Regenerating Equine Athletes with Stem Cells

Tendon and ligament injuries are a common cause of lameness in horses. Treatments vary greatly and are often associated with high expenses and failure to return to a previous level of performance. Non-elastic scar tissue formation is a frequent result of injury. Since scar tissue is not as functional as tendon and ligament tissue, equine researchers and clinicians at the school are exploring the use of stem cells to develop an effective treatment that will improve healing and lessen the amount of scar tissue formation.

Dr. Larry Galuppo injects stem cells into a horse with joint damage.

While the clinical use of stem cells is still in its early stages, and currently only utilized through clinical trials at UC Davis, the application has shown positive results for many horses. By engaging in standardized clinical trials and collaborating with human medicine teams, the goal of this work is to generate evidence-based recommendations for stem cell therapies.

Dr. Larry Galuppo, chief of the veterinary hospital's Equine Lameness and Surgery Service, is conducting four trials through the Veterinary Center for Clinical Trials. His focus is on mesenchymal stem cells' ability to replicate themselves, regenerate tissue, and repair damaged tissue to treat tendon and ligament injuries, intra-articular lesions, and laminitis in equine athletes. Galuppo is also researching stem cells further with other faculty members of the Veterinary Institute for Regenerative Cures.

These innovative treatment options may improve a horse's healing process during the crucial time of potential scar formation, enhancing the quality and strength of repair. If this is the case, re-injury rates should decline and return to previous level of performance should be more common in horses treated with regenerative medicine. Eventually, these stem cell therapies may become integrated as a routine part of regenerative medicine for sport horses as well as human athletes suffering from similar conditions.