

Research highlights role of Shock Wave Therapy in accelerating bone healing in dogs with CCL injuries

ALPHARETTA, GA (March 10, 2014) - Dogs requiring a cruciate repair surgery may see improved outcomes and faster healing with the help of Shock Wave Therapy (SWT), a noninvasive treatment that utilizes sound energy to stimulate blood flow and encourage bone healing, according to a new study.

Researchers from Colorado State University evaluated the role of SWT in accelerating bone healing in dogs undergoing a common surgical procedure to manage cranial cruciate ligament (CCL) disease. Their findings, presented at the 2014 meeting of the World Veterinary Orthopaedic Congress, concluded that the addition of the high-energy sound wave technology after Tibial Plateau Leveling Osteotomy (TPLO), a surgical procedure that restabilizes the knee by reconstructing the tibia bone, resulted in faster healing compared to dogs not treated.

“Our research confirms that focused shock wave therapy accelerates early bone healing following routine TPLO surgical intervention,” said Dr. Felix Duerr, a veterinary surgeon at Colorado State University. “Shock wave therapy should be considered as a viable treatment option when expedited bone healing is desired.”

Highlights of the study* [High-energy focused shock wave therapy accelerates bone healing: a blinded, prospective, randomized clinical trial] include:

- **Dogs treated with shock wave therapy immediately post-operatively and a couple of weeks later at suture removal healed weeks faster than non-treated dogs.** [*VersaTron4Paws, focused electrohydraulic shock wave; PulseVet Technologies*]
- **At 4 weeks, SWT dogs were healing significantly faster than non-treated dogs and by 8 weeks, all SWT dogs had healed osteotomies (bones) while less than half of the sham dogs were considered healed**

CCL injuries are one of the most common orthopedic conditions seen in dogs. Surgical intervention for these injuries has high success rates with normal healing times averaging 10-12 weeks. Delayed bone healing may limit full recovery and increase the potential for post-operative complications. Accelerated bone healing as a benefit of shock wave therapy may result in a faster return to a dog’s normal activity.

Other studied positive effects supporting the use of SWT after TPLO include its benefit in reducing patellar tendon desmitis (inflammation),¹ a complication seen following surgery; benefits on surgical wound healing;² and pain control.^{3,4}

Shock Wave Therapy has been in clinical use for more than three decades. Initially used as a noninvasive form of lithotripsy to break up kidney and bladder stones in humans, the high-energy acoustic sound wave technology has advanced significantly to fit the ideal parameters needed to treat musculoskeletal conditions. In recent years, the research and case reports on the use of shock wave for dogs has grown, and veterinarians are currently using to treat chronic tendon/ligament injuries, wounds, bone fractures, osteoarthritis and back pain. For additional information, visit www.pulsevet.com.

*Duerr, F, Palmer R, et al. Colorado State University, Dept. of Clinical Sciences. Presented at the 2014 World Veterinary Orthopaedic Congress

¹Gallagher A, Cross AR, Sepulveda G: The effect of shock wave therapy on patellar ligament desmitis after tibial plateau leveling osteotomy. *Vet Surg* 41:482-485, 2012.

²Morgan DD, et al: Effects of extracorporeal shock wave therapy on wounds of the distal portion of the limbs in horses. *J Am Vet Med Assoc* 234:1154-1161, 2009.

³Danova NA, Muir P: Extracorporeal shock wave therapy for supraspinatus calcifying tendinopathy in two dogs. *Vet Rec* 152:208-209, 2003.

⁴McClure SRet al: Evaluation of analgesia resulting from extracorporeal shock wave therapy and radial pressure wave therapy in the limbs of horses and sheep. *Am J Vet Res* 66:1702-1708, 2005.