Chiropractic Treatment of Lameness and Concurrent Axial Skeleton Pain and Dysfunction in Horses

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Chiropractic care had no significant effect on limb lameness; however, significant reductions in axial skeleton pain, stiffness, and muscle hypertonicity did occur. Authors’ address: Gail Holmes Equine Orthopaedic Research Center, Department of Clinical Sciences, College of Veterinary Medicine and Biomedical Sciences, Colorado State University, 300 West Drake Road, Fort Collins, CO, 80523; e-mail: kevin.haussler@colostate.edu. *Corresponding author; †presenting author. © 2021 AAEP.

1. Introduction
Chiropractic is a common treatment modality used to treat back pain and stiffness. Clinically important interactions occur between axial and appendicular regions with regards to poor performance and lameness. The objective of this study was to evaluate the effects of chiropractic treatment on limb lameness and concurrent axial skeleton pain and dysfunction.

2. Materials and Methods
Twenty collegiate polo horses with Grade 1-3/5 lameness (AAEP scale) within at least one limb were randomly assigned to treatment and control groups. Subjective and objective lameness examinations and scores for spinal stiffness, muscle hypertonicity, and mechanical nociceptive thresholds were performed on Days 0, 14, and 28 by a blinded examiner. Chiropractic treatment was applied on Days 0, 7, 14, and 21. Data was analyzed by a mixed model fit separately for each response variable ($p < 0.05$).

3. Results
No changes were observed in measures of lameness or mechanical nociceptive thresholds. Measures of muscle hypertonicity and spinal stiffness decreased significantly across sites within the axial skeleton. Spinal pain scores significantly decreased in the number of affected cervical vertebral levels and total severity.

4. Discussion
Chiropractic care had no effect on limb lameness. The reductions in spinal pain, stiffness, and muscle hypertonicity as they relate to
compensatory limb lameness mechanisms are clinically relevant. Limitations include the large variability in outcome parameters within horses and the lack of standardization of chiropractic treatment between horses.

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Declaration of Ethics

The Authors have adhered to the Principles of Veterinary Medical Ethics of the AVMA.

Conflict of Interest

The Authors have no conflicts of interest.