

## **Radiographic Hallmarks Of Cruciate Ligament Disease In Small And Large Breed Dogs.**

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**Introduction:** Radiographs are a commonly used diagnostic test for cranial cruciate ligament disease (CCLD) in dogs. This study assessed radiographic changes in small and large breed dogs with CCLD to determine if there is a difference in radiographic appearance.

**Methods:** Orthogonal stifle radiographs and medical records from the initial diagnostic workup at one institution were reviewed. Inclusion criteria were radiographs of canine stifles with arthroscopic confirmation of CCLD, with either a full or partial tear. Cases were excluded if any other stifle pathology was identified. Reviewers (JH, JB) were blinded, and the radiographs were assessed via a validated scoring system for CCLD.<sup>1</sup> Binary and ordinal logistical regression was applied to each variable for each observer individually, with  $P < 0.05$  considered significant. Cohen's Kappa test was used to assess interobserver variability.

**Results:** A total of 298 canine stifles (149 small-breed, 149 large-breed) were selected from 7 years of records. Both observers identified there was a statistically significant difference in score for patella osteophytosis, trochlear groove osteophytosis, joint effusion, intra-articular mineralisation and global osteoarthritis between small-breed dogs and large-breed dogs. The interobserver agreement was found to have a Kappa of fair to moderate depending on the variable (range of 0.16 - 0.41).

**Conclusion:** Small-breed dogs with CCLD had less severe radiographic changes compared to large-breed dogs with CCLD. This finding may impact the early diagnosis of CCLD in small-breed dogs. Further research is warranted to investigate the underlying causes of these differences and their clinical significance.

### References:

1. Agnello KA, Holsworth IG, Caceres AV, Brown DC, Runge JJ, Schlicksup M, Hayashi K. Articular cartilage lesions of the patellofemoral joint in dogs with naturally occurring cranial cruciate ligament disease. *Vet Surg* 2014;43(3):308-15.