But during competition or training, hock stress causes wear and tear, leading to cartilage destruction, decreased synovial fluid production, pain and compromises joint performance.

Once cartilage is damaged, it cannot readily repair itself, and as damage progresses degenerative joint disease takes over. At the very first sign of hock injury, immediately seek a veterinarian for diagnosis and treatment. Depending on the problem and its severity, your veterinarian might choose oral medications, intramuscular, intravenous or intra-articular injections, shockwave or surgery.

Kent Allen, D.V.M. and private practitioner in Middleburg, Virginia, who was the highest-ranked veterinary official at the 2000 Sydney Olympic Games, is an expert on equine lameness, diagnostics and sports medicine treatment. Here, he explains the treatment choices available to horse with hock injuries.

Question: What happens within an injured hock?

Dr. Allen: You're seeing the effects of degeneration. That means inflammation is going on within the joint. In the early stages, that inflammation is protective and involves the cartilage and joint lining. As you get into chronic degenerative joint disease, you start through a cycle that's no longer productive to protecting the joint, and you see a proliferation of new bone. At one time, new bone formation might have been helpful in trying to get bone support and cartilage growth. But in a chronic situation, it's no longer productive. It's just an arthritic change, and the joint can no longer maintain a normal physiology. It can't keep cranking out the hyaluronic acid and the normal viscosity of lubrication and growth products a normal joint would have.

A comparison is an old, worn-down car engine that has had a lot of problems over the years, and you decide to change the oil. Well, changing the oil at that point isn't going to save the engine. You should have done that every 3,000 miles.

Once the damage has occurred in a joint, it's going to start a cycle that's very difficult to come back from, and that is one of the reasons that if your horse suffers joint damage, the best treatment for the horse is a regimen of rest, reduced exercise and appropriate medications.

Question: How do we know what's wrong?

Dr. Allen: Integral to beginning any hock therapy is correct identification of the lameness' primary source. I like to follow a saying I've heard: "Absent a diagnosis, medicine is poison, surgery is trauma and alternative therapy is witchcraft."

A clinical exam is the first thing you should do. If you don't know what you're treating, then anything you use is a waste of money and time. It's very important that you know what you're treating. Many times, I've seen people come into the clinic, and they have put \$1,500 worth of product into their horse. Yet, honestly, they don't know what

they are treating and we find out its something totally different that a \$125-\$150 joint injection could have easily resolved. That's a bunch of wasted money.

Intra-articular injections are a specialized technique. A veterinarian sterilely preps the joint for the injection. They're going to spend 8-10 minutes prepping the joint to get it ready. They'll use sterile gloves and a hyaluronic acid designed for the joint injection. The veterinarian might or might not use cortisones either in combination or separately. That varies depending on what the joint is and what the problem is.

Question: Are there serious risks involved with joint injections?

Dr. Allen: There are two uncommon scenarios that can happen with intra-articular hock injections that are causes for concern. One is joint flare, which is a chemical inflammation of the joint that can occur with intra-articular injections. Joint flare can occur if the body sees the injected product as a foreign substance or if the product acts as an irritant. In these cases, the flare will subside after anti-inflammatories are given and the joint is flushed out. There are rarely any long-term problems. But, the flare probably caused enough circulation in the joint that whatever product you injected has been circulated right out of the joint, so the treatment was probably not effective. Joint flare occurs in less than 1 percent of injections now because products have improved.

The second, more serious scenario that you really worry about is an infected joint. This is where actual bacteria are reproducing within the joint. The causes of an infected joint usually involve cortisone of some type.

Cortisone is a completely rational and important therapeutic product used in joint injections. I can't say, "Let's never use cortisone." There are all sorts of excellent rationales for using cortisone depending upon the joint, degree of motion in the joint and the effect you are going to try to get in that joint. So we can't just cast it aside to reduce the chance of joint infection. The good news is that infection is very rare in joint injections. But it exists, and the veterinarian who does injections has to be prepared to deal with it if it happens.

If you can determine that an infection is present (swollen, hot joint, non-weight-bearing limb) and flush the joint fairly quickly and treat it with antibiotics, you will have an excellent chance of complete recovery. Problems occur when the infected joint is not flushed promptly, is not recognized or is denied.

Question: What if treatments aren't working?

Dr. Allen: First, remember that there is a logical order that hock treatments go in. You maintain the horse on whatever combination of oral, intravenous and intramuscular products it needs in addition to appropriate shoeing. Next, you inject the lower hock joints with intra-articular products such as hyaluronic acid and cortisone. This treatment is administered from one to several times a year, on an as-needed basis. Then, if you are unable to maintain the horse on any combination of these treatments, you can begin shockwave therapy. If nothing else proves effective over the long term, the horse is evaluated for surgical or chemical fusion of the hocks, but that's at the end of the road when you have exhausted all other possibilities.

Shockwave therapy is performed under anesthesia or tranquilizers. We simply clip, alcohol and gel the area heavily, and we shock the horse along the area of bone where there's an arthritic change. It's quite an effective treatment. It appears to last for

several months - as long as joint injections and perhaps slightly longer. It's a somewhat more expensive therapy, and it certainly isn't something I would use first, but if the joint injections are needing to be done more frequently or aren't as effective as they used to be, then it becomes an important alternative.

The other two forms of therapy done in hocks are chemical fusion and surgical fusion. The fusion procedures are major surgical procedures, and they usually involve three to six months of recovery time. Both carry considerably more risk than any other treatments because of the very small margin of error.

Chemical fusion uses monoiodoacetic acid to chemically strip away the cartilage in the lower joints and cause the hocks to fuse. This has to be done very carefully at a clinic under radiographic guidance because the drug cannot leak up into the upper joints, or the horse will be crippled. It's an end-stage procedure when everything else has been exhausted. It is also very painful for the horse during the first 24-48 hours.

Surgical fusion involves drilling the spaces between the lower joints in the hocks and damaging the cartilage so the joints fuse. It's an effective technology, but it takes a long time for it to fuse, and the horse can be in pain during that time frame.

Question: Describe a diagnostic exam of problem hocks.

Dr. Allen: Depending on the horse and the problem, your veterinarian might branch into diagnostic nerve blocks, thermography, nuclear scintigraphy, x-ray and ultrasound. The veterinarian will start at the top of the flow chart with a good clinical exam: joint flexion, hoof testers, spending time going over the horse and getting its history from the trainer or owner. It's important to go to the bottom of the flow chart when examining the horse. Again, because all these products cost a significant amount of money, you'll get a lot more bang for your dollar if you know what you're treating.

Question: When are oral products (Cosequin®, Corta-Flx, Equiphen®) appropriate?

Dr. Allen: If you have a horse with joint fill, but the horse isn't lame, that's a good scenario for oral products. If the horse has no chronic history of problems in the joint, always do the least invasive thing for treatment.

With this scenario, you are trying to preventatively treat the joint. You're giving the least effective treatment because of the small amount of product that reaches the joint, but you're not trying to treat a lameness or performance problem.

So you feed the horse oral chondroitin or glucosamine, and you hope enough of it gets to the joints to help. Part of it's lost to digestion, and the rest has to travel all over the body.

Question: When should intramuscular (Adequan®) and intravenous (Legend®) injections be administered?

Dr. Allen: These work well for a horse that's on a hard campaign every weekend running for a high-point award, maybe has a history of lameness or if it's an aged horse. Nothing's keeping it from doing its job, but the horse isn't quite right.

Both intramuscular and intravenous injections go directly into the body and are distributed throughout the body to the various joints. They get the next-highest level of product into the joints. To a certain extent, because there's increased circulation to inflamed joints, there will be increased levels of those products in the joints.

I see Legend (hyaluronic acid) and Adequan (polysulfated glycosaminoglycan) as complementary products rather than competing products. They both have an effect on soft tissues in the joint, and both help produce joint fluid to protect and lubricate the joint. Adequan also helps preserve the cartilage in the joint, so it depends upon what you're attempting to do. I find both of these products very useful, and I sometimes use them in combination.

Question: What scenarios warrant intra-articular (Hyvisc®, Adequan®, Hylartin®V) injections?

Dr. Allen: This is still the gold standard as the way to get most anti-inflammatory product into the joint in the shortest period of time with the most effect, and more importantly, for horse owners to get the most bang for their buck. Of all the joints, the hocks respond best to intra-articular injections. It's not uncommon to use intra-articular injections as the first treatment once hock degeneration is diagnosed.

If you can fix the problem with a single intra-articular shot, that's the cheapest therapy there is. I am a big believer in intra-articular therapy because it's very cost effective, it helps horses have long athletic careers, and it has a very low chance of potential side effects.