



ANIMAL REHAB DIVISION



Summer 2022

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Worthy of Note!

For the first time ever, the ARD is running the Advanced Canine Rehab course in Ontario!

And our NEW Canine Acupuncture Course is now LIVE!

Course Calendar

Canine Home Study

Introduction to the Canine Patient
Pre-requisite for Introduction and Advanced Canine Rehab

Advanced Canine Rehab

Sept. 15 -18, 2022
St. Catharines, ON

Canine Acupuncture

Online Part 1 - Embodia

Equine Home Study

Introduction to the Equine Patient. Pre-Requisite for Introduction to Equine Rehab
Available Anytime

Introduction to Equine Rehab

Aug. 12-14, 2022
Calgary, AB

Advanced Equine Rehab

Sept. 16-19, 2022
Calgary, AB

To register for all courses:

ard.rostertrack.com

NEW!!!

ARD Canine Acupuncture Certification Course

Our new Small Animal Neuro-Anatomical Acupuncture and Dry Needling Certification course is ready to go!

Part 1: Online, available anytime through Embodia.

Prerequisite for Part 2.

<https://embodiaapp.com/courses/1015-ard-acupuncture-course-animal-rehabilitation-division-carrie-smith-laurie-edge-hughes-kim-barrett-sandra-oxtohy>



Part 2: In-person, one day practical course. Point localization and technique review using live dogs. Watch your inbox and the ARD newsletter/website for updates.

Prerequisites for taking this acupuncture course:

1. Diploma in Canine Rehabilitation from the ARD or equivalent
2. Rostered in Acupuncture or Dry Needling in your own province.

Note - some provinces do not roster for acupuncture. If your province does not roster, you will need to send in your acupuncture course list for approval to Laurie Edge-Hughes. physio@fourleg.com

The ARD/Acupuncture Division webinar series is always available to members on Embodia.

Webinar #1: Acupuncture Points in the Senior Dog cpa-webinar387

Webinar #2: Acupuncture Points in the Front End cpa-webinar488

Webinar #3: Acupuncture Points in the Hind End cpa-webinar396

Webinar #4: Dry Needling and Ashi Points cpa-webinar468

Report from the Chair

Kim Barrett, ARD Co-Chair

Hi everyone,

Welcome to our summer newsletter that's bursting with content. Check out the information on spondylosis in boxers, spidertech tape, Lyme nephritis and more.

Our fabulous newsletter editor Carrie Smith has decided to move on from her position. I'd like to take a moment to thank Carrie for all her efforts, advocacy and contributions to the ARD through the years.



Our new ARD Canine Acupuncture course is now live! Part 1 can be done anytime (on Embodia), and watch for our in-person Part 2 course coming this fall.

I hope everyone has a safe and wonderful summer!

Career Ops!

Equus Physio

Based in Cochrane but looking to expand, Equus Physio is searching for a PT with a Diploma in Equine Rehab (or equivalent), or someone willing to learn! We focus on treating both riders and their horses. Please send your CV to Sandra Oxtoby.

equusphysio@gmail.com

The Niagara Canine Conditioning Centre

We are looking for PT's with a Diploma in Canine Rehab or equivalent. If you are excited about being part of an amazing team of therapists and assistants, please send your CV to Barbara Lee at the Niagara Canine Conditioning Centre.

barbara@canineconditioningcentre.ca

Want a Diploma in Animal Rehab? Here's How!

Introduction to the Canine or Equine Patient Home Study Course

Covers anatomy, physiology and common conditions

Great for owners and those interested in canine or equine rehab

Pre-requisite for all other ARD courses. Please note, the canine and equine courses are separate streams and are not combined.

ard.rostertrack.com

Available Anytime

Introduction to Canine Rehab / Introduction to Equine Rehab

Hands-on course covers anatomy, palpation, handling skills, basic orthopaedic and neurological assessment and specific canine conditions and pathologies

Pre-requisite - Introduction to the Canine or Equine Patient Home Study Course

Intro courses run 1-2 times per year.

ard.rostertrack.com

Advanced Canine Rehab / Advanced Equine Rehab

Detailed joint by joint and spinal physical assessment, neurological evaluations and treatment, therapeutic exercise and surgical review.

Pre-requisite - Home Study course and Introduction to Canine or Equine Rehab

Advanced courses are held once per year

ard.rostertrack.com

Diploma in Canine Rehab or Equine Rehab Requirements:

Completion of all ARD canine or equine courses

Written examination, written case study

Veterinary Clinic Observation (40 Hours)

Additional animal husbandry, handling & safety considerations



Preventing Spondylosis in Boxers Mind Blowing Knowledge Nugget!

I belong to a small group of experts in the field of veterinary manual therapy. We try to meet twice a month to discuss research, findings, thoughts, and how to advance the understanding of and acceptance of manual therapy in animal healthcare. We've had some great discussions and presentations.

One such presentation was by an author of the following paper:

Halle KS, Granhus A. **Veterinary Chiropractic Treatment as a Measure to Prevent the Occurrence of Spondylosis in Boxers.** Vet Sci. 2021 Sep 17;8(9):199.

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8473340/>

I was delighted to not only be directed to this paper, but also to hear it presented first hand by the lead author. Okay... let's dive in!

Background

Previous studies have found spondylosis in Boxers to affect 50% of dogs by six years of age, and 75% of dogs by nine years. Heritability appears to be a factor as well.

A study on horses has shown an enhanced symmetry and movement of the spine and pelvis after chiropractic treatment, suggesting a similar effect in dogs. It remains to be shown, however, whether enhancing the flexibility and movement of the spine through veterinary chiropractic treatment could also be used to reduce the probability of development of spondylosis.

The researchers hypothesized that an early development of spondylosis in Boxers may be prevented if segments of the spine with decreased flexibility are detected early and treated with veterinary chiropractic. This was based on the reasoning that the overall flexibility of the spine might normalize; hence, spondylosis might not form, since arthrosis and spondylosis typically form in joints where there is too much movement or irritation.

Materials & Methods

The researchers performed a randomized study where one half of the Boxer puppies from 17 litters were given veterinary chiropractic treatment at monthly intervals from eight weeks of age until they were one year old, while the other half were given no treatment (treated: $n = 44$, controls: $n = 43$).

Treatment groups were essentially self-selected based on ability to get to the practitioner / author performing the Chiropractic treatment. The treatment was applied once a month from 8 weeks of age until the dog was one year old and ready to be X-rayed in the spine. When detecting reduced or no movement in the anatomical direction of the joint, this was corrected with a high velocity and low amplitude thrust as taught at veterinary chiropractic schools approved by the International Veterinary Chiropractic Association.

A lateral radiograph was taken at 1 year of age. In line with current practice in Norway, spondylosis was scored manually into one of the four categories 0–3, where the obtained score depends on the size of the ventral arthrosis of the spine. Radiographs were scored by trained personnel at the Norwegian Kennel Club who was unaware of the objectives of the study.

Overall, 35.6% of the dogs that were X-rayed had spondylosis, corresponding to a score between 1 and 3. The corresponding percentages for the dogs given chiropractic treatment and the untreated controls were 25.0 and 46.5 %, respectively (Figure 3). The probability of having spondylosis was significantly lower for the treated group than for the controls ($p = 0.0478$).

Conclusion

The results provide novel evidence that veterinary chiropractic treatment may be successfully used to reduce the probability of early development of spondylosis in young Boxers.

My thoughts:

I find this study fascinating. I see potential here, and it fits in many ways with what I tell owners. Get your puppies checked regularly throughout their first year of life. I've not looked at it from the perspective of spondylosis, but I have thought of the contributions to back pain and conformation, and SIJ pain and hip dysplasia. This is just another component of which to be aware. Lastly, as a physio with advanced manual therapy training, I would say that regular evaluation and Mobilizations to the spine would have the same impact based on what we know about the similar effects of mobilizations and manipulations.

My point being... **MANUAL THERAPY** directed towards spinal mobility has the potential to replicate these results. So, as a therapist, you can use whatever of those tools you have in your tool kit!

I hope you found this paper as interesting as I did!

Research Update

Published in a veterinary journal!

Application of kinesiology taping to equine abdominal musculature in a tension frame for muscle facilitation increases longitudinal activity at the trot.

[Sophie Biau, Isabelle Burgaud](#)

First published: 31 October 2021 <https://doi.org/10.1111/evj.13533>

Full article: <https://beva.onlinelibrary.wiley.com/doi/full/10.1111/evj.13533>

Background

Kinesiology taping (KT) has been used on human subjects for many years. More recently, KT has been used in sport horses. The physiological mechanisms involved remain unclear and its benefits are controversial.

Objectives

To investigate the effects of application of kinesiology taping to abdominal muscles on locomotor parameters before and after lungeing exercise in horses.

Methods

Eleven horses were tested twice, once with an application of KT without tension on abdominal muscles (condition 1) and once with a facilitation application of KT on abdominal muscles (condition 2). A triaxial accelerometric device, located in the trunk (Equimetrix system®), was used at walk and trot in hand on a straight line before (30 min after the KT application) and after a lungeing session. Locomotor parameters were calculated, including stride frequency, regularity and symmetry, dorsoventral displacement and dorsoventral, mediolateral and longitudinal activities.

Results

At trot, the longitudinal activity was significantly higher for condition 2 than for condition 1, before (7.6 ± 1.8 W/kg vs. 5.4 ± 2.2 W/kg, $P = .02$) and after (7.3 ± 1.3 W/kg vs. 6.1 ± 1.7 W/kg, $P = .005$) the lungeing session.

Conclusions

Kinesiology taping on abdominal muscles immediately increased longitudinal activity at trot in hand and this benefit was still present after a lungeing session. Longitudinal activity is a sought-after quality; thus, this method could be used as a way to enhance a training program. Future investigations are needed to confirm this result in horses being ridden.

How Spidertech Tape can be used for Equine Taping

Lee Hall, BScPT, MHS

Kinesiology taping has been used on human athletes for many decades. Developed in the 1970s by a Japanese chiropractor Dr. Kenzo, many athletic events have seen increased use of kinesiology tape to improve and support athletes performance .

The use of kinesiology taping began at the 2008 Olympic Games and by the London Olympic Games in 2012 the use of kinesiology taping was a common standard for athletes.

As with human athletes, horses can also experience injury, over training, biomechanical issues, and chronic or acute issues. The world of competitive equestrians as well as everyday horse enthusiasts, recognizing the benefit in human athletes sought to capitalize on the benefits of this technique.

As with human patients the benefits of kinesiology tape are well documented. Pain relief, pressure relief, circulatory improvement , swelling reduction with lymphatic drainage, support and stability for joints, and improved proprioception are some of the benefits recognized.

Equine taping patients present a very different client /therapist experience. The horse has no preconceived notion of what might or might not work and will readily show relief from a taping application. Licking, chewing, yawning or sighing are obvious signs of immediate relief. Post treatment gait assessment can also demonstrate the added benefit and comfort to the horse.

Taping applications need more preparation for a horse. The skin and hair needs to be thoroughly cleaned and dry prior to taping. Tape strips should also be measured and pre-cut as often the equine patient is a bit wary of long strands of tape. **Spidertech** has some pre-cut strips that make application easier in some instances as well as some handy to use lymphatic taping pre-cut packages.



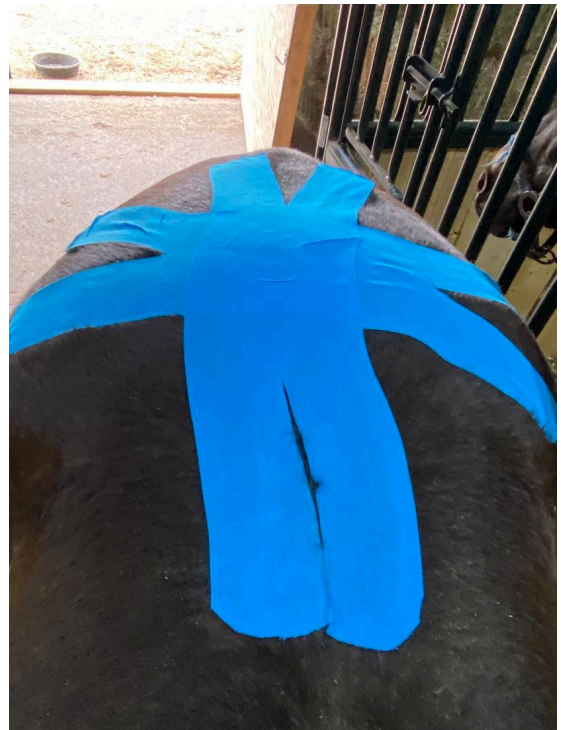
Equine clients also present unique challenges and rewards for a physiotherapist. An additional pair of hands may be needed to assist positioning the horse as the tape is applied. Its hard to tell your equine patient to stand still while you apply the tape!

The width or type of tape required is dependent on the area to be taped and whether it is for support, proprioception, pain relief or lymphatic drainage. There are many different brands of kinesiology tape on the market and results may vary depending on preparation, climate and therapist experience and desired effect. I find **Spidertech** tape to be effective in many applications. It has good stretch and appears to stay on for up to a week depending on the area of application. It also appears to have relatively good water resistant properties.

I have found the [Spidertech 6" wide](#) tape to be particularly useful for larger areas such as spine and pelvis and larger horses such as warm bloods . The area of pressure from the 6" tape from Spidertech provides a consistent pressure without worrying about multiple layers of smaller tape.

Equine patients are rewarding to treat and the relief they feel is evident. Horses have a knack of getting hurt in every possible way and need an experienced kinesiology tape practitioner with exceptional tape such as to best support their recovery and enhance their performance.

The applications for kinesiology taping are as endless as the possibilities and benefits of its use. As a physiotherapist with a diploma in Equine Animal Rehabilitation I am pleased to be able to provide my equine patients with quality and durable taping through **Spidertech**.



A Case of Lyme Nephritis

Carrie Smith, BScPT, CCRT

Kenya is a 7 yr. old Golden Retriever who presented with acute left hind leg lameness and lethargy. Kenya is actively involved in scent detection, rally obedience and dock diving, and is in good shape with no history of injury or illness. The owner did not see any injury and was unsure of what may have caused the lameness.

On examination, Kenya was lame in the left hind leg at a walk but was weight bearing on all four limbs. She had some limitation of left hip extension and some stiffness on palpation of the T-L junction. She was acutely tender over the left psoas insertion and in fact turned to snap at me when I palpated the left groin. This was highly abnormal behaviour for her as I have known Kenya since she was a pup, and she has a sunny and sweet disposition. There was something really wrong here!

I treated her painful hip with laser, myofascial release, and some home exercises. The next day the owner contacted me to say that she was not eating and looking worse. Not eating? In a Golden? Send this dog to Emerg!

Kenya was taken to Emergency and after several days of hospitalization, multiple diagnostic tests, and a plethora of specialists, she was diagnosed with Lyme Nephritis, which can be fatal. In rare cases of Lyme disease, the bacteria which causes Lyme can also create a serious kidney infection and cause permanent destruction of the kidneys.

Signs of Lyme nephritis include anorexia, vomiting, weight loss, muscle wasting, lethargy, bad breath, azotemia (elevated creatinine and BUN), and edema. Golden and Labrador Retrievers seem to be predisposed to developing Lyme nephritis (who knew?), so extra care should be taken with dogs of or mixed with these breeds if they contract Lyme disease.

Lyme disease is a growing concern in certain parts of Canada. Originally detected in the southeastern US, Lyme has been migrating north over the last several years. It is carried by wildlife, and ticks are the usual mode of transmission. Click on the map below to see if your region is a high area for Lyme disease.

<https://phrsgeomatics.maps.arcgis.com/apps/dashboards/95179b3e96fa4214a408e3611b0dce6b>

I regularly see one or two dogs a year who present with lameness (usually the front end but not always) which is attributed to Lyme disease. How can you tell if it's Lyme? You can't. The dog needs a blood test, which is easily done in the veterinary clinic. Generally, what I have seen is that the lameness does not improve and in most cases the dog has had a recent tick bite. Note that sometimes owners don't know the dog has had a bite and they never find the tick.

Preventing Lyme is the best defence. Ticks are active as soon as the temperature is in the pluses, and they tend to live in long grasses. Avoiding long grass, wearing long pants and socks in wooded areas (for the humans), and using tick prevention medications or collars makes a huge difference.

What is the point of this case study as a rehab case? Not every condition you see will be appropriate for rehab!

If the symptoms are worsening, if the signs are out of proportion to what you think the problem is, and if the dog is not improving the way you would expect them to improve, refer back to the veterinarian.

As physiotherapists are starting to see more and more dogs without a veterinary referral (depending on the province), we must be aware of medical conditions that may look like musculoskeletal disorders, and not expect that every dog can be treated with rehab.

I am happy to report that Kenya is now stabilized, she is on a strict kidney-support diet (albeit her life expectancy is less than it would be without the kidney damage), but she will be able to return to all the sports she loves. On a side note, Kenya was not insured, and the owner incurred a cost of \$10,000 in the first three days to diagnose the problem. If clients ask me about insurance, I always recommend getting it!

References:

<https://www.whole-dog-journal.com/health/ticks/lyme-disease-in-dogs/>



Diploma Case Study

Marie-France Sauve, MScPT

Thinking about getting your Canine or Equine Diploma? Here is a case study submission so you can get the idea of what is required!

INITIAL EVALUATION

Date: March 21st, 2022

Name: Raffette (Raffi)

Breed: English Pointer Mix (rescued)

Age/Sex: approximately 12-14 years old, neutered male

Weight: 90 lbs

Veterinary Diagnosis: Presumptive hip and elbow osteoarthritis, geriatric large breed dog with muscle atrophy, recent fecal incontinence

Subjective History

Raffi is a senior English Pointer mix and was assessed at our clinic on March 21st for mobility issues and stiffness. Raffi has been slowing down gradually in the last year. He's especially stiff after resting, has difficulty on hardwood floors and started to hesitate going up the ramp to get into their house. He also started having fecal incontinence in the last couple of months. The owner describes Raffi defecating while walking and doesn't seem to notice. No bladder incontinence reported. Appetite is normal. Raffi seems to be more uncomfortable at night. Owners are wondering about his pain level. The medications seem to be helping.

Medications/Supplements

1. Metacam
2. Gabapentin
3. Cartrophen (monthly injections)
4. Glucosamine
5. Tramadol/Amantadine (prescribed if needed but the owner decided to wait to see if rehab can help)

Diagnostic Testing

None recently

Veterinary Treatment

Pain medication (see list)

Current Diet

Royal Canine, occasional table food

Environment

Sibling: 1 slightly younger dog (approximately 10 years old); not many interactions

Flooring: mostly hardwood (owner put down runners where Raffi goes more often)

Stairs to go in the basement but doesn't go downstairs

Steps to get into the house, owners built a ramp

Current Activity Level

Goes out for walks on owner's property at his own pace, they have many acres and about 6 acres are fenced. Has been slowing down and started to hesitate going up the ramp. Getting up from lying is also difficult, often needs help to get up, especially on slippery floors.

Previous Activity Level

Last year he was able to follow his owners on the horse trails around their home.

Mentation

Raffi is a very calm dog that normally won't show signs of pain or discomfort. Due to his age, he's not very playful but he does enjoy following the horses when they go on the trails around their home.

Owner's goal

The owner would like to make sure they are doing everything they can to keep Raffi comfortable and help him regain some mobility.

OBJECTIVE FINDINGS

HR/RR/CR: 100bpm/panting/<2seconds

BCS: 5/9 (Purina Scale)

Observations

1. Muscle mass: general hind limb muscle atrophy bilaterally (gluteals, sartorius, hamstrings)
2. Stance: wide HL stance, decreased weight bearing on hind limbs (25%), increased WB'ing on FL (75%)

3. Gait (walk): poor bilateral hip extension, limited stifle flexion, shorter stride. Trot not tested
4. Sitting: slow to get into sitting position but sits square
5. Sit to stand: slow to stand, using front limbs mostly, easier on carpet
6. Lying: gets uncomfortable after 5 min having hind limbs under him, needs to lie with legs stretched out
7. 3 leg stance: difficult to hold
8. Stairs: Not tested

PROM Forelimb

1. Carpus: within normal limits (WNL), no tenderness on palpation (TOP)
2. Elbow Extension: WNL bilateral, no TOP
3. Elbow Flexion: slightly limited bilaterally at 20 degrees (measured the vet way!)
4. Shoulder Flexion: WNL bilateral
5. Shoulder Extension: limited bilaterally L at 130 degrees and R at 140 degrees, mild TOP, soft tissue end feel

PROM Hindlimb

1. Tarsus: WNL, no TOP
2. Stifle: WNL, no TOP
3. Hip Extension: limited bilaterally; L at 110 degrees and R at 120 degrees, apprehensive, soft tissue end feel, mild TOP
4. Hip Flexion: WNL
5. Hip ABD: slightly limited bilaterally at 110 degrees with hip flexed, apprehensive, soft tissue end feel

Palpation

1. Stiffness starting at thoraco-lumbar junction (T12) down caudally to L7
2. Significant stiffness with transverse lumbar glides bilaterally
3. Muscle spasms/twitching on palpation of lumbar paraspinals and iliopsoas bilaterally
4. Muscle tenderness in latissimus dorsi, teres major and triceps bilaterally

Flexibility

1. Tightness in bilateral iliopsoas muscle, left is worse with trigger points
2. Tightness in bilateral teres major, triceps and latissimus dorsi muscles

Girth

1. Standing (Proximal thigh): L - 49 cm, R - 50 cm
2. Stifle joint line: L - 25 cm, R - 27 cm

Neurological Assessment

1. Conscious proprioception: slower bilateral (5 seconds)
2. Deep tendon reflexes: WNL
3. Sensation: WNL
4. Deep pain: WNL

Spinal Ax

1. Palpation: tenderness on palpation starting at TL junction to L7 bilaterally
2. AROM: Cervical: WNL
3. Thoraco-lumbar: limited bilateral side bending (left is worse)
4. Accessory Motion Testing: stiff transverse process dorso/ventral glides from TL junction to L7
5. Twitching on palpation of lumbar paraspinals bilaterally
6. Fascia (Skin roll): resistance starting at TL junction down to the pelvis area

ASSESSMENT

Raffi is a large-size senior dog of approximately 12 to 14 years old with mobility issues, proprioceptive deficits, spinal stiffness, significant hind limbs muscle atrophy and compensatory use of the forelimbs. The fascia mobility is limited in the lumbar region. He's showing signs of IVDD and OA. He has also been presenting with fecal incontinence. All of those symptoms are common in the senior patient. The therapeutic plan with Raffi is to improve spinal mobility and reduce muscle spasms and pain; increase muscle mass in the hind limbs in order to improve the use of the hind limbs and reduced compensatory use of the forelimbs.

Strength list:

1. Client's dedication
2. Home environment
3. Good ROM in carpus, tarsus, hock and stifles
4. Good FL muscle mass
5. Normal cervical spine mobility

Problem List:

1. General HL deconditioning
2. Fecal incontinence
3. Thoracolumbar stiffness
4. Proprioceptive deficits
5. Elbow and hip OA bilaterally
6. Mobility limitations

Goals:

1. Improve HL muscle mass targeting gluteal and sartorius muscles bilaterally
2. Improve thoraco-lumbar spinal mobility
3. Improve core strength and try to help improve fecal incontinence

4. Improve conscious proprioception
5. Reduce pain in elbows and hips
6. Reduce iliopsoas tension
7. Improve fascial mobility

TREATMENT PLAN

Frequency/Duration:

1x/week for 4 weeks; 1x every 2 weeks for the following 4 weeks; maintenance 1x every 3-4 weeks

Treatment:

1. Laser therapy: L/S junction, T/L junction, psoas insertion/lesser trochanter, C/T junction, teres major origin (12 joules per point)
2. Manual therapy: tail traction (Grade 3, 5 reps), dorso-ventral glides from T12-L2 (Grade 3, 5 reps)
3. Myofascial release: bilateral iliopsoas, teres major, lats, lumbar-pelvic elongation
4. Acupuncture: Bai Hui, GV3, GV4, UB23, UB25 (15 minutes)
5. Owner education on caring and exercising a senior dog (flooring, harnesses, height of food dishes, etc.)
6. HEP including cookies to hips (for spinal mobility), front legs up on step (for iliopsoas stretching and HL strengthening), 3 leg stance (for core and HL strengthening), sit to stand (for HL strengthening), stepping over poles (for proprioception), skin roll (for fascia) and walking up hills. 3-5 repetitions of each exercise, 2-3 times per day.

PROGRESS NOTE (8 weeks since initial visit)

Subjective:

Owner reports decreased fecal incontinence. Raffi has on average 1 or 2 accidents per week now compared to being incontinent every day before the start of treatment. He's using the ramp easily now without hesitation. He's following his owners on the horse trails for about 1 km and then turns around and gets back to the house by himself. He occasionally gets stuck in tall grass unable to get up by himself. The owner bought a Help Em Up harness to support him getting up from the floor or the ground. The home exercise program is going well according to the owner. Raffi is slow with the sit to stand exercise but can usually do 5 repetitions. Transitions from lying to standing are still difficult when Raffi is on hardwood floors. Owner still reports that Raffi has a good appetite and he looks happier.

Objective:

Stance: narrowed HL stance, HL weight bearing (30%), FL WB'ing (70%)

Gait (walk): improved bilateral hip extension, improved stride length

Sitting: quicker to sit

Sit to stand: mostly using front limbs

3 leg stance: holds 30 seconds

PROM Forelimb:

Elbows: Flex: slightly limited bilaterally at 20 degrees

Shoulders: Ext: improved bilaterally, L at 145 degrees and R at 150 degrees, mild TOP, soft tissue end feel

PROM Hindlimb:

Hip: Ext: slightly limited bilaterally, L at 140 degrees and R at 150 degrees no reaction, soft tissue end feel, no TOP

ABD: slightly limited bilaterally at 115 degrees, no reaction, soft tissue end feel

AROM Thoraco-lumbar: limited L side bending

Palpation:

Moderate stiffness at thoraco-lumbar junction

Decreased stiffness with transverse lumbar dorso-ventral glides bilateral

Flexibility:

Moderate tightness in bilateral iliopsoas muscle

Mild tightness in bilateral triceps and latissimus dorsi muscles

Girth:

Standing (Proximal thigh) L: 50 cm R: 51 cm
(Stifle joint line) L: 26 cm R: 27 cm

Testing:

Conscious proprioception: 3 second delay bilaterally

RX continued as previously stated:

1. Laser therapy
2. Acupuncture
3. Tail traction
4. Transverse lumbar dorso-ventral glides
5. Myofascial release
6. HEP - add figure 8's and 3 leg stance on dog bed

Analysis:

Raffi is responding well to the treatment plan. Mobility remains difficult when he's trying to get up from a lying position, but he's generally more active and goes on walks at his own pace. Core strength has improved. Raffi can hold the 3 leg stance for a prolonged period of time (30 seconds). There are significant improvements reported by the owner regarding the fecal incontinence. Raffi also shows that he's using his HL more which helps reduce the pressure on his FL, especially the latissimus dorsi. The CP reflexes have also improved but remained slower, Raffi should continue working on his proprioception.

Plan:

Raffi is a senior dog and will continue to have mobility challenges. DJD in dogs is a progressive condition that will require re-checks and follow-up treatments. The next step is to try monthly visits with continued exercises at home. Our goals at this point are to continue working on proprioception with exercises, continue to help improve and hopefully eliminate fecal incontinence, maintain spinal mobility and continue HL strengthening. Our hydrotherapy pool is officially opening this month at our clinic, Raffi is schedule to try hydrotherapy to increase HL strengthening and manage OA pain and discomfort.

CONCLUSION

Raffi is a lovely senior dog and working with him continues to be rewarding. The improvement seen regarding his incontinence was huge for his owner. The referring veterinarian was also surprised to see such improvements with fecal incontinence. While mobility on the floors remains challenging, the owner is happy to see Raffi enjoying the fields and the trails around her property. The advice given regarding caring for a senior dog and home modifications have been helpful and the owner feels more confident that Raffi is more comfortable. Progression of exercises was limited by Raffi's mobility, balance and strength. I will continue to work on those with the owner to improve Raffi's general mobility. I was lucky to work with a devoted owner and a keen veterinarian.

Now hopefully I will get my Diploma in Canine Rehabilitation!



The Challenges of Rehabbing Police Service Dogs

Margaret Kraeling, PT, CCRT

I have been fortunate to assess and treat some police service dogs (PSDs) over the past few months. It has certainly been a challenge in thought processing around the assessment and treatment plan of these high drive, working dogs.

In order to best approach these dogs we need to understand a little about their training. They are bred, of course, for their health but also their high drive, work ethic as well as their temperament. During training they are taught both to bite the bad guy as hard as they can and then go into a school for a meet and greet with a class of children.

During training for bite work the handlers use a muzzle on the dog to increase their excitement level, then pull the muzzle off and send them to bite the guy in the padded sleeve. If you have a handler bringing a dog into the clinic wearing his muzzle that dog is likely in work mode and looking for someone to bite. I would rather rely on the handler to have good control of his dog and bring him in without a muzzle. I find even the grumbliest dog mellows after the first day when they realize our treatment space is a non-working and non-threatening environment. Due to the distance most of these teams come to see us they usually stay for four or five days of consecutive treatment. By the end of that time the dog's manner changes considerably as they realize that our clinic is a non-threatening environment and, in fact, they even learn some fun games including play in the UWT.

As a police officer/dog team they are trained to go from 0 to 100 in the blink of an eye. The dog can be relaxed and resting and then suddenly be running top speed on a track or to take down the bad guy. This presents a big challenge as we are usually so focused on warmups to avoid injuries. These dogs don't have that luxury. It is also a challenge for rehab as we usually need to slow them down to retrain specific functions.



These dogs are also trained to face all situations head on, so having us approach them from the rear for part of the assessment is threatening. I have found that the handlers are good at holding the dogs for whatever I have to do from behind (like an SIJ positional evaluation). Also I have not found one of these dogs that will willingly go into lateral recumbency even for their handlers. This makes it very difficult to carry out sustained muscle stretches. I have found that I am more effective to design functional / dynamic stretching exercises for the handler to work on.

Fortunately, the handler's job is to spend their time rehabbing this dog as soon as possible. The canine unit is often the most expensive of any police force so it is important that they return to work as soon as safely possible. I try to design exercises that relate to some of their job demands. Simple, low level drug searches are often part of the job that the dog can do even as they are rehabbing an injury. One of the most difficult tasks for both dog and handler is slowing the dog down and teaching them control. Any tips we can provide has been eagerly accepted and appreciated by the handlers. At the same time we need to have that discussion about not returning to full duties until the dog is absolutely ready. There is always a push to get them back in the community sooner rather than later. It is important that we understand the job demands involved and that our end-stage rehab is working toward these goals.



About the Author

Margaret Kraeling is a physiotherapist who practices canine rehab out of The Canine Fitness Centre Ltd. in Calgary. She has worked in the field of canine rehabilitation since 2004 and has had the opportunity to work with several police dogs during this time.

Iliopsoas Case Study

Sarah McKeigan, MPT, MBA, Dip. Canine Rehab

Patient: 'Pud'. Border Collie, Tri-coloured, MN, 26 Kg DOB: 01/07/2016

Reason for Canine Rehab: Intermittent right pelvic limb lameness for 3-4 months

Background

Pud is a 7 yr. old neutered male border collie with chronic pelvic limb lameness primarily on the right hind limb. His owner Kate reported that about 6 months prior, Pud was running and afterwards was holding up his right hind leg. He would also hold his leg up for the first few steps when rising after laying down. He was sometimes reluctant to go upstairs and hesitant backing up. Kate reported that he didn't have any other visible signs of pain, yet continued to hold the leg up after intense exercise and/or long periods of activity. Kate said she tried NSAIDs but wasn't sure if they helped as his condition remained status quo.

Medical History

Pud's vet had left the diagnosis open and consented to canine rehab. He indicated that upon his examination, Pud was resistant to end range hip extension, especially on the right pelvic limb. Radiographs of hips and pelvis were unremarkable. The vet further noted that Pud's symptoms improved with movement.

Clinical Findings

At the time of his canine rehab assessment, Pud was 26kg with a body condition score of 7/9. He was cow-hocked with slightly greater external rotation on the left pelvic limb and a mild sway back; also, his right ischium was slightly cranial and dorsal. He had no detectable lameness in walk or trot, but he did have a minor lateral weight shift to the right in stance. There was atrophy of the right pelvic limb musculature. His right thigh was 37cm in circumference and the left was 39 cm.

Functionally, his initial sit to stand was square; however, he began to shift to the left hip with fatigue. He had a positive Trendelenburg sign bilaterally; however, hip drop was greater on the left.

Upon palpation, Pud had mild discomfort with D-V pressures at his T-L junction and upper lumbar spine with increased tone through his quadratus lumborum bilaterally. There was tenderness on palpation of the lesser trochanter on the right. Hip extension was slightly reduced bilaterally when isolating the coxofemoral joint; however, when slight internal rotation was applied, it elicited a painful end feel on the right hip. Special hip tests and stifle stress tests were normal. Conscious proprioception, deep tendon reflexes and withdrawal were normal on both the thoracic limbs and pelvic limbs. There was some increased tension in the biceps and latissimus dorsi bilaterally; however, ROM was full and pain free in all other joints.

Clinical Hypothesis

It was concluded that Pud likely had an iliopsoas strain on the right that had become chronic, worsened by excessive loading followed by prolonged rest periods. Additional problem areas included excessive body weight, atrophy of the right pelvic limb, decreased motor control and core stability, compensatory muscular tension, and lack of activity modification.

Canine Rehab Treatment

Stage 1: Isometrics

Initial therapy included Low level laser therapy (LLLT) of the iliopsoas at a subacute setting and corresponding dorsal root ganglion for pain mitigation. Treatments were conducted on a PEMF bed. Manual therapy techniques incorporated massage with extra focus on the iliopsoas and Q-L region bilaterally as well as tail traction. Therapeutic exercises were isometrics consisting of 3 leg stance with a flexor withdrawal with a goal of 5 reps of 45 seconds before progressing to stage 2. Pud was given a 3 leg stance on each hind leg to encourage greater gluteal strength.



Other exercises included paws up hip extension, backing up, sit to stand and bicycling the pelvic limbs. The owner was given the following activity modifications: leash walks and avoidance of running, jumping, and slippery surfaces. Weight loss was also indicated. It was recommended she reduce kibble, incorporate fresh food, add omega- 3 and a joint supplement to diet and reduce caloric intake by 40%.

Stage 2: Isotonic

Once the goal of 5 reps for 45s of the isometric exercise was achieved, therapeutic exercises progressed to isotonic every second day; on the off days, Pud continued with isometrics and exercises that promoted central stability and motor control. The isotonic exercises included rear feet up and reach and walking downhill. We also incorporated cavalettis, planks with sliding blocks, and lying pelvic tilts. As he improved, we added more hill training including backing up uphill and downhill. His walk distance and pace also increased.

Stage 3: Energy Storage

Manual therapy techniques, laser therapy, and weight management were promoted throughout rehab. At this stage we incorporated a 3 leg stance-squat with blocks to further target motor control and some planking on unstable surfaces. His energy storing exercises included destination jumping twice a week, short distance running/recall, running uphill, jumping to catch a ball from stance, and short periods of off leash activity and hiking

Outcome of Therapy - Return to Sport

Stage 4: Return to Sport

Pud had a small setback during rehab when he started holding the leg up again; however, it was short lived and he soon returned to improving. Overall, he has undergone just over 3 months of rehab and currently has no pain on palpation of the right lesser trochanter, and his hip extension is full and pain free, even with slight internal rotation of the femur.

Pud is able to hold his 3 leg stance bilaterally for 45 seconds with no Trendelenburg sign. He has not held his leg up after lying down for 6-8 weeks, and the right thigh circumference is only 1cm smaller than the left. His current body condition score is a 6/9; however, we do not have his current weight.



Discussion

As we implement a graded return to sport/regular activity (stage 4), we are gradually increasing his off leash running, hiking, and sprinting while encouraging further weight loss. Warm ups and cool downs have also been emphasized. His owner is happy with his weight loss; it has been recommended, however, that they continue with the goal of a 5/9 BCS. It has also been recommended that Pud have a checkup with his vet to ensure there is no underlying reason for the slow weight loss.

Pud is doing very well and with continued weight management, cross training (varying activities), and adequate warm up and cool downs, Pud has a good chance at a full and pain-free life.

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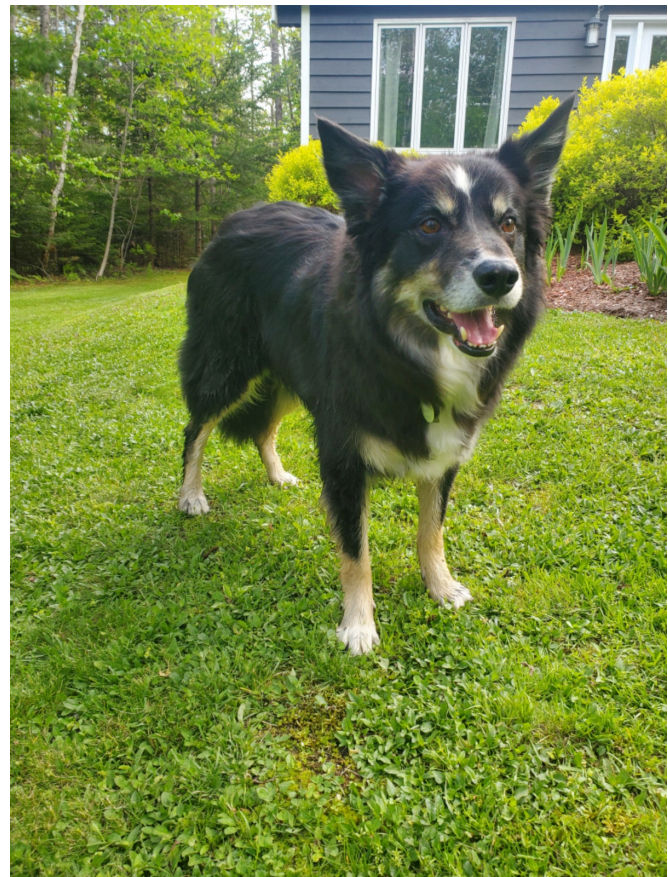
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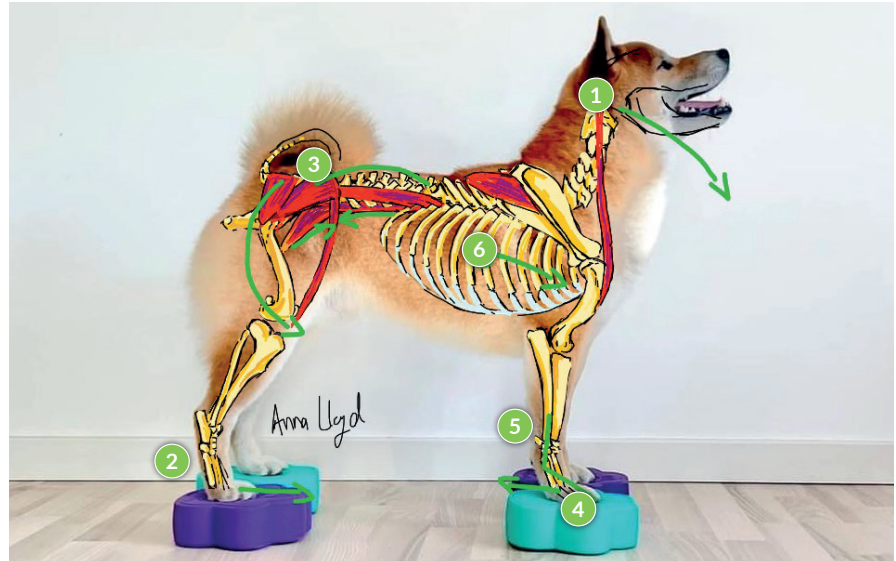
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Canine Hip Dysplasia

Compensatory Movement Patterns

What happens to my dog's body when they have hip dysplasia?

Canine hip dysplasia starts in one joint, but soon has an impact on structures throughout the body. The hip joint becomes inflamed and painful, especially when the joint is taken into extension behind the body (which happens during normal walking, running, jumping and playing), or when the joint rotates outwardly during playing, running or turning.

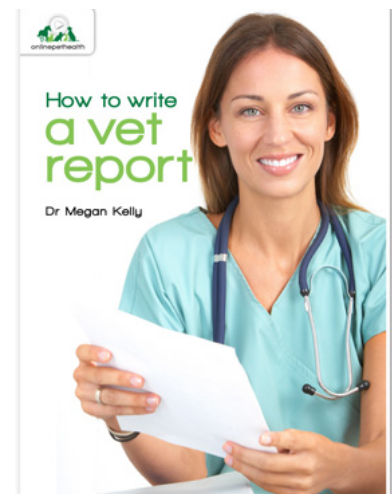


In dogs with hip dysplasia, we find a compensatory 'flow', or a change in posture and movement, as indicated in the image:

- 1 The head and neck will lower to shift more body weight off the hindlegs.
- 2 The hindlegs will step a little further forward under the body to reduce the degree of extension in the hips.
- 3 The pelvis and lumbar spine will flex, creating an arch in the back.
- 4 The forelegs will come a little further backwards underneath the body.
- 5 The carpus will become progressively more extended and lax as it carries more weight, in a poor biomechanical position.
- 6 The centre of mass will shift a little forward and down.

CREDITS: Photographer: Tanja Huxine Füllgraf | Dog: Miko standing on Flexiness® ToyPawDiscs NB: Miko is a healthy dog, without hip dysplasia. Thank you to his owner for allowing us to use this beautiful photo of him to illustrate the changes that can occur in dogs with this condition. | Artwork: Ané Lloyd | Exercise equipment: Flexiness - Gangwerk | Content written by: Ané Lloyd, Onlinepethealth

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HORSE GRIMACE SCALE (HGS)

| Horse Grimace Scale (HGS) according to Dalla Costa et al. (2014). | | |
|---|--|-------|
| Facial action unit | Description | Score |
| Stiffly backward ears | The ears are held stiffly and turned backwards. As a result, the space between the ears may appear wider relative to baseline. | |
| | Not present | 0 |
| | Moderately present | 1 |
| | Obviously present | 2 |
| Orbital tightening | The eyelid is partially or completely closed. Any eyelid closure that reduces the eye size by more than half should be coded as 'obviously present' or '2'. | |
| | Not present | 0 |
| | Moderately present | 1 |
| | Obviously present | 2 |
| Tension above the eye area | The contraction of the muscles in the area above the eye causes the increased visibility of the underlying bone surfaces. If temporal crest bone is clearly visible the score should be coded as 'obviously present' or '2'. | |
| | Not present | 0 |
| | Moderately present | 1 |
| | Obviously present | 2 |
| Prominent strained chewing muscles | Straining chewing muscles are clearly visible as an increased tension above the mouth. If chewing muscles are clearly prominent and recognizable the score should be coded as 'obviously present' or '2'. | |
| | Not present | 0 |
| | Moderately present | 1 |
| | Obviously present | 2 |
| Mouth strained and pronounced chin | Strained mouth is clearly visible when upper lip is drawn back and lower lip causes a pronounced 'chin'. | |
| | Not present | 0 |
| | Moderately present | 1 |
| | Obviously present | 2 |
| Strained nostrils and flattening of the profile | Nostrils look strained and slightly dilated, the profile of the nose flattens and the lips elongate. | |
| | Not present | 0 |
| | Moderately present | 1 |
| | Obviously present | 2 |
| Total pain score | | 12 |

SOURCE: J.C. de Grauw, J.P.A.M. van Loon/The Veterinary Journal 209 (2016) 14-22



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