EVALUATION OF ACUPUNCTURE FOR TREATMENT OF PAIN ASSOCIATED WITH OSTEOARTHRITIS IN DOGS

Purpose: The purpose of this study is to investigate whether acupuncture will result in improvement of clinical signs in dogs affected by naturally-occurring osteoarthritis.

Study Design: The study will randomly assign dogs with arthritis of the elbow, shoulder, stifle or hip joint to undergo two treatment periods of 4 weeks during which the participants will receive either no treatment (placebo) or acupuncture. Owners will not be allowed to attend the treatments to accomplish blinding to the treatment. Efficacy of the treatment will be evaluated by owner questionnaires, objective gait analysis, activity counts and veterinary assessment. The study spans over 3 months and involves approximately 11 visits to the VTH.

Inclusion Criteria*:

- Body weight ≥10kg
- Irregular gait/visually identifiable unilateral lameness that is consistent
- Confirmed osteoarthritis (X-rays required within 6 months) of the elbow, shoulder, stifle, hip
- At home assessment by owner (owner questionnaires) showing impairments that can be defined (such as not jumping into truck, less active etc.)
- Generally healthy with no other indication of systemic disease (confirmed through bloodwork)
- Consistent OA-treatment protocol for at least 4 weeks (i.e. no further changes anticipated in treatment regime – including weight loss)
  - NSAIDs can be continued and owners can d/c during study if the dog’s pain decreases with treatment

- Owner agrees to:
  - Adhere to recheck schedule as outlined below
  - Adhere to current treatment regime unless a change is recommended by us or primary DVM (in which case owner agrees to notify us)
  - Allow canine tracking device on CSU issued collar to be worn 24/7 for duration of the study
  - Fill out DAILY activity/medication log for duration of the study
  - Fill out owner questionnaires at (some) rechecks
Benefits of Participation:

- Orthopedic examination by a board-certified surgeon
- Radiographs to confirm or rule out osteoarthritis
- All costs related to the study will be fully covered
- Free acupuncture treatments (incl. 4 additional treatments after study completion)
- Once the study is completed patients are eligible for enrolment in our stem cell study that provides free stem cell therapy (2/3) or hyaluronic acid (1/3) joint injections.

Required Visits:

A total of approximately 12 visits are required over the course of 3-4 months (depending on the length of the breaks in between treatment periods):

Date: __________ (Week 0) – Initial visit:

Evaluation for study participation (may continue to enrolment visit if inclusion criteria fulfilled)**:

☐ Orthopedic and general physical exam to check for orthopedic and systemic problems
☐ Discussion of CSU’s standard OA pain regime (to assess whether other modifications of current pain regime should be considered prior to enrolment in study – NOTE: this will disqualify for enrolment until consistent treatment stage accomplished)***
  - Weight loss (if overweight)
  - Physical therapy/exercise modification
  - NSAIDs (such as Rimadyl 2.2mg/kg BID)
  - Gabapentin (~5mg/kg TID)
  - Fish Oil (such as Welactin liquid at max 310mg/kg X BW^{0.75} for BCS 4-5/9, 100mg/kg X BW^{0.75} for BCS ≥6/9 in increasing increments, starting with ¼ dose)
  - Glucosamine CS (such as Dasuquin - as directed on label, BID for 4 weeks, then SID)
  - Adequan injections (4.4mg/kg SQ 2x weekly X 4 weeks, then 1x weekly X 4 weeks, then 1x monthly)
☐ Gait analysis to quantify degree of lameness
☐ Subjective Outcome Scoring (SOS) to quantify degree of physical limitations
☐ CBPI to quantify daily limitations
☐ CSOM to quantify daily limitations – define current limitations with owner****
☐ Baseline bloodwork to assure systemic health
☐ X-rays of the affected joint (if not available within last 6 months) to confirm OA

Please contact Kelsie Condon at Kelsie.Condon@colostate.edu or by calling (970) 297-5000 with any questions
Date: __________ (Week 0) – Enrolment visit:

☐ Attach Actical activity monitor to pet
☐ General physical and orthopedic exam****
☐ Gait analysis
☐ Subjective Outcome Scoring (SOS)
☐ CBPI
☐ CSOM
☐ Provide owner with activity log

Date: __________ (Week 1)

☐ General physical and orthopedic exam****
☐ Collect owner activity log/discuss any changes in activity/lameness/systemic health****
☐ Download Actical data - make sure device is working
☐ Gait analysis
☐ Subjective Outcome Scoring (SOS)

Date: __________ (Week 2)

☐ General physical and orthopedic exam****
☐ Collect owner activity log/discuss any changes in activity/lameness/systemic health****
☐ Gait analysis
☐ Subjective Outcome Scoring (SOS)

Date: __________ (Week 3)

☐ General physical and orthopedic exam***
☐ Collect owner activity log/discuss any changes in activity/lameness/systemic health***
☐ Acupuncture or placebo treatment
☐ Gait analysis AFTER treatment
☐ Subjective Outcome Scoring (SOS)
☐ CBPI
☐ CSOM
Date: __________ (Week 4)

☐ General physical and orthopedic exam***
☐ Collect owner activity log/discuss any changes in activity/lameness/systemic health***
☐ Acupuncture or placebo treatment
☐ Gait analysis BEFORE treatment
☐ Subjective Outcome Scoring (SOS)

Date: __________ (Week 5)

☐ General physical and orthopedic exam***
☐ Collect owner activity log/discuss any changes in activity/lameness/systemic health***
☐ Acupuncture or placebo treatment
☐ Gait analysis BEFORE treatment
☐ Subjective Outcome Scoring (SOS)

Date: __________ (Week 6)

☐ General physical and orthopedic exam***
☐ Collect owner activity log/discuss any changes in activity/lameness/systemic health***
☐ Acupuncture or placebo treatment
☐ Gait analysis BEFORE treatment
☐ Subjective Outcome Scoring (SOS)

Date: __________ (Week 7) – NOTE: this visit can be completed online

☐ General physical and orthopedic exam***
☐ Collect owner activity log/discuss any changes in activity/lameness/systemic health***
☐ Gait analysis
☐ Subjective Outcome Scoring (SOS)
☐ CBPI
☐ CSOM
NOTE: the next visit is flexible – i.e. owners can take a longer break here (up to 4 weeks max but should be at least 2 weeks for wash-out in between)

Date: __________ (Week 8)
- General physical and orthopedic exam***
- Collect owner activity log/discuss any changes in activity/lameness/systemic health***
- Ask owners if they believe their dog benefited from the treatment ***
- Acupuncture or placebo treatment
- Gait analysis AFTER treatment
- Subjective Outcome Scoring (SOS)
- CBPI
- CSOM

Date: __________ (Week 9)
- General physical and orthopedic exam***
- Collect owner activity log/discuss any changes in activity/lameness/systemic health***
- Acupuncture or placebo treatment
- Gait analysis BEFORE treatment
- Subjective Outcome Scoring (SOS)

Date: __________ (Week 10)
- General physical and orthopedic exam***
- Collect owner activity log/discuss any changes in activity/lameness/systemic health***
- Acupuncture or placebo treatment
- Gait analysis BEFORE treatment
- Subjective Outcome Scoring (SOS)

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Date: __________ (Week 11)

☐ General physical and orthopedic exam***
☐ Collect owner activity log/discuss any changes in activity/lameness/systemic health***
☐ Ask owners if they believe their dog benefited from the treatment (i.e. assuming that acupuncture helps)***
☐ Acupuncture or placebo treatment
☐ Gait analysis BEFORE treatment
☐ Subjective Outcome Scoring (SOS)
☐ CBPI
☐ CSOM

Date: __________ (Week 12)

☐ General physical and orthopedic exam***
☐ Collect owner activity log/discuss any changes in activity/lameness/systemic health***
☐ Gait analysis
☐ Subjective Outcome Scoring (SOS)
☐ CBPI
☐ CSOM
☐ Retrieve Actical and download data
☐ Consider enrolment in stem cell study