

Four Leg News

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The “YOU” Issue! Dedicated to the great things that Four Leg Members are doing!!!

The NERD Contest I ran at the end of April resulted in some really cool submissions! Enough to fill TWO newsletters! So THAT is exactly what will happen!! Great job everyone! I am so proud to be a wee part of your learning and relearning, and to help you in your practice(s). I hope everyone enjoys this newsletter. I have selected two case studies and two ‘A-Ha’ moments for this edition!

Cheers to your success!

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Case Study – Mia



A 16-week old German shepherd pup

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Mia, a 16-week-old German shepherd pup, presented to the Humane Society on 2/4/13. She received a total (R)HL amputation on 2/13/13 due to severe hip dysplasia, quad contracture, and disuse atrophy of the (R)HL. The Animal Control Officer reported that Mia was living in a backyard with her parents and litter mates. Due to her inability to bear weight on either of her hind limbs, she scooted in a spinal C-shape manner, on her rear with both hind limbs in extension and adduction, crossing each other. She would pull herself along with her front limbs, not bearing weight on the HLs. Often, she was run over and stepped on by the other dogs. She is now in the

care of the Animal Control Officer who is fostering her. No control of bowel/bladder.

Objective history: Incision site clean and dry, no signs of infection. Patient presents with a submissive attitude but, glad to have human company. (L)HL presents with atrophy. Barlow/Barden (+) for (L) hip dysplasia. (L) stifle crepitus noted. Collateral ligaments intact. McMurray (-). Cranial drawer (-). No spinal tenderness noted at this time along the C,T or L spine. No noted tenderness in the Front limbs at the bicipital tendon, lats, supra or infraspinatus, teres, deltoid, or pectineus. Left front 1st rib noted tenderness with caudal displacement. Patient prefers to scoot on her rear with (L)HL held in adduction with stifle extension. Sits on this (L)HL, held in complete adduction under her. **Neuro Exam:** no patellar or gastroc reflex of the (L)HL. No CP of the (L)HL, no withdrawal reflex, superficial pain present (but not very strongly) in the (L)HL. (-) Extensor Postural Thrust and (-) Side stepping/right reflex, (-) placing reflex of the (L)HL. Very little tone noted in the (L)HL with the collateral ligaments intact at the stifle and tarsus, but laxity noted. No anal tone. Patient does not clean herself or acknowledge her (L)HL or lower trunk area. CPs and withdrawal present in the front limbs, biceps, triceps, and superficial pectoralis

present in the front limbs - Bilaterally as well.

Short Term Goals in 3 wks

- 1) Mia will demonstrate proper use of (L)HL in a weight bearing position during gait 50% of the time.
- 2) Mia will be able to ambulate > 30' with proper weight bearing on (L)HL before fatigue.
- 3) Improvement noted with bowel/bladder control with patient able to demonstrate need to eliminate to caregiver (before act occurs) 75% of time.
- 4) Caregiver will be (I) with HEP and follow through on a daily basis.

Long Term Goals in 6 wks

- 1) Mia will demonstrate a proper sit with (L)HL hip/stifle/ and tarsus flexion, tucked at her side 75% of time.
- 2) Mia will demonstrate decreased curvature of the spine with proper spinal alignment during weight bearing activities 80% of time.
- 3) Mia will be able to ambulate with proper use of (L)HL in weight bearing for 15 minutes without undue fatigue.
- 4) Mia will be (I) with bowel/bladder control 90% of the time.
- 5) Increased muscle bulk will be noted in the (L)HL with a decreased positive Barlow/Barden sign for hip dysplasia.



Mia's therapy initially consisted of a lot of manually therapy that involved Grade III-IV mobs to the thoracic and lumbar spine with patient in right side-lying in order to open up the vertebrae due to the limited ROM of the vertebrae because of the postural C-shaped curvature of the spine. Grade III mobs to the 1st rib, joint compressions to the (L) stifle, tarsus, and hip. PNF techniques involving running with the (L)HL, scratching her nose and belly. Sensory stimulation of the (L)HL with deep massage and to the residual stump. Tactile cues to the gluts, hams, and quads (during weight bearing therapeutic ex). Traction – tail and hanging traction. T wrap with ace bandages.

Therapeutic exercise involved closed chain activities: peanut roll with fronts up, weight bearing on (L) hind paw with a sensory disc under the paw. Mia required mod A initially to shift weight back onto the left hind limb while across the peanut roll (or during level standing).

Max time that she could hold this position with assist was 20 seconds before visual muscle fatigue was noted in the quads and hamstrings and she would not be able to maintain a weight bearing status. NMES also utilized to activate the gluts and hamstrings in weight bearing. Abdominal and core exercises for crunches and side-lying crunches. Cookies to the shoulder (turning away from the C-shape curve) to the left side. This required mod A at the core for stability and to keep Mia in weight bearing on the hind paw. Gait training with a Help-Em-Up harness on level, grass surfaces. Mia could demonstrate proper placement of the (L) hind limb with the initial 4 to 5 steps (once physically positioned with max assist), but would then fatigue quickly and either drag the (L)HL in extreme abduction or adduction. Mia never showed signs of pain with this dragging. Or, she would perform a 'hand stand' type of gait and walk on the front limbs, carrying the (LHL) in non-weight bearing.

Her home exercise program consisted of the Animal Control Officer working with her on proper sitting (Mia would sit in a C shape (almost taco shape) position with the (L)HL in complete adduction, dislocating the hip, or with the hip in complete abduction. The Officer also worked on tactile stimulation, joint compressions, tail traction, PNF techniques, and attempting to stand Mia with the (L)HL in weight bearing under her. A

After a month's time of seeing Mia 3x/week, she was advancing to hill work...

lot of time was also spent at home working on toileting (and cleaning up). Education to the animal control officer in how to properly express Mia's bladder during toileting. Rubber mats were purchased to align the tiled hallways in the office of the animal shelter where Mia spent the majority of the day with the officer.

After a month's time of seeing Mia 3x/week, she was advancing to hill work, slowly chasing a ball down the hill (with fair control of the hind limb), but demonstrating improved, proper alignment pushing with the hind limb back up the hill. Scrunchies utilized on the rear paw and the T wrap also used with gait training. Mia was able to go up/down one 4" stoop into the office and clear the hind paw. Manual therapy with mobilizations to the spine continued, along with PNF and tactile/sensory integration. Weight bearing exercises continued for strengthening of the trunk, core, and hind limb. Tail tip stimulation utilized in weight bearing with Mia starting to show signs of reaction. Reflexes still absent 1-month post-op, withdrawal still very delayed, CPs absent, postural reactions for the hind limb absent. Mia is now able to stand to eat, maintain her balance and alignment independently. Mia began to

bark when she wanted to go out to toilet, but only 40% successful holding off until the officer came. Later Mia was treated for a bladder infection.

At 6 weeks post-op, the patellar and gastroc reflexes were present (but still a little delayed). Withdrawal reflex present, but still reduced. Barden sign (-). Improved muscular tone noted in the hind limb at the stifle and tarsus, no laxity noted. Mia could demonstrate ball-chasing up/down a hill (for 30') with proper use and alignment of the hind leg 70% of the time pushing up the hill, 60% control of the hind limb running down the hill. Improved spinal control and alignment with activities (especially up hill activities) and proper use of the hind paw. With fatigue, she would knuckle and then begin to externally rotate and abduct her hind limb for increased push off. Improved balance and coordination with cookies to the hip. Mia began to clean herself, nibble on her hind paw and scratch her nose with her hind leg. Still no hip abduction against gravity



in side-lying noted. As a type of self stimulation, Mia would roll and roll in the grass, completely supine at times, scratching her back.

And here we are at 9 weeks post op. She does demonstrate 80% improvement of the bowel and bladder, but does require extra time to void in several locations. She does dribble at times (maybe due to puppy excitement) We continue to work on her core, abdominals, paraspinals, quads, hams, and gluts for strengthening, paying close attention to check on the lats, bicepital tendon, teres for tenderness and soreness with off loading. She is going up/down 2 flights of 13 steps at home with proper use and alignment of the hind limb. Focus is still trying to strengthening the paraspinals with proper alignment of the spine. Mia does revert back to a C-shape spine with fatigue. Proprioceptive treatment involves the use of the BOSU board, sensory disc, and ambulating through tall grass. Knuckling only is present with extreme fatigue. Mia does perform a proper sit 90% of the time, tucking her (L)HL at her side. Extreme hip abduction (or adduction) only with much fatigue. Cavaletti poles, even at 2" high are still too difficult to clear completely 100% of the time. We continue with treatment 2x/week. Mia's ultimate goal is to be placed in a safe and loving home – she is still up for adoption.

What I have learned from Four Leg Rehab – all my neuro testing and treatment for canines! I did not take the neuro course, so I have read and reread (printed off and carried around) Laurie's notes. The concept of the T wrap, tail traction, and PNF for

canines was all very new to me. I also carry my myotome and dermatome chart with me and began placing at least one electrode on S1/S2, hoping to get a carry over to stimulate these areas for bowel/bladder control – I do believe that improvement followed. The Barden/Barlow test became clearer to me after I watched the video on Four Leg Rehab. So far, unbelievably, Mia has not demonstrated SIJ pain when tested, but when she does I have reviewed and read the Laurie's book so many times, I will look forward to treating her in this area too.

I have extremely enjoying learned from the business videos that Four Leg Rehab has to offer. It's a new area to me, trying to 'sell' my services as a therapist to the veterinarians and community as a whole. I have learned to think more outside of the box and learned to present myself as an asset - because fund raisers were being arranged to pay for her surgery and care. But, my picture and Mia's pictures have been all over Facebook (thanks to the Animal Control Officer who is a big Facebook fan). I have been on the front page of the local paper, gotten noticed by the Canine Police Officer's in the area who work with the Animal Control Officer and I have assessed their dogs, and have gotten many referrals from the veterinarian who services this animal shelter. I'm known at times as "that therapist who is working with the 3 legged German

shepherd pup" from people in the community. But overall, I have gained such a love for the Four Leg Rehab site and I wake up early every Monday morning, waiting, to see what new concepts I can take in to carry over to my patients in the upcoming week. A special thanks to Laurie for sharing her wealth of information, and clear cutting a path for all of us new canine rehab therapist out there. You make our job so much easier and enjoyable, just knowing that we have a 'life line' that we can come to. Many, Many thanks for this wonderful resource in Four Leg Rehab!



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I was referred to assess "Leo," an 11 month old Leonberger puppy in March of this year. Weighing in at a "slight" 130 lbs, he is destined for the show world and as the prospective daddy of many lovely Leonbergers down the line. Leo's owner had initially become aware of problems in his right hind leg when he was approximately 5-6 months old. At that time it appeared that he was taking a longer time than expected to get up from lying down, started "lazy" sitting with his right leg straight out to the side, and occasionally bunny hopping. It is unknown whether his symptoms were insidious in onset or whether he could have underwent a specific injury; it was possible that one occurred during rough play with one of the other household dogs. As his symptoms had not resolved on their own, the owner requested further investigation. Radiographs revealed "possible" laxity on the right side and a PennHIP x-ray was recommended in order to get a more specific diagnostic view of hip integrity. Prior to getting the

Leo – A Case Study

PennHIP the owner and referring veterinarian were both requesting a strengthening program.

In preparation for my assessment I viewed "The Juvenile Dog with Hip Dysplasia" on the FourLeg Rehab website. It provided me with a great refresher on strengthening exercises and hip assessment skills (which I promptly tried out once more on my loyal test subject and "fur-child" Shelby - a rather cranky 8 year old Shepherd who really doesn't like her hips assessed!)

On assessment, Leo's "lazy" sitting was clearly demonstrated. I also noted that when getting up from lying to standing, although there was no lameness, the right hind leg was initially placed in a more externally rotated and adducted position. Mild muscle atrophy was noted with mid-femur circumference measurements and ("A-HA") there was very clear pain with palpation of pectineus and deep gluteal muscles on the right side only (which I wouldn't have necessarily tested without the hints from Laurie). Barlow & Ortolani produced some apprehension with testing but there was no specific clunk palpated. And in fact (second "A-HA") manual distraction of the joint (Barden test) was the most clear indicator of increased laxity on the

right side. Once again a helpful hint that I picked up from the video.

A daily exercise program was prescribed with 30 minute sessions including walking and sitting uphill, large clockwise circles, backwards and sideways walking, high stepping, doggy dancing and 3-legged balancing exercises just to name a few... and monthly follow ups were planned. At this point in time Leo is lively as ever and growing fast. His owner reports noticeable improvement. Outdoor swimming has also been added to his repertoire and a follow-up assessment is planned for mid-May. I loved this case as it strongly reinforced the benefit of a thorough assessment and that (third "A-HA") unilateral hip laxity does not necessarily result in a dysplastic hip (thank you Laurie for helping me see the light on this one). It also demonstrated a strong niche for "prehabilitation" interventions for these young dogs and the success of conservative management prior to considering surgical intervention.

A Big A-Ha & Start of Something More!

Hi Laurie,

As a general rule, I always get something out of your videos, audios, and printed material. However, one article, *Stretching and Injury Prevention*, really got me thinking along a new line.

You discussed how research doesn't support the generally held premises of stretching, that many of us who deal with four legged athletes hold near and dear. The idea that just because a technique (in this case, stretching) has been commonly used, doesn't mean it is beneficial in all cases.

Since a good percentage of my client base are performance dogs of one kind or another, I incorporate quite a bit of massage. And I'd fallen into a "rut" with some of the bodywork techniques I'd been using. So after reading your stretching article, I started over, building routines based on research outcomes rather than just doing what everybody else does.

One of my first surprises was the discovery that lactic acid is not the direct cause of muscle soreness. Muscles utilized during eccentric exercises actually use lactic

acid as an easily accessible burning fuel while their own ATP storage is depleted and production is strained. 1. (There goes the old lactic acid speech.)

Instead I found that vigorous exercise causes micro-tears in the muscle fibers. This leads to an immune reaction inflammation (muscle soreness). Massage suppresses the inflammatory pathways and stimulates the cellular mitochondria to make repairs. 2.

This information led to my next discovery, how effective the

"One of my first surprises was the discovery that lactic acid is not the direct cause of muscle soreness."

correct timing or "when" a sports massage is given. Along with others, I had been touting the pre-event massage. Instead I learned that it is of questionable value.

One study was enlightening. Three groups of athletes were tested immediately prior to a sporting event. One group had a massage. The second group did just warm-up exercises while the third group had both a massage and then warm-up exercises. The massage only group fared the worst in performance while the other two groups had fairly equal outcomes. The take away from this was athletic performance has been shown to suffer with just a pre-event massage. 3.

Following along the same thought process, I found the timing of a massage plays a significant role in the

recuperation process. If performed within a two to three-hour window post event instead of immediately after, massage can specifically be beneficial in the recovery from damage caused by repetitive muscular contractions.4.

Now I encourage owners to make massage an integral part of their canine's conditioning by educating them on how the specific application of massage techniques and strength training principals can be an extremely effective tool to achieve a specific goal when treating an athlete.

So thank you Laurie for getting me started along this path. It's an interesting one.

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A-HA!

My contest entry is an AHA moment I had after spending some time on the FourLeg website.

During rehab training, I was definitely taught about the sacroiliac joint and how it was a rule out for pain with hip extension. I think the problem was that I was taught so so many new things in such a short period of time that I didn't fully incorporate ALL the knowledge into my practice. What has been fabulous about the FourLeg website is being able to revisit in greater detail and in a less frantic and overwhelming way, the information I received in rehab

training.

I had been working my way through the material on the website and I was on the video for sacroiliac joint assessment and treatment along with an article on the same subject. The next day I had new consult come in for hip pain. Remembering my new sacroiliac information, I assessed the area. With a little pressure on the sacroiliac joint this big lab just dropped himself down to the floor! It was such a dramatic response to my first assessment. That is when the AHA moment came in. "AHA!" This can obviously be a painful area and needs to be assessed and dealt with to fully evaluate any pelvic limb dysfunction. With the information

in the video I was also able to treat that area and the dog ended up having a wonderful response to treatment.

Since then I am checking every dog for sacroiliac joint problems and am able to identify it quite often.

What's great is that I could have written about a few different AHA moments but they all break down to the same basic story. Identifying and incorporating some new information, which is helping me, help my patients!

Thanks so much Laurie!

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