



Funded Study: Treatment of canine osteosarcoma with external beam radiation.

Study Title: A Study to Explore the Effect of External Beam Radiation on the Strength and Histology of Long Bones in a Canine Model

Purpose of Study: Our goal is to explore the effects of external beam radiation in a canine model. Dogs are an animal model for humans, in which the anatomical design, mechanics of movement, and demands of load closely reflect humans. Any discoveries will be relevant and translatable to both humans and dogs.

Inclusion Criteria:

- Canine patients with cytologic, histologic, or highly suspicious diagnosis (based on breed, location, and radiographic appearance) of primary appendicular osteosarcoma (OSA)
- Patients must be ambulatory and weight bearing.

Exclusion Criteria:

- Dogs with any serious systemic disorder that would preclude safe anesthesia.
- Evidence of pathologic fracture

Eligibility Diagnostics:

- CBC, Chemistry Panel
- Cytology or histopathology consistent with sarcoma

Treatment/Protocol: Patients will be treated with 2 consecutive treatments of coarse fraction radiation therapy consisting of two successive daily treatments of 8 Gy radiation (total over the 2 days of 16 Gy) under general anesthesia to both the tumor and a segment of normal bone on a different leg. A quality-of-life survey will be sent online to owners. At the time of death or euthanasia, all 4 limbs will be removed to evaluate bone changes. These are collected for investigation into the changes caused by radiation therapy. Dogs are allowed to undergo subsequent medical treatments including chemotherapy, additional radiation therapy, or injectable bisphosphonates.

Compensation: The client is responsible for any costs associated with the normal work-up of OSA (routine blood work, chest and leg x-rays, and cytology/biopsy of the mass), enrollment criteria and the treatment of any complications that may arise, as well as unrelated medical conditions. The palliative radiation therapy and hospitalization during treatment will be covered free of charge. If a planning CT is needed for radiation planning that expense will be at the owner's cost. You will also receive a \$400 in hospital credit on your account to offset the cost of pain medication.

Contact Information: Please feel free to contact our Clinical Trials Coordinator, Rebecca Kamerer, at (217) 300-6453 or rross81@illinois.edu to refer a patient or for any additional information. Referring veterinarian and client calls are welcome.