Dynamic Compression Plate Fixation of Medial Condylar Fractures of the Third Metacarpal/Metatarsal Bone in 30 Racehorses Retrospective Analysis (1990 to 2005)

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Propagating medial condylar fracture results in severe lameness, carries risk of catastrophic failure, and has a guarded prognosis for return to successful racing, regardless of treatment. Authors' addresses: Department of Clinical Sciences, College of Veterinary Medicine Colorado State University, 1601 Campus Delivery, Fort Collins, CO 80523-1601 (Goodrich, Morley); Department of Clinical Sciences, College of Veterinary Medicine Cornell University, Vet Box 32, Ithaca, NY 14853 (Nixon); Weatherford Equine Medical Center, 1877 Mineral Wells Hwy, Weatherford, TX 76088-8316 (Conway); New Jersey Equine Clinic, 279 Millstone Road, Millstone Township, NJ 08535 (Hogan); and Donningtongrove Veterinary Surgery, Oxford Road, Newbury, Berkshire RG142JB UK (Bladen); e-mail: jdconway9@gmail.com. *Corresponding and presenting author. © 2012 AAEP.

1. Introduction
The most appropriate treatment for spiral medial condylar fractures has not been clearly established. The objective of this study was to evaluate survival and outcome for 30 Standardbred and Thoroughbred racehorses that underwent dynamic compression plate fixation (DCP) for repair of medial condylar fractures of the third metacarpal (MC3) or metatarsal (MT3).

2. Materials and Methods
The surgical case records of 30 horses with fractures of the medial condyle of MC3 or MT3 treated by plate fixation were reviewed. Medical information included age, breed, sex, how injury occurred (racing or training), surgical treatment, and postoperative complications. Racing information included starts, top-3 placing, and career earnings.

3. Results
The spiraling nature of the medial condylar fracture was described in 22 of 30 cases (73%). Front limbs (53%) tended to be slightly more affected than hind limbs (47%). Two horses that recovered in splinted bandages developed repair breakdown. Twelve of 30 (40%) horses raced after surgery, and all had racing careers of 5 years or
less. Career earnings were significantly lower for both breeds, Thoroughbreds and Standardbreds.

4. Discussion

This study is the first large case series to report results of DCP fixation for horses with propagating medial condylar fractures. Recovery in a full cast or splint is recommended. Overall, horses that underwent DCP fixation for medial condylar fractures had fewer starts after surgery, decreased lifetime starts, and lower lifetime earnings.

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