

Hey Doc, What's this IRAP business?

Equine osteoarthritis is the leading cause of degenerative joint disease (DJD) and is one of the main causes of lameness in horses. Osteoarthritis is a term used to describe the process of cartilage breakdown from either wear and tear or result of traumatic event in a joint leading to inflammation and pain. Most common areas of concern are the coffin, hock, stifle, knee, and fetlock joints. Usually, joints can be treated with medications such as steroids, hyaluronic acid (Legend<sup>®</sup>), or polysulfated glycosaminoglycans (PSGAG) such as Adequan<sup>®</sup> that minimize inflammation and replenish natural joint components.



We, as veterinarians, use these products very successfully in our equine patients, however, when these products are ineffective, a new and innovative gene therapy product termed Interleukin-1 receptor antagonist protein (IRAP) can be utilized to combat osteoarthritis in your horse.

Interleukin-1 (IL-1) is an important part of the normal inflammatory response in the joint but in some cases can be detrimental to joint cartilage. Constant and persistent exposure to these damaging proteins leads to cracking and thinning of cartilage and to development of osteoarthritis. IRAP counteracts the destructive effects of inflammation within the diseased joint.

The procedure begins with drawing blood from your horse into a special patent syringe. The syringe contains glass beads which enhance production of anti-inflammatory proteins including IRAP. The blood is incubated for 24 hours at which point the conditioned serum is extracted and processed into individual doses that can be injected similar to a routine intra-articular joint medication. Typically, IRAP treatments are once weekly for three treatments and after that time, your horse can return to normal function. One advantage of IRAP is a normal harvest results in 5-7 doses, therefore doses not used in the initial 3 treatment series can be stored and injected at any time.



Indications for use of IRAP include horses with a well defined inflammation of the joint (arthritis), synovium (synovitis), or capsule (capsulitis); particularly those horses that do not respond well to conventional anti-inflammatory joint therapy. Lower success rates have been identified for those patients with chronic osteoarthritis, and in joints with bone fragments, fractures, or extensive cartilage damage. The principal reason why IRAP is so exciting is its potential for a long-term effect on battling osteoarthritis. IRAP has the ability to halt the inflammatory cascade and bring soundness to your horse. Please call us at Pioneer Equine Hospital if you think your horse is a candidate for IRAP or have any questions regarding IRAP.