

Regenerative Therapies May Aid Healing in Tendon and Ligament Injuries

VetCell Bioscience Offers Services to Help Repair Connective Tissue Damage

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From racing to show jumping, few injuries can be as debilitating for a performance horse as those that affect the tendons and ligaments. Often requiring months of rest and rehabilitation, the prognosis for these injuries is usually guarded--there's no guarantee that the horse will return successfully to its earlier career. To help improve the quality of repair within these injuries, horse owners and veterinarians have recently turned to regenerative therapy treatments which include the use of stem cells and platelet rich plasma.

"We hope that regenerative medicine technologies will provide the best opportunity to return a horse to the top level of performance following a tendon or ligament injury," said Roger Smith, MA, VetMB, PhD, DEO, DipECVS, Professor of Equine Orthopaedics at The Royal Veterinary College, London. "We have had a lot of success with bone marrow stem cell therapy which harnesses the horse's ability to remodel the injury site and minimize scar tissue formation."

The theory of bone marrow-derived stem cell therapy relies on the ability of a specific type of stem cells--known as mesenchymal stem cells--to orchestrate the regeneration of a damaged tendon or ligament. Offered by VetCell Bioscience, Ltd., the MS-Eq treatment uses a sample of the horse's own bone marrow, which is sent to a laboratory at the Coriell Institute where the cells are selected and enriched and then returned to the referring veterinarian. The goal of stem cell therapy is to encourage healing with the formation of organized collagen--a protein that serves as connective tissue between cells--instead of allowing scar tissue to form. Scar tissue lacks the elasticity needed for optimal performance and leaves the area vulnerable to re-injury.

Developed in partnership with the United Kingdom's Royal Veterinary College in 2002, bone marrow stem cell therapy is seen by many leading researchers as the most promising technology in tendon healing. Teams at Cornell University, the University of California-Davis, Colorado State University and the University of Pennsylvania's New Bolton Center are all involved in work using bone marrow derived stem cells and many of the top U.S. veterinary hospitals now offer VetCell's MS-EQ technology in the treatment of tendon and ligament injuries.

Platelet therapy is another option for owners to discuss with the horse's veterinarian. Platelets contain many growth factors that promote wound healing. This treatment is most often used in ligament repair, but has also been used to improve healing in other injuries. VetCell's Purecell Select(TM) is a platelet-rich plasma system which concentrates blood platelets for injection. While most platelet-rich plasma therapy requires the use of lab machinery, Purecell Select utilizes a portable kit that allows the veterinarian to concentrate the platelets while onsite at the farm or in the clinic.

Together with careful monitoring and a rehabilitation program developed in partnership with the horse's veterinarian, these therapies may present the best opportunity for the horse to return to its former level of performance. Since its inception, VetCell has treated more than 1,400 horses--many of which continue to be successful in their careers post-injury. More information on VetCell's treatment options is available at www.vetcell.com. In the event of any injury, horse owners should always consult with the horse's veterinarian on an appropriate course of treatment.

VetCell Bioscience Inc, is an American division of MedCell Bioscience Ltd which was formed in partnership with the Royal Veterinary College, London and the Institute for Orthopaedic and Musculoskeletal Science to develop the veterinary use of stem cell technologies.