

## IRAP: a novel approach in the treatment of Equine Degenerative Joint Disease

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### *Your Map to IRAP: A Novel Approach in the Treatment of Equine Degenerative Joint Disease*



A puffy fetlock. Knobby knees. Stiff hocks. A refusal. A horse that doesn't push off at the fence with the power you know he has. Osteoarthritis, also known as degenerative joint disease, is one of the major causes of poor performance and early retirement for the competitive equine athlete. One can imagine the stress on hind limb joints during take-off and the concussive force on front limb joints upon landing when a 1200 pound horse successfully sails over a 6 foot jump and makes a sharp turn on to the next. It is these stresses along with other factors such as poor conformation which cause trauma to the joint

and incite the release of inflammatory mediators. These mediators cause damage to the articular cartilage leading to the vicious cycle of inflammation responsible for the pain, effusion, and reduced range of motion associated with equine osteoarthritis. Interleukin-1 is one of the inflammatory mediators thought to play an especially critical role in the development and progression of this disease.

IRAP stands for Interleukin-1 Receptor Antagonist Protein and is a form of autologous conditioned serum (ACS). The therapy aims to decrease the progression of joint disease by blocking the binding of interleukin-1 to receptors within the tissues of the joint. By combatting interleukin-1 it works to halt the vicious cycle of inflammation and thus the deterioration of cartilage. In a study performed by Colorado State University, treatment with IRAP proved to significantly improve lameness scores in horses as well as provide a degree of joint repair based on assessments of the joint lining and cartilage.<sup>1</sup>



How does the process work? It starts with 50 mls of blood which is drawn from the horse's jugular vein and incubated overnight in a syringe containing etched glass beads. The beads stimulate the horse's own

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white blood cells to produce the antagonist protein as well as other anti-inflammatory proteins. The syringe is spun in a centrifuge to separate the plasma from the red blood cells and is filtered into multiple syringes. The IRAP is injected into the affected joint(s) the next day and the remaining dose syringes frozen for future treatments. Typically the affected joint is treated once every 7-10 days for 3 or more treatments. Syringes can be stored in the freezer for up to 12 months from the date of collection.



There are multiple advantages to IRAP therapy over the conventional treatments for degenerative joint disease. IRAP may be used repeatedly without detrimental effects to the cartilage. Further to that, it is more than just a band-aid treatment. It actually works to restore the health of joint lining

and cartilage function. It is completely natural; taken 100% from the horse's own body. Since it contains no banned substances it can be beneficial as a treatment immediately prior to competition. If used early in the disease process it has the potential to prolong performance years and prevent early retirement in the equine athlete. Be sure to speak to your veterinarian if you think IRAP therapy may be a good treatment option for your horse.

### References

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