

Public Abstract

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Title:Comprehensive characterization of canine meniscal pathology

Meniscal injury is one of the most common causes of pain and dysfunction in the human knee and canine stifle joint. In the canine patient, meniscal injury is usually secondary to cranial cruciate ligament rupture, and the resulting instability in the joint. Despite the prevalence of meniscal disease, the literature contains relatively few reports addressing mechanisms of disease for cranial cruciate ligament-associated meniscal injury. Diagnosis of meniscal tears can be challenging based on clinical signs and history alone, and diagnostic tests to confirm tearing can be expensive, invasive, and unavailable in some areas. Additionally, controversy remains regarding standard of care for treatment of the canine meniscus. Therefore, our overall line of research was to comprehensively characterize canine meniscal pathology with focus on three areas: 1) comparison of clinical and bench top measures of meniscal pathology in early meniscal disease, 2) comparison of diagnostic modalities for pathology of the caudal portion of the medial meniscus, and 3) investigation of the effects of a commonly utilized treatment of the medial meniscus. From these three studies the following conclusions were drawn: 1) Pathology is present within the menisci prior to gross appearance, 2) Basic science and clinical outcome measures correspond well, 3) Ultrasound appears to be more accurate than MRI for diagnosis of caudal medial meniscal pathology; however, arthroscopy is the most accurate clinical modality, 4) MRI detects very subtle changes in the meniscus, 5) Medial meniscal release causes osteoarthritis. These conclusions have immediate implications for clinical decision making by the veterinary surgeon and prognostication for the canine owner.