Pain management in dogs undergoing knee surgery

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The purpose of this study is to compare post-operative pain management after orthopedic surgery in dogs receiving gabapentin alone, versus a non-steroidal anti-inflammatory (NSAID) medication alone, versus gabapentin and NSAID combined. Gabapentin is commonly prescribed, and while known to be safe, the efficacy of gabapentin for pain control acutely after orthopedic surgery in dogs is not known.

Dogs enrolled in this trial will have a complete physical and orthopedic examination in the normal course of the orthopedic appointment. Further screening will include radiographs of the affected limb and full blood work and urinalysis. Dogs will be randomized into one of 3 study groups (all groups receive pain medication(s)); dogs have a 1/3 chance of being in each of the groups. If on pain medications prior to surgery, a 5 to 30 day "wash-out" (depending on the exact medication) ("wash out" = no pain medications) will be required prior to surgery. Upon return to the hospital for surgery, we will perform a gait analysis (walking on a pressure-sensing mat), pain scoring, and a blood draw for drug levels. A tibial plateau leveling osteotomy (TPLO) surgery will be performed in standard fashion with standard anesthesia. Each enrolled dog will stay in-hospital for 2 days after surgery for pain assessment and treatment, gait analysis, and blood draw for drug levels. Study patients will be sent home with 12 days of pain medications, and we will need to see each dog back at 12 days after surgery for suture removal as well as pain assessment, gait analysis, and blood draw for drug levels. Following the 12-day post-operative appointment, the study will be finished but we will continue to work with each case during the normal 3–4-month recovery period from TPLO surgery.

Client Compensation:
Participants will receive a $200 credit toward their account at the VMC. Blood work (CBC, chemistry, drug levels), and urinalysis will also be performed at no cost to clients. Additionally, 1 day of hospitalization and all study medication will be provided at no cost.

Potential Medical Benefits:
This study will provide veterinarians with information on the efficacy of gabapentin for the treatment of pain in dogs with acute and chronic pain.

Potential Medical Risks:
All medications used in this trial are commonly administered to dogs. Potential risks include GI upset and changes in urination. Additionally, sedation may occur. It is possible dogs will experience unexpected side effects and their condition may not improve or it may worsen. Dogs will be observed closely for side effects and appropriate medical care will be provided.

What qualifies my pet for enrollment?

Inclusion Criteria:

Eligible patients (any breed of dogs) must meet all the following:

- Weigh between 15-50 kg (33-110 lbs)
- Have hind limb lameness (Only one side)
- Diagnosed with rupture of knee ligaments (cranial cruciate ligament rupture) and scheduled for TPLO surgery.
- Dogs must have an otherwise normal physical examination.

Exclusion Criteria:

- Dogs with additional clinical orthopedic disease (lameness, atrophy, discomfort upon manipulation of other joints)
- >1/4 MPL or additional bony deformities on the limb to be operated on.
- If radiographs reveal a TPA of >35 degrees.

The Ohio State University Veterinary Medical Center

- If any concerns arise on complete blood cell count, serum biochemistry, or urinalysis that could indicate the animal cannot tolerate study medications.

Diagnosis/Condition Being Studied: Rupture of knee ligaments (cranial cruciate ligament rupture).

Intervention Name: Gabapentin alone, versus a non-steroidal anti-inflammatory (NSAID) medication alone, versus gabapentin and NSAID combined.

Primary Outcome:
Pain management after orthopedic surgery.

Primary Outcome Measure:
Gait analysis (walking on a pressure-sensing mat), pain scoring, and a blood draw for drug levels will be performed.

Primary Outcome Endpoint:
Following the 12-day post-operative appointment, the study will be finished but we will continue to work with each case during the normal 3–4-month recovery period from TPLO surgery.

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If you believe your pet may be eligible for this study, please fill out a pre-screening questionnaire.

Pre-Screen HERE