Title: Canine humeral condyle growth center closing times – tomographic determination of closing times in spaniels and non-spaniel breeds, with inter-modality agreement

Investigators:
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Study description:
Incomplete Ossification of the Humeral Condyle (IOHC) is a condition presumed hereditary and with devastating consequences for those affected patients which develop spontaneous intraarticular fractures. IOHC most commonly affects Spaniel dogs, and various other breeds sporadically. Awareness about this condition is increasing, and with the rising availability of computed tomography (CT) in general practices is an emerging need to develop proper guidelines for the evaluation of the intracondylar humeral growth plate, the incomplete fusion of which represents IOHC. Intracondylar closing times have been established radiographically in very few individuals of breeds not affected with IOHC, and radiography has been found to have only fair sensitivity for IOHC compared to CT.

The aim of this project is to determine true intracondylar growth plate closing times with MRI in healthy puppies, with CT and radiographic correlation, both in Spaniels and in "non-Labrador, non-chondrodystrophic, non-Spaniel" dogs. For this, 12 puppies in each group will have their elbows evaluated twice at 2-week intervals, starting between the ages of 119 and 154 days, and ideally until time of fusion.

Costs associated with the visit, sedation and anesthesia, imaging (radiographs, CT and MRI), and subsequent analysis will be paid for by the study.

Duration of study:
The study is currently OPEN. Enrollment opportunities are limited and will terminate when the target enrollment is filled.

Potential benefits to veterinary medicine:
This data will provide a deeper understanding of the maturation of the elbow complex, and by extension of IOHC pathology, give practitioners clearer directives for the classification of this growth plate’s status (pathologically open vs age-appropriate), and provide a basis for the screening of breeding and working dogs and for the genetic analysis of this condition.