

# A Sound Approach to managing Cranial Cruciate Ligament (CCL) Disease

**NEW!**  
**BONE HEALING RESEARCH**

Offer your clients the CCL Treatment Package to speed recovery – your surgical repair combined with Shock Wave Therapy (SWT).

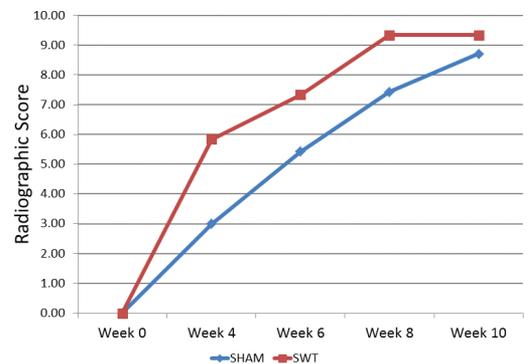


**NEW** research shows benefits of shock wave therapy in accelerating bone healing post-TPLO.

## HIGH-ENERGY FOCUSED SHOCK WAVE THERAPY ACCELERATES BONE HEALING: A BLINDED, PROSPECTIVE, RANDOMIZED CLINICAL TRIAL\*

Duerr F, Palmer R, et al. Colorado State University, Dept. of Clinical Sciences

- Randomized, blinded, prospective clinical study of client-owned dogs (12 dogs, 13 stifles) presenting for surgical treatment of naturally occurring cranial cruciate ligament disease
- Following standard Tibial Plateau Leveling Osteotomy (TPLO) procedure:
  - Shock Wave Therapy (SWT) group received 2 treatments immediately post-operatively and at time of suture removal (*VersaTron4Paws high-energy, focused electrohydraulic device*)
  - Sham control group did not receive SWT treatment
- Results:
  - SWT group had significantly more advanced healing at week 4 ( $p < 0.05$ ) compared to Sham group
  - At 6 and 8 weeks, more advanced bone healing scores in SWT group approached statistical significance ( $p = 0.08$  and  $p = 0.06$ , respectively) compared to Sham group
  - At 8 weeks, all SWT dogs had healed osteotomies (score  $> 9$ ), but less than half of the Sham dogs were considered healed



Radiographs were evaluated for osteotomy healing (0-10) during a single session by a Board-Certified Radiologist blinded to group and time point

\*Presented at the 2014 World Veterinary Orthopaedic Congress.

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# HIGH ENERGY FOCUSED SHOCK WAVE THERAPY ACCELERATES BONE HEALING: A BLINDED, PROSPECTIVE, RANDOMIZED CLINICAL TRIAL

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**Introduction:** High-energy focused shock wave therapy (SWT) has been suggested to accelerate bone healing in dogs and people. Tibial plateau leveling osteotomy (TPLO) makes an ideal and clinically relevant model for evaluation of SWT on bone healing rates. We hypothesized that SWT accelerates bone healing in clinical canine patients undergoing TPLO.

**Materials and Methods:** This randomized, blinded, prospective clinical study evaluated bone healing in client-owned, healthy dogs undergoing TPLO. Dogs were randomly assigned to the treatment (SWT) or sham (SHAM) group. SWT treatments were performed with an electro-hydraulic shock wave device (VersaTron 4Paws; PulseVet Technologies, Alpharetta, GA) immediately post-operatively and at suture removal (total of 1000 shocks at 0.365 mJ/mm<sup>2</sup>). Orthogonal radiographs were performed at 0, 4, 6, 8, and 10 weeks post-operatively. Radiographs were evaluated by a board-certified radiologist with a 10-scale score. A treatment score of  $\geq 9$  was considered as healed.

**Results:** 12 dogs (13 stifles) of various breeds (mean weight 32.3  $\pm$  5 kg; mean age 5 $\pm$ 1.7 years) were included. No major complications were observed. **SWT dogs showed significantly higher healing scores than SHAM dogs at week 4** ( $p=0.0014$ ). At week 6 and 8, the difference in healing scores approached, but did not reach statistical significance ( $p=0.08$  and  $0.06$  respectively). **At week 8, all SWT dogs (6/6) were healed compared to 3/7 SHAM dogs ( $p=0.07$ ).**

**Discussion/Conclusion:** Electrohydraulic SWT accelerated early bone healing. The lack of statistical significance at other time points is likely due to the small sample size and the rapid healing observed in both groups.

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*Presented at the 2014 World Veterinary Orthopaedic Congress.*