

Fully Funded Clinical Trial on Cranial Cruciate Ligament Disease in Labrador retriever.

University of Illinois, Small Animal Clinic, Orthopedic Research Laboratory.

Study title: Anatomic, Radiographic and Computed Tomographic Characteristics of the Rear Limbs in Labrador Retrievers with and without Cranial Cruciate Deficiency.

Purpose of Study: Cranial cruciate ligament (CCL) deficiency represents one of the most common orthopedic problems resulting in hind limb lameness in dogs and is considered the major cause of instability and degeneration of the knee joint. Our long term objective is to identify measures, such as physical therapy to correct muscle imbalance and/or surgical alteration of growth plates to prevent CCL deficiency in dogs. This research project will determine the usefulness of radiographs, bone density measurements and Computer Tomography (CT) evaluations of the hind limb conformation in Labrador Retrievers as a means of identifying differences in dogs with CCL deficiency and normal dogs.

Eligibility: Eligible dogs will include only pure-bred Labrador Retrievers that will meet the criteria of one of the 2 following groups:

Group 1: Dogs without history or current orthopedic disease and a minimum age of 8 years.

Group 2: Adult dogs with weight bearing lameness due to non-traumatic partial CCL disease. Diagnosis of CCL will be confirmed by either arthroscopy or exploratory arthrotomy at the time of surgical treatment of the CCL disease.

Procedures: *Physical examination* and *radiography* of the rear limbs are part of the routine assessment of dogs with CCL disease. The general conformation of the rear limbs, range of motion of the joint, muscle girth of thigh and tibia (lower leg), joint effusion and laxity will be evaluated in both standing position and lateral recumbency, after sedation. Radiography and *Dual Energy XRay absorptiometry* (to measure bone mineral density and lean body mass) will be performed under sedation. *Computed Tomography* (scanner) of the rear limbs will be performed during the anesthetic episode required for the dental cleaning (group 1) or surgical repair of CCL disease (group 2). Owners may be invited to have the *gait* (walk) of their pet *analyzed* at the University of Illinois College of Engineering Human Dynamics and Controls Lab. This will require transporting animals to the Engineering campus by the owners or Dr Mostafa. None of the procedures done for this study will be invasive or painful.

Associated Risks: No complication is specifically associated with the diagnostic tests listed in this study. The only minor risk of complication will be associated with sedation (utilized for physical examination, DEXA scanning, radiography), and general anesthesia (required for CT, dental cleaning / surgical repair of CCL). Potential risks may include hypotension, hypertension, cardiac arrhythmia and in extremely rare cases may result in death. These risks would be similar to those expected during a routine dental cleaning (Group 1) or surgical repair of CCL disease (Group 2).

Compensation:

Healthy Dogs: Physical, orthopedic and neurological examinations will be performed on dogs enrolled in the study without charge to participating clients. These animals will also receive a baseline DEXA scan, CT, radiographs of both hind limbs and routine dental cleaning at no cost to the client. However, any other procedures performed (including dental procedures) that are not directly related to the project will be the responsibility of the client.

Dogs with CCL disease: Orthopedic examination, gait analysis, sedation, DEXA scanning, CT, radiographs of both hind limbs will be provided without cost to the client. However, any other procedures performed that are not directly related to the project will be the responsibility of the client, as is all hospitalization that may be required.

Contact information: Questions about this project may be directed to Ms Carrie Bubb, at telephone number (217) 265-5533. Referring veterinarian and/or client calls are welcome.