Regenerative Medicine for Soft Tissue Injuries in Agility Dogs

By Sherman O. Canapp, DVM, MS, CCRT, DACVS, DACVSMR and Brittany Jean Carr, DVM

Clean Run, August 2014

Recent studies have shown regenerative medicine to be efficacious in managing numerous orthopedic conditions, including osteoarthritis and soft tissue injuries (tendon and ligament injuries).

REFERENCES

Ahmad Z, et al. Exploring the application of stem cells in tendon repair and regeneration. *Arthroscopy* 2012; 28(7):1018-29.

Canapp SO. Regenerative medicine for tendinopathies in the canine. Proceedings ACVS Symposium 2013, San Antonio, TX. [American College of Veterinary Surgeons]

Carvalho ADM, et al. Equine tendonitis therapy using mesenchymal stem cells and platelet concentrates: a randomized controlled trial. *Stem Cell Res* Ther 2014; 4(4): 85.

Chen L, et al. Synergy of tendon stem cells and platelet-rich plasma in tendon healing. J Orthop Res 2012; 30(6):991-997

Cullen KL, Dickey JP, Bent LR, Thomason JJ, Moens NMM. Internet-based survey of the nature and perceived causes of injury to dogs participating in agility training and competition events. *J Am Vet Med Assoc* 2013; 243: 1010-1018.

de Almeida AM, et al. Patellar tendon healing with platelet-rich plasma: a prospective randomized controlled trial. *Am J Sports Med* 2012; 40(6):1282-8.

Hsu WK, et al. Platelet-rich plasma in orthopaedic applications: evidence-based recommendations for treatment. *J Am Acad Orthop Surg* 2013; 21:739-748.

Levy I, Hall C, Trentacosta N, Percival M. A preliminary retrospective survey of injuries occurring in dogs participating in canine agility. *Vet Comp Orthop Traumatol* 2009; 22: 321-324.

McCarrel TM, Minas T, Fortier LA. Optimization of leukocyte concentration in plateletrich plasma for the treatment of tendinopathy. *J Bone Joint Surg Am* 2012; 94:e143(1-8).

Monto RR. Platelet rich plasma treatment for chronic Achilles tendinosis. *Foot Ankle Int* 2012; 33(5):379-85.

Ricco S, et al. Allogeneic adipose tissue-derived mesenchymal stem cells in combination with platelet rich plasma are safe and effective in the therapy of superficial digital flexor tendonitis in the horse. *Int J Immunopathol Pharmacol* 2013; 26(1 Suppl):61-68.

Silva RF, Carmona JU, Rezende CMF. Intra-articular injections of autologous platelet concentrate dogs with surgical reparation of cranial cruciate ligament rupture. *Vet Comp Orthop Traumatol* 2013; 26: 285-290.

Sundman EA, Cole BJ, Karas V, Della Valle C, Tetreault MW, Mohammed HO, Fortier LA. The anti-inflammatory and matrix restorative mechanisms of platelet-rich plasma in osteoarthritis. *Am J of Sports Med* 2014; 42: 35-41.

Torricelle P, et al. Regenerative medicine for the treatment of musculoskeletal overuse injuries in competition horses. *Int Orthop* 2011;35(10):1569-76.