Computed Tomography Arthrography for the Diagnosis of Equine Femorotibial Lameness in 137 Horses: 2007 to 2012

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Computed tomography arthrography provides a more complete diagnosis and a better understanding of lameness arising from the equine femorotibial joint. Authors’ addresses: University of California, Davis, One Shields Avenue, Davis, CA 95616 (Puchalski); Lingehoeve Veldstraat 3, Lienden 4033 AK, The Netherlands (Bergman); e-mail: smpuchalski@ucdavis.edu. *Corresponding and presenting author. © 2013 AAEP.

1. Introduction
Stifle lameness, associated with the femorotibial joints, is an important problem in sport horses. A specific or complete diagnosis is difficult with the use of diagnostic techniques such as radiography, ultrasound, nuclear scintigraphy, and arthroscopy. Computed tomography (CT) arthrography has been proposed as a useful technique to evaluate this complex joint.

2. Materials and Methods
Clinical, ultrasound, radiography, nuclear scintigraphy (n = 17), and postmortem data (n = 19) from 137 lame horses undergoing CT arthrography of 141 stifle joints from 2006 to 2013 were gathered and evaluated.

3. Results
There were 111 of 137 Warmbloods. The mean age was 8 years, and mean lameness score was 2.1 of 5. The majority had a >10-week history. Abnormalities of the meniscotibial ligaments and entheses were identified in 102 of 141, cruciate ligaments in 78 of 141, and menisci in 57 of 141. Abnormalities of the femorotibial joint and its margins were present in 73 of 141. Lesions of any component of the meniscus apparatus were identified in 105 of 141. Twenty-five of 34 stifles with cranial and 34 of 59 stifles with caudal cruciate ligament injury had concurrent injury of the medial meniscus apparatus. Negative ultrasound and radiograph studies were associated with caudal cruciate and caudal meniscotibial ligament injuries. Gross pathology confirmed lesions in 19 stifles.

4. Discussion
CT arthrography aids in the diagnosis and understanding of femorotibial joint lameness. Lesion combinations may be important when complete diagnostic evaluation of the stifle is not possible because solitary lesions of any component of the stifle is rare.