Abnormal Imaging Findings of the Femoral Third Trochanter in 20 Horses

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Diagnosis of third trochanter injuries is challenging without multi-modality imaging. Due to clinical overlap, ultrasound of the pelvis and femur should be performed in horses suspicious for upper limb fracture. Lameness and return to function can be prolonged. Authors’ addresses: Department of Environmental and Radiological Health Sciences, Veterinary Teaching Hospital, Colorado State University, Fort Collins, CO 80523 (Shields); Department of Surgical and Radiological Sciences, Veterinary Medical Teaching Hospital, University of California, Davis, CA 95616 (Whitcomb, Vaughan, Wisner); e-mail: gshieldsdvm@gmail.com. *Corresponding and presenting author. © 2015 AAEP.

1. Introduction
Femoral third trochanter injuries are an uncommon but important source of lameness. Diagnosis is confounded by a lack of localizing signs and often requires nuclear scintigraphy or ultrasonography.

2. Materials and Methods
Retrospective analysis of medical records identified 20 horses with ultrasonographic or nuclear scintigraphic evidence of third trochanter abnormalities from 2004–2014.

3. Results
Ultrasound identified third trochanter fractures in 14/20 horses. Lameness was acute, insidious, or unknown. All but one was lame (Grade 2–4/5) at presentation. Ultrasound was the initial diagnostic modality in 5/14 fractured horses, whereas scintigraphic findings of intense, moderate, and mild increased radiopharmaceutical uptake (IRU) prompted ultrasound in 9/14 horses. Non-displaced fracture was suspected in one horse with intense IRU and negative ultrasound findings. In the remaining five horses, imaging findings included only mild IRU and lameness was localized to other regions. Six of 12 fractured horses with outcome data returned to function after a prolonged rehabilitation of 8–18 months.

4. Discussion
Scintigraphic findings directed focused ultrasound exams in the majority of fracture cases. Horses with third trochanter fracture had similar clinical characteristics to that reported for pelvic fractures. Ultrasonographic examination of both regions is therefore recommended, especially when scintigraphy is unavailable. Prognosis for return to function was less favorable than previously reported.

Acknowledgments
Declaration of Ethics
The Authors declare that they have adhered to the Principles of Veterinary Medical Ethics of the AVMA.

Conflict of Interest
The Authors declare no conflicts of interest.