THE UNIVERSITY of TENNESSEE
CONFERENCES & NON-CREDIT PROGRAMS
KNOXVILLE

& SCHLOSS-SEMINAR
CONTINUING EDUCATION FOR VETERINARIANS

CERTIFIED CANINE REHABILITATION PRACTITIONER

Information for Participants in the Certificate Program in Canine Physical Rehabilitation

CCRP

Canine VI - Externship/Case Studies

Table of Contents

General Information

- Cost: 495,- Euro + Tax (including case evaluation Part VI)

- Register with U-TENN&Schloss-Seminar at www.u-tenn.org/home/exam/

- Five canine case studies are required for course six (1 feline case is acceptable):
  - Two Orthopedic cases
  - Two Neurologic cases
  - One case of your own choosing
  - Case Study Deadlines (no exceptions will be made):

Exam Date	Case Studies Due No Later Than
24th March 2015 Cape Town	31th January 2015
20st July 2015 Vienna	31th May 2015
16th October 2015 Majorca	31th July 2015

- Case studies must be original work of the participant and the dogs must have been treated by the participant as well.
  - Case studies cannot:
    - Be developed using information found in patient files (cases must come from active patients)
    - Include patients the participant treated and discharged prior to him or her completing Part I-IV
    - Be started prior to successful completion of Part I-III
  - Case studies must be original and current work.

- The attached standard format must be used.
  - Case studies not adhering to this format will not be accepted and will be returned to the participant.

- Submitted case studies:
  - Will be reviewed by one or more instructor(s)
  - Must be approved in order:
    - For a certificate of completion to be issued
    - For the participant to take the certification exam

- The pre-requisite for Part VII, the certificate exam:
  - Successful completion of courses I, II, III, IV, V
  - Successful completion of externship (VI)
  - No outstanding balance
  - Completion and approval of 5 cases

Questions about your case studies?
Please email Beate Egner at beate.egner@u-tenn.com

Where do I send my final case studies?
After registering for the exams, you will be provided with an access to upload your cases.
Please use this upload option for
a) Your five cases
b) Upload of your clinical log 6 form

Standards

Veterinarians and Veterinary Technicians will:

1. Complete their clinical observation at either a human physical therapy practice/clinic, or a canine rehabilitation center.
   Participant must observe a licensed human or canine physical therapist.
2. Spend a minimum of 40 hours observing patient treatments and interacting with physical therapists and/or physical therapist assistants at a physical therapy clinic, or a canine rehabilitation clinic.
3. Observe a variety of patients and rehabilitation techniques.
4. Be responsible to make sure the sponsoring physical therapist documents the hours spent at the clinic. It is not necessary for participants to spend 40 consecutive hours at the clinic, or to spend all hours at a single clinic. The goal is for participants to gain an appreciation for contemporary physical therapy treatment and have an adequate appreciation for progression of patient care.

Physical therapists and physical therapy assistants will:

1. Complete their clinical observation at a veterinary clinic/hospital (the clinic does not need to provide rehabilitation).
2. Choose the site and location of this observation however:
   a. It must be at a veterinary clinic/hospital.
   b. Participant must observe a licensed veterinarian.

3. Spend a minimum of 40 hours observing patient treatments and interacting with veterinarians at a veterinary clinic/hospital.

4. Observe a variety of patients and rehabilitation techniques.
5. Be responsible to make sure the sponsoring veterinarian documents the hours spent at the clinic. It is not necessary for participants to spend 40 consecutive hours at the clinic, or to spend all hours at a single clinic. The goal is for participants to gain an appreciation for contemporary veterinary practice and have an adequate appreciation for progression of patient care.

Using a Pre-Approved Externship Site

- Externship pdf at www.u-tenn.com
- Participants are responsible for:
  - Paying all clinic fees.
    - Please contact the clinic directly to find out the daily fee charged.
  - All travel and room and board expenses.

The following should be discussed with the therapist at the clinic prior to arranging a visit:

- Length of stay.
- Goals you wish to achieve.
- Training you wish to obtain.

Review

Case Studies

1. Part I - III must be completed prior to beginning your case studies, Part IV before completion.
2. Each participant is expected to complete five canine case studies; two in ortho, two in neuro and one of their own choosing.
3. Case studies cannot be developed based solely on patient files or past patient treatment.
4. Case studies must reflect original and current hands-on rehabilitation by the reporting participant.
5. Case studies should include an initial evaluation, at least ten treatments and a discharge. Ideally, the participant should follow the animal through the course of its rehabilitation treatment.

Observation

1. Veterinarians and veterinary technicians must observe a licensed physical therapist or CCRP. They cannot observe a physical therapist assistant, veterinarian without the degree of a CCRP or a veterinary technician. The physical therapist is responsible for making sure you meet the competency requirements of Part VI.
2. Physical therapists and physical therapist assistants must observe a licensed veterinarian. They cannot observe a physical therapist, physical therapist assistant or a veterinary technician. The veterinarian is responsible for making sure you meet the competency requirements of Part VI.
3. If you are completing all 40-hours at a Pre-Approved Site you simply need to turn in all the forms prior to starting your observation, you do not need to receive prior approval.
4. If you are completing your 40-hours at a site that is not pre-approved, you must receive site and supervisor approval a minimum of 30-days prior to beginning your observation from UTENN/ Schloss-Seminars. Failure to do so could mean that the hours you complete prior to receiving approval will not be accepted and counted toward the 40-hour fulfillment requirement.
5. If you are planning to do part of your 40-hours at a pre-approved site and the other part somewhere else, you still need to have your secondary site and supervisor approved a minimum of 30-days prior to beginning your observation.
6. Observation hours and case studies do not have to be completed concurrently.

Case Study Format

Each case study will consist of four portions:

- History of the case
- Physical therapy evaluation
- Description of all of the physical therapy treatments
- Summary of the case

1. Each individual will be expected to write up five case studies, depending upon the length and complexity of the case.
2. Case study presentations should be similar to the cases presented in Part IV.
3. Photographs, pictures of radiographs, reports of diagnostic testing, and a signed referral from a veterinarian will be required on each case.
4. Case study formats must be in Microsoft word or a convertible file in order to facilitate correspondence via email. Large files have to be uploaded to the provided server. Secure to have a copy filed on your pc or a USB stick.
5. The participant will be expected to present one of the submitted cases at the Part VII examination.

History of the Case

Name:

Age:

Breed::

Sex: Altered:

- Dogs lifestyle/occupation:

- Brief history of dogs family history (i.e. adopted from Humane Society, owner has owned since puppy, etc):

- Brief history of problem in which dog is referred for (i.e. date of injury or onset of problem, how owners noticed a problem, type of problem noticed):

- Interventions (i.e. medication, restrictions, exercise, rest, etc.):

- Referring veterinarians diagnosis:

- Test Results (please include a photograph or digital picture of the appropriate test):
  - Radiographs
  - Laboratory results
  - CT Scan/MRI

- Surgery (if appropriate):
  - Type of procedure .
  - Date
  - Special surgical precautions

- Past medical history:

Evaluation

- Observation

- Gait Assessment (if lameness present[0-4] indicate degree and limbs utilize the lames scale you commonly use and site the source).

  - Walk:

  - Trot:

- PROM Affected joints with a comparison to uninvolved joints.

- Neurological testing (all appropriate neurological testing, results, and meaning of the outcomes):

- Pain assessment [0-10] (using pain assessment scale from, Matthews, K.A., Pain assessment and general approach to management, Management of Pain, The Veterinary Clinics of North America, Small Animal Practice, July 2000, p. 729-755):

  - Assessment:

  - Problems

- Goals

- Treatment Plan (examples):

  - Home exercise program
  - Program within clinic or hospital
  - Instructions for technicians/assistants
  - Turning schedule
  - Gait schedule

Actual History of Treatment

Please provide descriptions of the individual treatments in S.O.A.P. format. In addition, please include photographs of the dog during treatment.

- **S**ubjective
- **O**bjective
  - Treatment and parameters
    - Modalities
    - Therapeutic exercise
    - Manual intervention
  - Owner education
  - Home exercise program
  - Program within the hospital
  - Measurable outcomes
  - Observation of gait pattern, function, etc.
- **A**ssessment
  - Progress
  - Deficits remaining from initial plan
  - Assessment of barriers
  - Remaining problems and goals
- **P**lan - plan of care for next visits

Discussion

The discussion should include the following information buy may also include additional information relevant to this patient treated.

How many visits?

Veterinarian feedback:

Owner compliance:

How do you feel physical therapy made a difference in this particular case?

What is your speculation of the case if the patient did not receive physical therapy?

What could have been altered in the physical therapy care of this case?

Where there any barriers to the outcome of the case?

How was billing performed in this case?

Competencies

VETERINARIANS (VET)/Physiotherapists (PT)/Veterinary Technicians (V TECH)

TITLE: Certified Canine Rehabilitation Practitioner (CCRP)

At the completion of this certificate program, the participant will be able to:

1. Describe the benefits of physical rehabilitation and its role in veterinary practice
2. Adopt terminology from a physical rehabilitation perspective to include terms such as, but not limited to, those defined in the www.utc.edu/canine glossary
3. Describe and have a working knowledge of the canine anatomy and physiology as related to rehabilitation
4. Palpate bony landmarks and soft tissue structures on a live dog
5. Define muscle groups, ligaments, joints and nerve supplies in a dog
6. Describe and have a working knowledge of common orthopedic and neurologic conditions and their basic medical and surgical management
7. Describe common breed-specific orthopedic and neurologic conditions
8. Describe and have a working knowledge of tissue responses to injury and the effects of immobilization and remobilization
9. Describe and have a working knowledge of time frames for tissue healing in dogs
10. Describe canine behavior and safety issues as related to rehabilitation
11. Describe and demonstrate correct safety precautions / techniques for yourself (e.g. body mechanics, when to apply restraint techniques in rehabilitation)
12. Describe and demonstrate correct techniques for your canine patients [e.g.-towel-walking, weight-bearing status, hydrotherapy, passive range of motion (PROM)]
13. Describe mechanisms of action, side effects and physiology behind commonly used analgesics, NSAIDS and chondroprotectants and their effects on recovery
14. Identify common canine conditions and how they may benefit from rehabilitation
15. Describe and have a working knowledge of basic surgical procedures as related to rehabilitation

16. Describe and have a working knowledge of physical rehabilitation procedural interventions (e.g.range of motion, therapeutic exercise, use of assistive devices, functional mobility training) and their benefits

17. Cite the concepts of outcome assessment and be able to demonstrate their application on dogs (e.g.-goniometric measures, limb girth, effusion measures, etc.)

18. a. Determine any contraindications or precautions to rehabilitation based on the dogs medical history, surgical history, past medical history and/or physical examination. (VET)
    b. Recognize illnesses that require emergency medical intervention and provide emergency transport and referral as appropriate (PT, V TECH)

19. Describe the role of rehabilitation in the management of the recumbent dog

20. Describe normal and abnormal gait, muscle and joint biomechanics in the dog

21. Evaluate a dogs gait and other functional movements

22. Cite the mechanisms of action, uses, benefits, contraindications and risks for physical agents and mechanical modalities (e.g.- hot and cold therapy, ultrasound, electrical stimulation, etc.)

23. Demonstrate correct application of physical agents and mechanical modalities in specific cases

24. Describe the types, uses, benefits, contraindications and risks of massage

25. Demonstrate basic massage techniques

26. Develop and describe the rationale behind a rehabilitation plan of care for specific conditions

27. Establish realistic rehabilitation outcome goals for canines

28. Demonstrate the appropriate progression of a plan of care for canine patients with consideration of prevention of injury for the owner/caretaker

29. Develop training programs / wellness programs to prevent potential future pathologies in athletic and working dogs

30. Demonstrate correct basic therapeutic exercise techniques (e.g.- PROM, strengthening techniques, proprioceptive exercises, etc.), as well as when to start intervention or progress intervention

31. Discuss the benefits, precautions and contraindications associated with hydrotherapy

32. Describe various types of coaptation devices (i.e.-Ehmer slings, Robert Jones bandages, splints, slings etc.) and orthotics, their indications and contraindications, their advantages and disadvantages and complications associated with each

33. Explain different types of mobility equipment (e.g. carts, assistive devices) and their advantages and disadvantages

34. Develop and describe considerations in the development of individualized home care programs according to specific conditions

35. Demonstrate effective communication via record keeping as related to rehabilitation

36. Describe the education and scope of practice for a licensed veterinarian, physical therapist, certified veterinary technician and physical therapist assistant regarding to rehabilitation

37. Define the roles of veterinarians, physical therapists, physical therapist assistants, and veterinary technicians in the collaboration of canine rehabilitation regarding individual state practice acts

Case Study 1 - Orthopaedic

History of the Case

Name: Suzie Q
Age: 5½ months
Breed: Cross breed
Sex: Female **Altered:** Yes - spayed

Dog's lifestyle/occupation: Household pet / family member

Brief history of dog's family history (i.e. adopted from Humane Society, owner has owned since puppy, etc):
The owner found Suzie Q when she was 8 weeks of age and decided to adopt her.

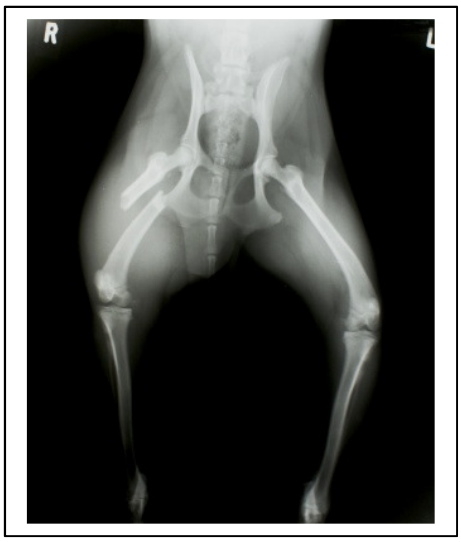
Brief history of problem in which dog is referred for (i.e. date of injury or onset of problem, how owners' noticed a problem, type of problem noticed):
Suzie Q was hit by a car. Her owner brought her immediately to the practice for emergency treatment. On presentation, Suzie Q was non-weight bearing on her right hind limb. On palpation, a fracture of the right femur was suspected. There was a laceration over the left carpus. Otherwise, Suzie Q was bright and had pink mucous membranes. She was admitted into the hospital.

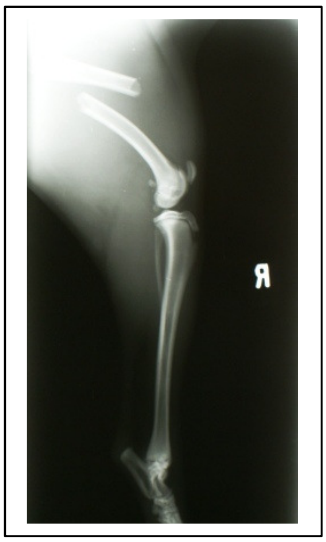
Interventions (i.e. medication, restrictions, exercise, rest, etc.):
Suzie Q was admitted into the hospital for cage rest and for radiographs to be taken the next morning.
Medication:
Buprenorphine (Temgesic) – 0.6ml IM;
Carprofen (Rimadyl) – 1.5ml SC;
Amoxicillin/Clavulanic acid (Synulox) – 1ml SC

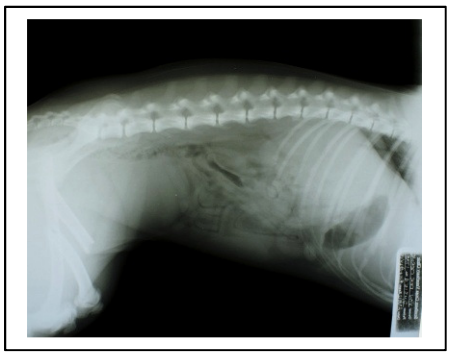
Veterinarian's diagnosis:
Fractured right femur and suspected avulsion of the tibial tuberosity.

Test Results:

- Radiographs

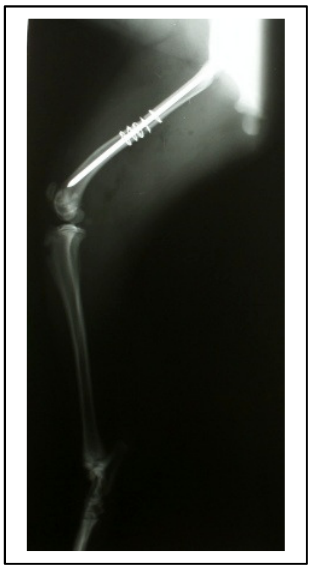






Surgery:

- **Date:**
- **Type of procedure:** Reduction of the femoral fracture and internal fixation using an intramedullary pin and five cerclage wires. The surgeon decided not to investigate the suspected tibial tuberosity avulsion. The laceration at the left carpus was stitched.
- **Special surgical precautions:** The surgeon was concerned that rotation at the fracture site would be a possibility.



Past medical history:
Course of three puppy vaccinations, a bout of mild enteritis and spay.

Evaluation

Observation:
There was a non-weight bearing lameness of the right hind limb and marked lameness of the left forelimb with a laceration over the carpus. Suzie Q was bright and alert with pink mucous membranes.

Gait Assessment:

Lameness Score: (Millis, D.L., Levine, D., Taylor, R.A., *Canine Rehabilitation & Physical Therapy*, Saunders, 2004, p. 212):

0 = Normal
1 = Slight, intermittent lameness
2 = Obvious weight bearing lameness
3 = Severe weight bearing lameness
4 = Intermittent non-weight bearing lameness
5 = Continuous non-weight bearing lameness

- **Walk:** Grade 5/5 lameness of the right hind limb. Grade 3/5 lameness of the left forelimb.

PROM – Affected joints with a comparison to uninvolved joints.
Emergency consult afterhours so did not take joint measurements.

Neurological testing (all appropriate neurological testing, results, and meaning of the outcomes):
No neurological deficits were observed.

Pain assessment [0-4] (using pain assessment scale from, Millis, D.L., Levine, D., Taylor, R.A., *Canine Rehabilitation & Physical Therapy*, Saunders, 2004, First Edition, p. 224):

0 = No pain on palpation of joint/limb.
1 = Mild pain. Palpation completed
2 = Moderate pain. Palpation completed with obvious pain noted

3 = Severe pain during palpation
4 = Will not allow palpation of joint/limb. Restraint/sedation needed

Right hind limb: 3/4
Left forelimb: 1/4

Assessment:

- **Problems:** Fractured right femur so non - weight bearing on right hind limb. Laceration over left carpus and weight bearing lameness on left forelimb.
- **Goals:** Surgical repair of fractured right femur, control pain, reduce inflammation and limit swelling. Healing of laceration over left carpus.

Treatment Plan:

- **Home exercise program:** N/A until discharged from hospital.
- **Program within clinic or hospital:** Inpatient therapy until discharged from hospital.
- **Instructions for technicians/assistants:** Patient to be taken outside on a lead four times daily for toileting.
- **Turning schedule:** N/A

Date

Observation:
Suzie Q was bright and alert with pink mucous membranes the morning following surgery. There was a toe touching lameness of the right hind limb and lameness of the left forelimb. The laceration over the left carpus was stitched.

Gait Assessment:

- **Walk:** Grade 4/5 lameness of the right hind limb. Grade 2/5 lameness of the left forelimb.

PROM – Affected joints with a comparison to uninvolved joints.

- **Thigh circumference:** Right - 21cm; Left - 22½ cm
- **Hip extension:** Right – 155 degrees; Left – 155 degrees
- **Hip flexion:** Right – 60 degrees; Left – 55 degrees
- **Stifle extension:** Right – 150 degrees; Left – 160 degrees
- **Stifle flexion:** Right – 40 degrees; Left – 60 degrees
- **Tarsus extension:** Right – 160 degrees; Left – 175 degrees
- **Tarsus flexion:** Right – 45 degrees; Left – 45 degrees

Neurological testing (all appropriate neurological testing, results, and meaning of the outcomes):

No neurological deficits were observed.

Pain assessment [0-4] (using pain assessment scale from, Millis, D.L., Levine, D., Taylor, R.A., *Canine Rehabilitation & Physical Therapy*, Saunders, 2004, First Edition, p. 224):

Right hind limb: 2/4
Left forelimb: 1/4

Assessment:

- **Problems:** Surgically repaired fracture of the right femur and weight bearing on right hind limb. Sutured laceration over left carpus and weight bearing lameness on left forelimb.
- **Goals:** Control pain, reduce inflammation, limit swelling, facilitate weight bearing and limit muscle atrophy of right hind limb. Healing of laceration over left carpus.

Treatment Plan:

- **Home exercise program:** N/A until discharged from hospital.
- **Program within clinic or hospital:** Inpatient therapy until discharged from hospital.
- **Instructions for technicians/assistants:** Patient to be taken outside on a lead four times daily for toileting.
- **Turning schedule:** N/A

Date

Observation:
Bright but not weight bearing on right hind limb and slight conscious proprioceptive deficit of right hind limb. Suzie Q was very uncomfortable on extension of the right hip.

Gait Assessment:

- **Walk:** Grade 5/5 lameness of the right hind limb.

PROM – Affected joints with a comparison to uninvolved joints.
Hip extension: Right – 100 degrees; Left – 160 degrees
All other joints were WNL.

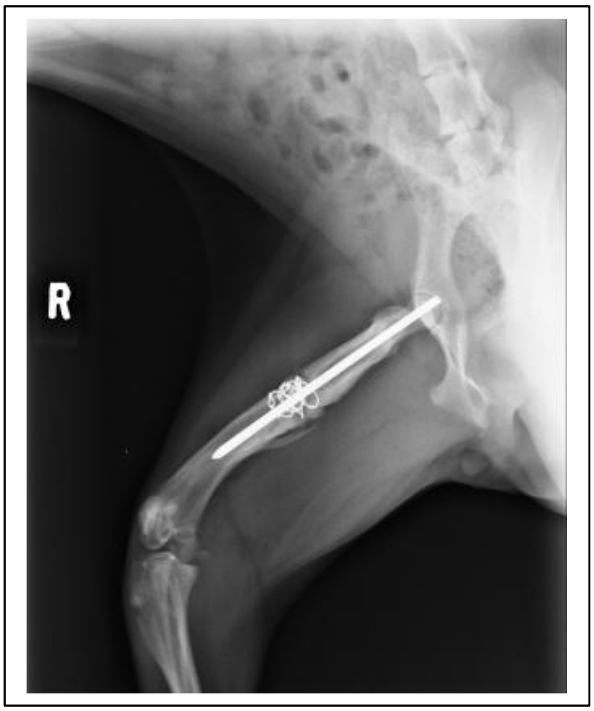
Neurological testing (all appropriate neurological testing, results, and meaning of the outcomes):
Conscious proprioceptive deficit of right hind limb. No other neurological deficits were observed.

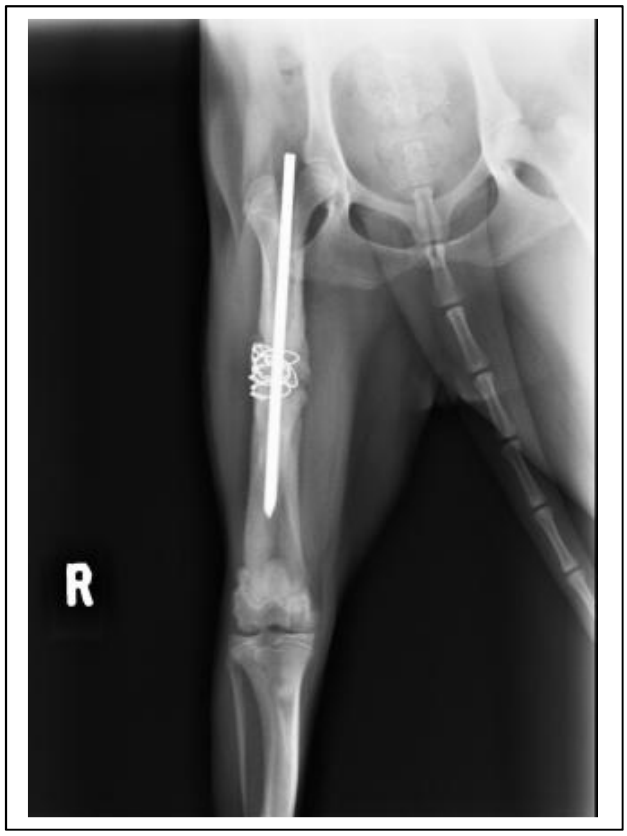
Pain assessment [0-4] (using pain assessment scale from, Millis, D.L., Levine, D., Taylor, R.A., *Canine Rehabilitation & Physical Therapy*, Saunders, 2004, First Edition, p. 224):

Right hind limb: 3/4

Assessment:

- **Problems:** Radiographs were taken. Pin migration from femur - affecting hip joint and sciatic nerve.





- **Goals:** Surgery to remove pin from femur. Control pain, reduce inflammation, limit swelling, facilitate weight bearing and improve right hip extension again.

Treatment Plan:

- **Home exercise program:** Continue once discharged from hospital.
- **Program within clinic or hospital:** Inpatient therapy until discharged from hospital.
- **Instructions for technicians/assistants:** Patient to be taken outside on a lead for toileting.
- **Turning schedule:** N/A

Actual History of Treatment

Date (Inpatient)

Subjective:

There was a non-weight bearing lameness of the right hind limb and marked lameness of the left forelimb with a laceration over the carpus. Suzie Q was bright and alert with pink mucous membranes. She was eating and urinating normally.

Objective:

Treatment and parameters

- **Modalities:**
  Ice packs applied to the right hind limb twice daily
- **Therapeutic exercise:** N/A
- **Manual intervention:**
  Supportive/pressure bandage was applied to the right hind limb and a light bandage was applied to the left carpus.
- **Medication:**
  Buprenorphine (Temgesic) – 0.6ml IM;
  Carprofen (Rimadyl) – 1.5ml SC;
  Amoxicillin/Clavulanic acid (Synulox) – 1ml SC

Owner education: The owner was informed regarding Suzie Q's condition.
Home exercise program: N/A
Program within the hospital: Inpatient therapy
Measurable outcomes:

- **Bodyweight:** 15kg

Observation of gait pattern, function, etc: Grade 5/5 lameness of right hind limb and Grade 3/5 lameness of left forelimb.

Assessment:

Progress: No progress
Deficits remaining from initial plan: Pain due to unstable right femoral fracture and laceration at left carpus. Grade 5/5 lameness of the right hind limb due to an unstable femoral fracture and Grade 3/5 lameness of the left forelimb.

Assessment of barriers: Unstable right femoral fracture so very limited physical rehabilitation possible until fracture is surgically repaired and is stable.
Remaining problems and goals: Surgical repair of right femoral fracture in 1 day. Suturing of the laceration at the left carpus during surgery.

Plan – plan of care for next visits:
Surgery was scheduled for the following morning. Continue ice packs and range of motion exercises immediately post-op. Continue analgesics for pain control.

Date (Inpatient)

Subjective:
There was a non-weight bearing lameness of the right hind limb and marked lameness of the left forelimb with a laceration over the carpus. Suzie Q was bright and alert with pink mucous membranes.

Objective:

Treatment and parameters:

- **Modalities:**
  Ice packs applied to the right hind limb immediately following surgery for 15 minutes.
- **Therapeutic exercise:** N/A
- **Manual intervention:**
  Range of motion exercises immediately following surgery and then an overnight, pressure bandage was applied to the right hind limb.
- **Medication:**
  Buprenorphine (Temgesic) – 0.6ml IM;
  Carprofen (Rimadyl) – 1.5ml SC;
  Amoxicillin/Clavulanic acid (Synulox) – 1ml SC

Owner education: The owner was informed regarding Suzie Q's condition and given feedback on the surgery.
Home exercise program: N/A
Program within the hospital: Inpatient therapy
Observation of gait pattern, function, etc: Grade 5/5 lameness of right hind limb and Grade 3/5 lameness of left forelimb prior to surgery.

Assessment:

Progress: No remarkable progress pre-op or immediately post-op.
Deficits remaining from initial plan: Grade 5/5 lameness of right hind limb and Grade 3/5 lameness of left forelimb prior to surgery.
Assessment of barriers: Unstable right femoral fracture as just surgically repaired so very limited physical rehabilitation possible until fracture is stable. Pressure bandage applied to right hind limb for overnight to limit swelling so can only continue with ice first thing tomorrow morning.
Remaining problems and goals: Facilitate weight bearing of right hind limb and pain control post-op. Reduce lameness of left forelimb which now has a light bandage covering the stitches at the left carpus.

Plan – plan of care for next visits:

Continue ice and range of motion exercises while hospitalized. Removal of the pressure bandage from the right hind limb in 1 day. Change the bandage on the left forelimb in 2 days. Continue analgesics to help with pain control.

Date (Inpatient)
Subjective:
Suzie Q was bright and alert with pink mucous membranes the morning following surgery. She was eating and toileting normally. There was a toe touching lameness of the right hind limb when the pressure bandage was removed and lameness of the left forelimb. The laceration over the left carpus was stitched and covered with a light bandage.

Objective:
Treatment and parameters:

- **Modalities:**
  Ice packs were applied to the right hind limb four times daily.
- **Therapeutic exercise:**
  Very brief periods of standing and taking weight on the right hind limb.
- **Manual intervention:**
  Range of motion exercises for both hind limbs four times daily
- **Medication:**
  Tramadol (Tramahexal) 50mg – 1 capsule BID PO;
  Carprofen (Rimadyl) 75mg – ½ tablet BID PO;
  Amoxicillin/Clavulanic acid (Synulox) 250mg – ½ tablet BID PO

Owner education: The owner was informed regarding Suzie Q's condition, progress and the physical rehabilitation methods that were being used.
Home exercise program: N/A
Program within the hospital: Inpatient therapy. Overnight pressure bandage removed.
Measurable outcomes:

- **Bodyweight:** 14.5kg
- **Thigh circumference:** Right - 21cm; Left - 22½ cm
- **Hip extension:** Right – 155 degrees; Left – 155 degrees
- **Hip flexion:** Right – 60 degrees; Left – 55 degrees
- **Stifle extension:** Right – 150 degrees; Left – 160 degrees
- **Stifle flexion:** Right – 40 degrees; Left – 60 degrees
- **Tarsus extension:** Right – 160 degrees; Left – 175 degrees
- **Tarsus flexion:** Right – 45 degrees; Left – 45 degrees

Observation of gait pattern, function, etc: Grade 4/5 lameness of right hind limb and Grade 2/5 lameness of left forelimb.

Assessment:

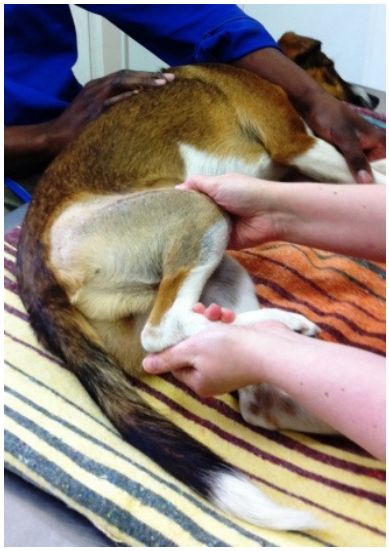
Progress: Toe touching of right hind limb and good pain control. Less lame on the left forelimb.

Deficits remaining from initial plan: Grade 4/5 lameness of right hind limb and Grade 2/5 lameness of left forelimb.
Assessment of barriers: Unstable right femoral fracture as just surgically repaired so very limited physical rehabilitation possible until fracture is stable. The surgeon also commented on the chance of rotation at the fracture site.
Remaining problems and goals: Facilitate weight bearing of right hind limb and continue good pain control. Reduce lameness of left forelimb which now has a light bandage covering the stitches at the left carpus.

Plan – plan of care for next visits:
Continue ice and range of motion exercises while hospitalized. Change bandage on the left forelimb tomorrow. Continue analgesics to help with pain control.

Date (Inpatient)
Subjective:
Suzie Q was bright and alert with pink mucous membranes. She was eating and toileting normally. Suzie Q was able to take more weight on her right hind limb and there was mild lameness of the left forelimb. The laceration over the left carpus was stitched and covered with a light bandage.
Objective:
Treatment and parameters:

- **Modalities:**
  Ice packs were applied to the right hind limb four times daily.
- **Therapeutic exercise:**
  Very brief periods of standing and taking weight on the right hind limb, though standing by herself in the cage and taking some weight on the right hind limb.
- **Manual intervention:**
  Range of motion exercises for both hind limbs four times daily.
- **Medication:**



Tramadol (Tramahexal) 50mg – 1 capsule BID PO;
Carprofen (Rimadyl) 75mg – ½ tablet BID PO;
Amoxicillin/Clavulanic acid (Synulox) 250mg – ½ tablet BID PO

Owner education: Yes, taught how to apply ice packs and perform range of motion exercises.
Home exercise program: Discharged from hospital with a home physical rehabilitation plan. The following was given to the owner:

Suzie Q Home Physical Rehabilitation Plan

Please attend regular check-ups so that Dr Kerr can monitor Suzie Q's progress and adjust the rehabilitation plan as necessary.

One to three weeks after surgery

Please keep on a lead for going to the toilet etc and discourage any jumping

Cryotherapy

3 times every day following range of motion exercises and lead walking

Apply an ice pack (wrapped in a damp towel) to both sides of the right hind limb where the wound is for 10 to 15 minutes.

Range of Motion Exercises

Repeat these exercises 2 to 3 times every day

Move the hip, stifle and tarsal joints of the right and left hind limbs through their comfortable range of motion, both flexion and extension. Repeat 10 to 15 times for each joint at each session.

Slow lead walking only when Dr Kerr is happy that the fracture is stable and there is no risk of rotation

2 to 3 times every day

Walk slowly with Suzie Q on a lead for 5 minutes. Walking slowly will encourage use of the right hind limb.

Consider dropping off at the practice twice a week for therapeutic ultrasound to speed up the healing and to prevent contracture of the muscles.

Four to eight weeks after surgery

Discourage any jumping

Continue range of motion exercises and applying a hot pack before exercises and an ice pack after the exercises.

Slow lead walking

2 to 3 times every day

Walk slowly with Suzie Q on a lead for 5-10 minutes. Walking slowly will encourage good use of the right hind limb.

Sit to Stand Exercises

Repeat these exercises 2 to 3 times every day

Encourage standing from a sitting position. Consider having Suzie Q sitting facing out from a corner, to ensure a straight sit. Repeat 10 times at each session.

Advise dropping off once or twice weekly for rehabilitation sessions at the practice where balance boards and balls can be used to improve weight bearing and strength. The therapeutic ultrasound can be used in these sessions at the practice to speed up healing.

Program within the hospital: Inpatient therapy – discharged from hospital. Light bandage at left carpus changed.
Observation of gait pattern, function, etc: Grade 3/5 lameness of right hind limb. Grade 1/5 lameness of the left forelimb.

Assessment:

Progress: Taking more weight on the right hind limb and good pain control. Less lame on the left forelimb.
Deficits remaining from initial plan: Grade 3/5 lameness of right hind limb and Grade 1/5 lameness of left forelimb.
Assessment of barriers: Unstable right femoral fracture as just surgically repaired so very limited physical rehabilitation possible until fracture is stable. The surgeon also commented on the chance of rotation at the fracture site.
Remaining problems and goals: Reduce lameness of right hind limb and continue good pain control. Reduce lameness of left forelimb which has a light bandage covering the stitches at the left carpus.

Plan – plan of care for next visits:

First physical rehabilitation visit at the practice in 2 days. Follow the home physical rehabilitation plan. Change the bandage on the left forelimb in 3 days. Continue analgesics to help with pain control.

Date (Visit 1)

Subjective:
Very bright and taking good weight on the right hind limb. Walking almost normally on the left forelimb but stitches at the carpus still covered by a light bandage.

Objective:

Treatment and parameters:

- **Modalities:**
  Ice packs were applied to the right hind limb four times daily

- **Therapeutic exercise:**
  Standing for 3-5 minutes four times daily
- **Manual intervention:**
  Range of motion exercises for both hind limbs four times daily
- **Medication:**
  Tramadol (Tramahexal) 50mg – 1 capsule BID PO;
  Carprofen (Rimadyl) 75mg – ½ tablet BID PO;
  Amoxicillin/Clavulanic acid (Synulox) 250mg – ½ tablet BID PO

Owner education: Checked to make sure that owner is managing with the home physical rehabilitation plan.
Home exercise program: Continue range of motion exercises for both hind limbs, lead walking for toileting and cryotherapy.
Program within the hospital: Outpatient therapy
Observation of gait pattern, function, etc: Grade 3/5 lameness of right hind limb and Grade 1/5 lameness of left forelimb.

Assessment:

Progress: No remarkable progress.
Deficits remaining from initial plan: Grade 3/5 lameness of right hind limb and Grade 1/5 lameness of left forelimb.
Assessment of barriers: Unstable right femoral fracture as recently surgically repaired so very limited physical rehabilitation possible until fracture is stable. The surgeon also commented on the chance of rotation at the fracture site.

Remaining problems and goals: Reduce lameness of right hind limb and continue good pain control. Reduce lameness of left forelimb which has a light bandage covering the stitches at the left carpus.

Plan – plan of care for next visits:
Owner elected to drop Suzie Q off at the practice for the day and collect in the evenings for the week as no one was at home during the day to care for her. Continue to follow the home physical rehabilitation plan. Change the bandage on left forelimb in 1 day. Continue analgesics to help with pain control.

Date (Visit 2)

Subjective:
Very bright and taking good weight on right hind limb. Walking almost normally on the left forelimb but stitches at the carpus still covered by a light bandage.

Objective:

Treatment and parameters:

- **Modalities:**
  Ice packs were applied to the right hind limb four times daily
- **Therapeutic exercise:**
  Standing for 3-5 minutes four times daily
- **Manual intervention:**
  Range of motion exercises for both hind limbs four times daily
- **Medication:**
  Tramadol (Tramahexal) 50mg – 1 capsule BID PO;
  Carprofen (Rimadyl) 75mg – ½ tablet BID PO;
  Amoxicillin/Clavulanic acid (Synulox) 250mg – ½ tablet BID PO

Owner education: Discussed Suzie Q's progress and encouraged the owner to continue with the home physical rehabilitation plan.
Home exercise program: Continue range of motion exercises for both hind limbs, lead walking for toileting and cryotherapy.
Program within the hospital: Outpatient therapy. Changed light bandage at left carpus.
Observation of gait pattern, function, etc: Grade 3/5 lameness of right hind limb and Grade 1/5 lameness of left forelimb.

Assessment:

Progress: No remarkable progress.

Deficits remaining from initial plan: Grade 3/5 lameness of right hind limb and Grade 1/5 lameness of left forelimb.
Assessment of barriers: Unstable right femoral fracture as recently surgically repaired so very limited physical rehabilitation possible until fracture is stable. The surgeon also commented on the chance of rotation at the fracture site.
Remaining problems and goals: Reduce lameness of right hind limb and continue good pain control. Reduce lameness of left forelimb which has a light bandage covering the stitches at the left carpus.

Plan – plan of care for next visits:
Owner elected to drop Suzie Q off at the practice for the day and collect in the evenings for the week as no one was at home during the day to care for her. Continue to follow the home physical rehabilitation plan. Remove the bandage on left forelimb in 2 days. Continue analgesics to help with pain control.

Date (Visit 3)

Subjective:
Very bright and taking good weight on the right hind limb. Walking normally on the left forelimb but stitches at carpus still covered by a light bandage.

Objective:

Treatment and parameters:

- **Modalities:**
  Ice packs were applied to the right hind limb four times daily
- **Therapeutic exercise:**
  Standing for 3-5 minutes four times daily
- **Manual intervention:**
  Range of motion exercises for both hind limbs four times daily
- **Medication:**
  Tramadol (Tramahexal) 50mg – 1 capsule BID PO;
  Carprofen (Rimadyl) 75mg – ½ tablet BID PO;
  Amoxicillin/Clavulanic acid (Synulox) 250mg – ½ tablet BID PO

Owner education: Discussed Suzie Q's progress and encouraged the owner to continue with the home physical rehabilitation plan.
Home exercise program: Continue range of motion exercises for both hind limbs, lead walking for toileting and cryotherapy.
Program within the hospital: Outpatient therapy
Measurable outcomes:

- **Bodyweight:** 14.5kg

- **Thigh circumference:** Right - 21cm; Left - 22½ cm
- **Hip extension:** Right – 155 degrees; Left – 155 degrees
- **Hip flexion:** Right – 60 degrees; Left – 55 degrees
- **Stifle extension:** Right – 150 degrees; Left – 160 degrees
- **Stifle flexion:** Right – 40 degrees; Left – 60 degrees
- **Tarsus extension:** Right – 160 degrees; Left – 175 degrees
- **Tarsus flexion:** Right – 45 degrees; Left – 45 degrees

Observation of gait pattern, function, etc: Grade 3/5 lameness of right hind limb and Grade 0/5 lameness of left forelimb.

Assessment:

Progress: No pain on palpation of right hind limb and no lameness noted with left forelimb.
Deficits remaining from initial plan: Grade 3/5 lameness of right hind limb.
Assessment of barriers: Unstable right femoral fracture as recently surgically repaired so very limited physical rehabilitation possible until fracture is stable. The surgeon also commented on the chance of rotation at the fracture site.
Remaining problems and goals: Reduce lameness of right hind limb and ensure healing of the fracture. Continue good pain control. Maintain and improve range of motion of hind limb joints.

Plan – plan of care for next visits:
Owner elected to drop Suzie Q off at the practice for the day and collect in the evenings for the week as no one was at home during the day to care for her. Continue to follow the home physical rehabilitation plan. Remove the bandage on left forelimb in 1 day. Continue analgesics to help with pain control.

Date (Visit 4)

Subjective:
Very bright and taking good weight on the right hind limb. Walking normally on the left forelimb but stitches at the carpus still covered by a light bandage.

Objective:

Treatment and parameters:
- **Modalities:**
  Ice packs were applied to the right hind limb four times daily
- **Therapeutic exercise:**
  Standing for 3-5 minutes four times daily

- **Manual intervention:**
  Range of motion exercises for both hind limbs four times daily
- **Medication:**
  Tramadol (Tramahexal 50mg) – 1 capsule BID PO;
  Carprofen (Rimadyl 75mg) – ½ tablet BID PO;
  Amoxicillin/Clavulanic acid (Synulox 250mg) – ½ tablet BID PO

Owner education: Discussed Suzie Q's progress and encouraged the owner to continue with the home physical rehabilitation plan.
Home exercise program: Continue range of motion exercises for both hind limbs, lead walking for toileting and cryotherapy.
Program within the hospital: Outpatient therapy. Light bandage removed from left carpus.
Observation of gait pattern, function, etc: Grade 3/5 lameness of right hind limb and Grade 0/5 lameness of left forelimb.

Assessment:

Progress: No remarkable progress.
Deficits remaining from initial plan: Grade 3/5 lameness of right hind limb.
Assessment of barriers: Unstable right femoral fracture as recently surgically repaired so very limited physical rehabilitation possible until fracture is stable. The surgeon also commented on the chance of rotation at the fracture site.
Remaining problems and goals: Reduce lameness of right hind limb and ensure healing of the fracture. Continue good pain control. Maintain and improve range of motion of hind limb joints.

Plan – plan of care for next visits:
Owner elected to drop Suzie Q off at the practice for the day and collect in the evenings for the week as no one was at home during the day to care for her. Continue to follow the home physical rehabilitation plan. Continue analgesics to help with pain control.

Date (Visit 5)

Subjective:
Very bright and taking good weight on the right hind limb. Stitches at the left carpus.

Objective:

Treatment and parameters:
- **Modalities:**
  Ice packs were applied to the right hind limb four times daily
- **Therapeutic exercise:**

Standing for 5 minutes four times daily

- **Manual intervention:**
  Range of motion exercises for both hind limbs four times daily
- **Medication:**
  Tramadol (Tramahexal) 50mg – 1 capsule BID PO;
  Carprofen (Rimadyl) 75mg – ½ tablet BID PO;
  Amoxicillin/Clavulanic acid (Synulox) 250mg – ½ tablet BID PO

Owner education: Discussed Suzie Q's progress and encouraged the owner to continue with the home physical rehabilitation plan.
Home exercise program: Continue range of motion exercises for both hind limbs, lead walking for toileting and cryotherapy.
Program within the hospital: Outpatient therapy
Observation of gait pattern, function, etc: Grade 3/5 lameness of right hind limb.

Assessment:

Progress: No remarkable progress.
Deficits remaining from initial plan: Grade 3/5 lameness of right hind limb.
Assessment of barriers: Unstable right femoral fracture as recently surgically repaired so very limited physical rehabilitation possible until fracture is stable. The surgeon also commented on the chance of rotation at the fracture site.
Remaining problems and goals: Reduce lameness of right hind limb and ensure healing of the fracture. Continue good pain control. Maintain and improve range of motion of hind limb joints.

Plan – plan of care for next visits:
Owner elected to drop Suzie Q off at the practice for the day and collect in the evenings for the week as no one was at home during the day to care for her. Next physical rehabilitation visit at the practice in 3 days. Continue to follow the home physical rehabilitation plan. Continue analgesics to help with pain control.

Date (Visit 6)

Subjective:
Very bright and taking good weight on the right hind limb. Stitches at the left carpus.

Objective:

Treatment and parameters:

- **Modalities:**
  Ice packs were applied to the right hind limb four times daily

- **Therapeutic exercise:**
  Standing with gentle weight-shifting for 5 minutes four times daily
- **Manual intervention:**
  Range of motion exercises for both hind limbs four times daily

Owner education: Discussed Suzie Q's progress and encouraged the owner to continue with the home physical rehabilitation plan.
Home exercise program: Continue range of motion exercises for both hind limbs, slow, short lead walks and cryotherapy after the exercises.
Program within the hospital: Outpatient therapy. All the stitches were removed.
Observation of gait pattern, function, etc: Grade 2/5 lameness of right hind limb.

Assessment:

Progress: Improvement with the lameness of the right hind limb.
Deficits remaining from initial plan: Grade 2/5 lameness of right hind limb.
Assessment of barriers: Surgically repaired right femoral fracture but fracture still unstable as in early stages of healing so very limited physical rehabilitation possible until fracture is stable. The surgeon also commented on the chance of rotation at the fracture site.

Remaining problems and goals: Reduce lameness of right hind limb and ensure healing of the fracture. Continue good pain control. Maintain and improve range of motion of hind limb joints.

Plan – plan of care for next visits:
Next physical rehabilitation visit at the practice in 3 days. Continue to follow the home physical rehabilitation plan.

Date (Visit 7)

Subjective:
Very bright and taking good weight on the right hind limb.

Objective:

Treatment and parameters:
- **Modalities:**
  Therapeutic ultrasound: 3.3MHz, 1.5 W/cm2, 100% for 15 minutes
  Ice packs were applied to the right hind limb four times daily after range of motion exercises
- **Therapeutic exercise:**
  Standing with gentle weight-shifting for 5 minutes four times daily

- **Manual intervention:**
  Range of motion exercises for both hind limbs four times daily

Owner education: Discussed Suzie Q's progress and encouraged the owner to continue with the home physical rehabilitation plan.
Home exercise program: Continue range of motion exercises for both hind limbs, slow, short lead walks and cryotherapy after the exercises.
Program within the hospital: Outpatient therapy
Observation of gait pattern, function, etc: Grade 2/5 lameness of right hind limb.

Assessment:

Progress: No remarkable progress.
Deficits remaining from initial plan: Grade 2/5 lameness of right hind limb.
Assessment of barriers: Surgically repaired right femoral fracture but fracture still unstable as in early stages of healing so very limited physical rehabilitation possible until fracture is stable. The surgeon also commented on the chance of rotation at the fracture site.

Remaining problems and goals: Reduce lameness of right hind limb and ensure healing of the fracture. Continue good pain control. Maintain and improve range of motion of hind limb joints.

Plan – plan of care for next visits:
Next physical rehabilitation visit at the practice in 7 days. Continue to follow the home physical rehabilitation plan.

Date (Visit 8)

Subjective:
Very bright and taking good weight on the right hind limb.

Objective:

Treatment and parameters:
- **Modalities:**
  Therapeutic ultrasound: 3.3MHz, 1.5 W/cm2, 100% for 15 minutes
  Ice packs were applied to the right hind limb four times daily after range of motion exercises
- **Therapeutic exercise:**
  Standing with gentle weight-shifting for 5-7 minutes four times daily
- **Manual intervention:**
  Range of motion exercises for both hind limbs four times daily

Owner education: Discussed Suzie Q's progress and encouraged the owner to continue with the home physical rehabilitation plan.
Home exercise program: Continue range of motion exercises for both hind limbs, slow, short lead walks and cryotherapy after the exercises.
Program within the hospital: Outpatient therapy
Observation of gait pattern, function, etc: Grade 2/5 lameness of right hind limb.

Assessment:

Progress: No remarkable progress.
Deficits remaining from initial plan: Grade 2/5 lameness of right hind limb.
Assessment of barriers: Surgically repaired right femoral fracture but fracture still unstable as in early stages of healing so very limited physical rehabilitation possible until fracture is stable. The surgeon also commented on the chance of rotation at the fracture site.
Remaining problems and goals: Reduce lameness of right hind limb and ensure healing of the fracture. Continue good pain control. Maintain and improve range of motion of hind limb joints.

Plan – plan of care for next visits:
Next physical rehabilitation visit at the practice in 7 days. Continue to follow the home physical rehabilitation plan.

Date (Visit 9)

Subjective:
Very bright and taking good weight on the right hind limb.

Objective:

Treatment and parameters:

- **Modalities:**
  Therapeutic ultrasound: 3.3MHz, 1.5 W/cm2, 100% for 15 minutes
  Ice packs were applied to the right hind limb four times daily after range of motion exercises
- **Therapeutic exercise:**
  Standing with gentle weight-shifting using Fitpaws Donut for 5-7 minutes four times daily
- **Manual intervention:**
  Range of motion exercises for both hind limbs four times daily

Owner education: Discussed Suzie Q's progress and encouraged the owner to continue with the home physical rehabilitation plan.
Home exercise program: Continue range of motion exercises for both hind limbs, slow, short lead walks and cryotherapy after the exercises.
Program within the hospital: Outpatient therapy
Observation of gait pattern, function, etc: Grade 2/5 lameness of right hind limb.

Assessment:

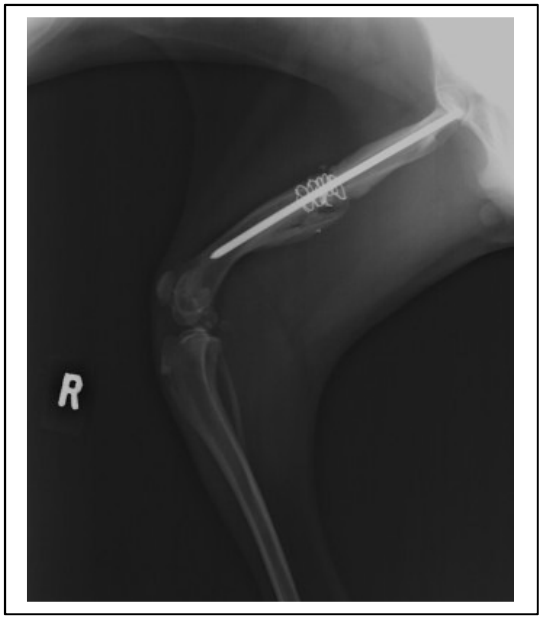
Progress: No remarkable progress.
Deficits remaining from initial plan: Grade 2/5 lameness of right hind limb.
Assessment of barriers: Surgically repaired right femoral fracture but fracture still unstable as still healing so very limited physical rehabilitation possible until fracture is stable. The surgeon also commented on the chance of rotation at the fracture site.
Remaining problems and goals: Reduce lameness of right hind limb and ensure healing of the fracture. Continue good pain control. Maintain and improve range of motion of hind limb joints.

Plan – plan of care for next visits:
Next physical rehabilitation visit at the practice in 7 days. Continue to follow the home physical rehabilitation plan.

Date (Visit 10)
Subjective:
Very bright and taking good weight on the right hind limb.

Objective:

Radiograph:



Treatment and parameters:

- **Modalities:**
  Ice packs were applied to the right hind limb twice daily after exercises.
- **Therapeutic exercise:**
  Standing with gentle weight-shifting using Fitpaws Donut for 7 minutes four times daily. Cavaletti rails for 3-5 minutes once today.

- **Manual intervention:**
  Range of motion exercises for both hind limbs four times daily

Owner education: Discussed Suzie Q's progress and explained revised home physical rehabilitation plan. Emailed the video of Suzie Q walking over the cavaletti rails to the owner.
Home exercise program: Owner to work on sit-to-stand exercises and longer lead walking up a slight incline.
Program within the hospital: Outpatient therapy. Radiographs were taken.
Observation of gait pattern, function, etc: Grade 1/5 lameness of right hind limb.

Assessment:

Progress: Improvement with the lameness of the right hind limb.
Deficits remaining from initial plan: Grade 1/5 lameness of right hind limb.
Assessment of barriers: Good callus at fracture site evident on radiographs and fracture now seems stable so able to introduce more intense physical rehabilitation. However, still do not want to do too much too soon.
Remaining problems and goals: Reduce lameness of right hind limb and maintain range of motion of hind limb joints.

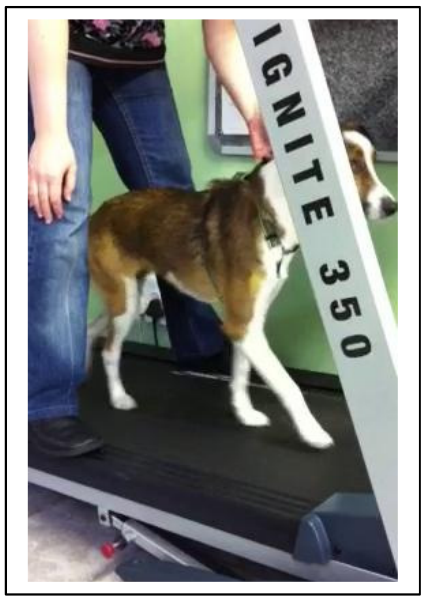
Plan – plan of care for next visits:
Next physical rehabilitation visit at the practice in 7 days. Continue to follow the home physical rehabilitation plan.

Date (Visit 11)

Subjective:
Very bright and taking good weight on the right hind limb.

Objective:
Treatment and parameters:

- **Modalities:**
  Ice packs were applied to the right hind limb twice daily after exercises.
- **Therapeutic exercise:**
  Standing with weight-shifting using Fitpaws Donut for 7 minutes four times daily.
  Also balance work on Fitpaws Peanut once daily.
  Cavaletti rails for 3-5 minutes twice daily.
  Land treadmill: 3 by 3 minutes (9 minutes in total) at speed of 1.6 with no incline.



- **Manual intervention:**
  Range of motion exercises for both hind limbs four times daily

Owner education: Discussed Suzie Q's progress and explained revised home physical rehabilitation plan. Emailed the video of Suzie Q walking on the land treadmill to the owner.
Home exercise program: Try walking on sand or through long grass. Continue sit-to-stand exercises and lead walking up inclines.
Program within the hospital: Outpatient therapy

Measurable outcomes:

- **Bodyweight:** 14.3kg
- **Thigh circumference:** Right – 25½ cm; Left – 27½ cm
- **Hip extension:** Right – 155 degrees; Left – 155 degrees
- **Hip flexion:** Right – 60 degrees; Left – 55 degrees
- **Stifle extension:** Right – 150 degrees; Left – 160 degrees
- **Stifle flexion:** Right – 40 degrees; Left – 60 degrees
- **Tarsus extension:** Right – 160 degrees; Left – 175 degrees
- **Tarsus flexion:** Right – 45 degrees; Left – 45 degrees

Observation of gait pattern, function, etc: Grade 1/5 lameness of right hind limb.

Assessment:

Progress: Thigh circumference measurements of both right and left hind limbs improved since the last measurements were taken.
Deficits remaining from initial plan: Grade 1/5 lameness of right hind limb.
Assessment of barriers: N/A
Remaining problems and goals: Reduce lameness of right hind limb and maintain range of motion of hind limb joints. Improve the thigh circumference of the right hind limb.

Plan – plan of care for next visits:
Next physical rehabilitation visit at the practice in 7 days. Continue to follow the home physical rehabilitation plan.

Date (Visit 12)

Subjective:
Bright but not weight bearing on right hind limb and slight conscious proprioceptive deficit of right hind limb. Very uncomfortable on extension of the right hip.

Objective:

Treatment and parameters

- **Modalities:**
  Ice packs were applied to the right hind limb for 15 minutes after the pin was removed from the femur and after the range of motion exercises.
- **Therapeutic exercise:** N/A
- **Manual intervention:**
  Range of motion exercises after the pin was removed from the femur.

- **Medication:**
  Carprofen (Rimadyl) – 1.5ml SC;
  Procaine Penicillin (Duplocillin) – 2ml IM;
  Carprofen (Rimadyl) 75mg – ½ tablet BID PO

Owner education: Discussed the pin migration with the owner and explained the affect on the sciatic nerve and on hip extension. Explained to the owner the need for surgery to remove the pin immediately to prevent permanent damage to the sciatic nerve.
Home exercise program: Owner to take a step backwards after the removal of the pin so range of motion exercises for both hind limbs, slow, short lead walks and cryotherapy after the exercises.
Program within the hospital: Radiographs were taken. Outpatient therapy

Measurable outcomes:
- **Hip extension:** Right – 100 degrees; Left – 160 degrees
- **Hip flexion:** Right – 55 degrees: Left – 55 degrees

Observation of gait pattern, function, etc: Grade 5/5 lameness of right hind limb.

Assessment:

Progress: Marked reduction in right hip extension and discomfort on right hip extension.
Deficits remaining from initial plan: Grade 5/5 lameness of right hind limb.
Assessment of barriers: Pin migration from right femur and affecting sciatic nerve on right side.
Remaining problems and goals: Surgery to remove pin from femur and improve hip extension again. Analgesics prescribed to aid in pain control. Facilitate weight bearing again.

Plan – plan of care for next visits:
Next physical rehabilitation visit at the practice in 3 days. Owner to follow the revised home physical rehabilitation plan.

Date (Visit 13)

Subjective:
Doing really well. Walking almost normally. Very slight conscious proprioceptive deficit of the right hind limb. No discomfort on extension of the right hip.

Objective:
Treatment and parameters:
- **Modalities:**
  Ice packs were applied to the right hind limb twice daily after exercises.

- **Therapeutic exercise:**
  Standing with gentle weight-shifting using Fitpaws Donut for 7 minutes four times daily.
  Also balance and proprioceptive work on Fitpaws Peanut once daily.
  Cavaletti rails for 3-5 minutes twice daily.

- **Manual intervention:**
  Range of motion exercises and stretching exercises four times daily

Owner education: Discussed Suzie Q's progress and explained revised home physical rehabilitation plan.
Home exercise program: Owner to go back to walking Suzie Q on sand or through long grass, sit-to-stand exercises and lead walking up inclines.
Program within the hospital: Outpatient therapy

Measurable outcomes:
- **Hip extension:** Right – 155 degrees; Left – 160 degrees
- **Hip flexion:** Right – 55 degrees: Left – 55 degrees

Observation of gait pattern, function, etc: Grade 1/5 lameness of right hind limb.

Assessment:

Progress: Lameness back to the same grade as it was prior to the pin migrating. Still slight conscious proprioceptive deficit but improved since last visit.
Deficits remaining from initial plan: Grade 1/5 lameness of right hind limb.
Assessment of barriers: Very slight conscious proprioceptive deficit of right hind limb.
Remaining problems and goals: Reduce lameness of right hind limb and maintain range of motion of hind limb joints. Improve the thigh circumference of the right hind limb.

Plan – plan of care for next visits:
Next physical rehabilitation visit at the practice in 7 days. Owner to follow the revised home physical rehabilitation plan.

Date (Visit 14)

Subjective:
Doing really well. Walking normally.

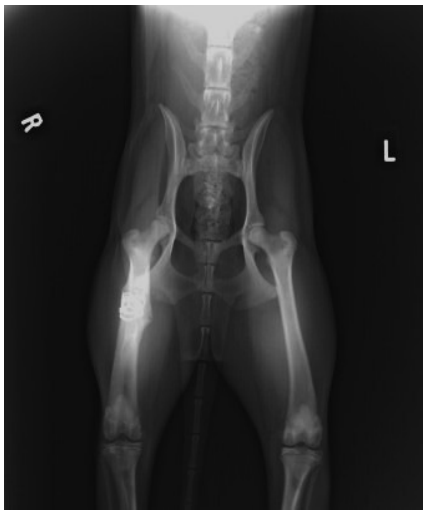
Objective:

Treatment and parameters:

- **Modalities:**
  Ice packs were applied to the right hind limb twice daily after exercises.
- **Therapeutic exercise:**
  Standing with gentle weight-shifting using Fitpaws Donut for 7 minutes four times daily.
  Also balance work on Fitpaws Peanut once daily.
  Cavaletti rails for 3-5 minutes twice daily.
  Land treadmill: 3 by 2 minutes (6 minutes in total) at speed of 1.6 with an incline of 7.
- **Manual intervention:**
  Range of motion exercises and stretching exercises four times daily

Owner education: Discussed Suzie Q's progress and explained revised home physical rehabilitation plan.
Home exercise program: Walking on sand or through long grass. Continue sit-to-stand exercises and lead walking up inclines. Owner to introduce jogging for short periods.
Program within the hospital: Outpatient therapy
Observation of gait pattern, function, etc: Grade 0/5 lameness of right hind limb.
Assessment:
Progress: Improvement with the lameness of the right hind limb and no conscious proprioceptive deficit of right hind limb.
Deficits remaining from initial plan: Grade 0/5 lameness of right hind limb.
Assessment of barriers: N/A
Remaining problems and goals: Improve the thigh circumference of the right hind limb.
Plan – plan of care for next visits:
Next physical rehabilitation visit at the practice in 14 days. Owner to follow the revised home physical rehabilitation plan.
Date (Visit 15)
Subjective:
Doing really well. Walking normally.
Objective:
Radiograph:

Treatment and paramete



- **Modalities:**
  Ice packs were applied to the right hind limb twice daily after exercises.

- **Therapeutic exercise:**
  Standing with gentle weight-shifting using Fitpaws Donut for 7 minutes four times daily. Cavaletti rails for 3-5 minutes twice daily.
  Land treadmill: 4 by 2 minutes (8 minutes in total) at speed of 1.8 with an incline of 9. Dancing.

Owner education: N/A but presented the owner with Suzie Q's physical rehabilitation completion certificate.
Home exercise program: N/A
Program within the hospital: Outpatient therapy

Measurable outcomes:
- **Bodyweight:** 13.6kg
- **Thigh circumference:** Right – 27½ cm; Left – 27cm
- **Hip extension:** Right – 160 degrees; Left – 160 degrees
- **Hip flexion:** Right – 55 degrees; Left – 55 degrees
- **Stifle extension:** Right – 160 degrees; Left – 160 degrees
- **Stifle flexion:** Right – 40 degrees; Left – 45 degrees
- **Tarsus extension:** Right – 165 degrees; Left – 165 degrees
- **Tarsus flexion:** Right – 45 degrees; Left – 45 degrees

Observation of gait pattern, function, etc: Grade 0/5 lameness.

Assessment:

Progress: No lameness and thigh circumference of right and left hind limbs approximately equal. Range of motion of all the hind limb joints WNL.
Deficits remaining from initial plan: None
Assessment of barriers: N/A
Remaining problems and goals: None

Plan – plan of care for next visits: No further visits necessary.

Discussion

How many visits?
Five days as an inpatient in the hospital and 15 visits.
Veterinarian feedback:

The surgeon was pleased with the outcome of the surgery and the physical rehabilitation. The patient had the complication of the intramedullary pin migration which was disappointing and could have led to sciatic nerve damage. However, this proved to only be a temporary setback and minimally delayed the patient's recovery.

Owner compliance:
The owner was very compliant initially with the home physical rehabilitation plan as well as bringing Suzie Q for therapy. Later on, the owner was less compliant with the home physical rehabilitation plan but continued to bring Suzie Q for therapy at the practice though not so frequently.

How do you feel physical therapy made a difference in this particular case?
I feel physical rehabilitation was very important in the full recovery of the patient. The owner was very happy with the service offered and feels that her dog has made a full recovery. I believe that physical rehabilitation preserved and improved her range of motion and muscle mass. The cryotherapy and range of motion exercises immediately following surgery and repeatedly while the dog was an inpatient lead to the dog taking weight on her leg much sooner than in cases where this therapy was not provided.

What is your speculation of the case if the patient did not receive physical therapy?
If this patient did not receive physical rehabilitation, I believe that she may have had muscle atrophy and a loss of range of motion, as she would have been advised to be strictly rested for 4-6 weeks with no other therapy. If she had not been attending regular physical rehabilitation sessions, the pin migration may not have addressed so quickly and so permanent sciatic nerve damage may have occurred.

What could have been altered in the physical therapy care of this case?
I am happy with the outcome of this case and would only have liked the owner to have continued to have been compliant with the home rehabilitation plan. An underwater treadmill would have been a great asset but the closest underwater treadmill is 1000km away.

Where there any barriers to the outcome of the case?
The migration of the intramedullary pin was a temporary setback and did not affect the outcome of the case.

How was billing performed in this case?
Payment was made at the time of services rendered.