Abstract

Journal of the American Veterinary Medical Association
May 15, 2011, Vol. 238, No. 10, Pages 1284-1291
doi: 10.2460/javma.238.10.1284

Effect of cold compression therapy on postoperative pain, swelling, range of motion, and lameness after tibial plateau leveling osteotomy in dogs

Kevin A. Drygas, DVM, DACVS; Scott R. McClure, DVM, PhD, DACVS; Robert L. Goring, DVM, DACVS; Antonio Pozzi, DMV, MS, DACVS; Sheilah A. Robertson, BVMS, PhD, DACVA; Chong Wang, PhD

Affiliated Veterinary Specialists, 275 Corporate Way, Ste 100, Orange Park, FL 32073. (Drygas, Goring); Departments of Veterinary Clinical Sciences and Diagnostic and Production Animal Medicine, College of Veterinary Medicine, Iowa State University, Ames, IA 50011. (McClure); Department of Small Animal Clinical Sciences, Collaborative Orthopaedic and Biomechanics Laboratory, College of Veterinary Medicine, University of Florida, Gainesville, FL 32610. (Pozzi); Department of Large Animal Clinical Sciences, College of Veterinary Medicine, University of Florida, Gainesville, FL 32610. (Robertson); Department of Statistics, College of Liberal Arts and Sciences, Iowa State University, Ames, IA 50011 (Wang)

Supported by Cool Systems Incorporated. Cool Systems Incorporated provided the cold compression system used in the study.

Address correspondence to Dr. Drygas (Kevind33@aol.com).

Objective—To evaluate the effect of cold compression **therapy** (CCT) on postoperative pain, lameness, range of motion of the stifle joint, and swelling following tibial plateau leveling osteotomy (TPLO) in dogs.

Design—Randomized, blinded, placebo-controlled clinical trial.

Animals—34 client-owned dogs with unilateral deficiency of a cranial cruciate ligament undergoing TPLO.

Procedures—Dogs were assigned to 2 groups. Group 1 (n = 17 dogs) received CCT in the 24-hour period following TPLO. Group 2 (n = 17 dogs) received no CCT. Degree of lameness, range of motion, and circumference of the stifle joint were measured before surgery and 1,14, and 28 days after surgery. A modified composite Glasgow pain scale, visual analogue scale, and pain threshold score were used to evaluate signs of pain before surgery and 1,14, and 28 days after surgery. Logistic regression and linear regression analysis were used to compare the measured variables.

Results—No complications were observed, and all dogs tolerated CCT. Use of CCT resulted in lower values for the visual analogue scale and Glasgow pain scale and lower pain threshold scores; lower lameness scores; less swelling; and an increased range of motion 24 hours after surgery. At 14 days after surgery, there were no significant differences between groups. At 28 days after surgery, too few data sets were available for comparison.

Conclusions and Clinical Relevance—CCT decreased signs of pain, swelling, and lameness and increased stifle joint range of motion in dogs during the first 24 hours after TPLO.

CITING ARTICLES

Ralph P. Millard, Heather A. Towle-Millard, David C. Rankin, James K. Roush. (2013) Effect of cold compress application on tissue temperature in healthy dogs. *American Journal of Veterinary Research* **74**:3, 443-447
Online publication date: 1-Mar-2013.
Abstract | Full Text | PDF (112 KB) | PDF Plus (121 KB)

Full Text PDF (362 KB) PDF Plus (371 KB)
