

## COMPUTED TOMOGRAPHIC ANATOMY OF THE EQUINE STIFLE

Elke Van der Vekens, DVM<sup>1</sup>; Eric Bergman<sup>2</sup>, DVM, MD; Katrien Vanderperren, Jimmy H. Saunders, DVM, PhD, Dipl. ECVDI<sup>1</sup>

### ABSTRACT

**Objective:** To describe a detailed computed tomographic (CT) reference of the normal equine stifle.

**Sample Population:** 16 hindlimbs limbs from 8 equine cadavers; none of these horses had orthopedic disease.

**Procedures:** Native CT of the stifle was performed on 8 hindlimbs. In all of these limbs, CT was also achieved after intra-articular injection of 60 mL contrast (40 mg iodine/mL) in the lateral and medial femorotibial joints and 80 mL contrast in the femoropatellar joint. Transverse slices with a thickness of 1.3 mm were obtained (*120 kV, 400 mAs, 0.625 pitch, 1.3 mm increment, 1 cm rotation time*) and sagittal and dorsal planes were reformatted with a slice thickness of 2 mm. The CT images were matched with corresponding anatomical slices.

**Results:** The femur, tibia and patella could be clearly visualised. The distal patellar ligaments, the common tendon of the extensor digitorum longus muscle and the peroneus tertius muscle, the collateral ligaments and the tendon of the popliteus muscle and the cranial and caudal cruciate ligaments could be seen. The cranial and caudal, lateral and medial meniscotibial ligaments, the meniscofemoral ligament and the lateral femoropatellar ligament could be localized but not at all times clearly identified without intra-articular contrast, while the medial femoropatellar ligament could not be identified. The cartilage of the femoropatellar and femorotibial joints, the cranial and caudal cruciate ligaments and the cranial and caudal, lateral and medial meniscotibial ligaments could be evidently assessed on the post-contrast

sequence. The exact outline of the meniscofemoral ligament was still difficult on the post-contrast sequence.

**Conclusions and Clinical Relevance:** CT of the equine stifle can be of great value when radiography and ultrasonography are inconclusive or to define the extension of the lesions. The images of this study will serve as a CT reference of the equine stifle.