

## PRESIDENT'S MESSAGE

*Francisco Maia, PT, DPT, CCRT*

For this issue we have a case study written by Kristin Tinlin, PT, DPT, CLWT, CCRT. Dr. Tinlin is a physical therapist who works with canines in Indiana. As a reminder, providing a platform and opportunities for research in the field of animal physical therapy is a main part of our SIG strategic initiative. I would like to take this opportunity to encourage any of you who might be interested in submitting an article for one of our future issues. You do not have to be an expert in writing research articles, and we will help guide you through the whole process. Just email us if you have a topic in the field of animal physical therapy that you would be interested in publishing.

I would also like to continue to bring attention to California. Stay tuned on social media and through email blasts for the most up to date news, but so far, the coalition in California has succeeded with the first steps with AB 814. As of today, it has passed the first policy committee with 14-1 voting margin, and most recently passed the assembly appropriations (fiscal committee) with a 12-3 voting margin. As you can imagine, it costs money to fight legislative battles, quite a bit of money in fact, and although our SIG has worked with Karen Atlas (who runs the coalition and has been spearheading these efforts) to help secure as many funds as we can for the coalition, we could use your help! Please follow the link below to a GoFundMe page and donate and share as much and as many times as you can. No amount is small enough as every little bit helps and sharing it to your friends on social media can help spread the word even more!

<https://gofund.me/2330cdad>

*Thank you,  
Francisco Maia, PT, DPT, CCRT  
Animal PT SIG President  
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## SPINAL TRACTION AND ITS PAIN-RELIEF EFFECTS: A CASE STUDY

*Kristen Tinlin PT, DPT, CLWT, CCRT  
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Back pain can be debilitating to canines and greatly impact their quality of life. Whether the dog is young or old, back pain can cause changes in behavior, diminished stamina, and depression. It can sometimes be challenging to diagnose because of a dogs' stoic nature and playful personalities. Causes of back pain can include, but are not limited to, spinal stenosis, spinal subarachnoid diverticula (SAD), intervertebral disc degeneration (IVDD), arthritis, spondylomyelopathy, and disc herniation. Currently, medication is commonly used to treat back pain, however, canine rehabilitation (rehab) can be an alternative treatment that

provides multiple long-term benefits beyond what is seen through medication treatment. Treating back pain in a rehab program can include massage, stretching, spinal traction, heat, transcutaneous electrical nerve stimulation, and strengthening.

Spinal traction is a form of spinal decompression and can provide back pain relief by taking pressure off the spine. The spine provides a nerve pathway that is composed of bones, ligaments, and disks. As back pain can be caused by injury or degeneration of the spine, spinal decompression aims to relieve the pressure in the spine to ease the pain.<sup>1</sup>

There is currently very limited research on spinal traction and its effects on canines, though Beranek et al published a study where cervical traction was performed on a 4-year-old Dalmatian with caudal cervical spondylomyelopathy and chronic neck pain. Myelography revealed intervertebral cervical compression that markedly diminished during cervical traction.<sup>2</sup> This study provided motivation and confidence to initiate spinal traction into my rehab practice when appropriate, and this case study focuses on one such instance.

### HISTORY

Angel is a spirited 17-year-old female/spayed (F/S) Shitzu mix dog. She joined her current family in July 2015, however, her history prior to that is unknown. Her past medical history includes high blood pressure that has resulted in blindness, deafness, and hip dysplasia. In July 2021, Angel suffered a back injury and woke up unable to walk. It was suspected that Angel injured her back from jumping off the bed the night prior.

Angel was treated with a Rimadyl injection (20mg), Carprofen (25mg) ½ tablet, 2x per day for 5 days and placed on activity restrictions with no stairs or jumping. Angel quickly regained the ability to walk, but since the back injury, the owner reports significantly diminished stamina, avoidance of cuddling, and overall decreased participation in activities.

### Medications:

Blood pressure:

Amlodipine 2.5 mg tablet; ½ tablet 2x/day Benazepril 5 mg tablet: 1 tablet 2x/day

Pain management:

Galliprant 20 mg tablet: 1 tablet/day Gabapentin 50 mg/ml: 1.3ml 2x/day

General health:

Loratadine 10 mg tablet: 1 tablet/day (for allergies) Provable-DC: 1 tablet/day (probiotic)

### Initial Rehab Evaluation August 2022:

#### Subjective

Angel is a 17-year-old F/S Shitzu who was referred to rehab by her veterinarian to address her arthritic pain and bilateral hip dysplasia. Angel was adopted in 2015 by her current owner. Angel

recently had radiograph imaging that confirmed severe bilateral hip dysplasia. Significant history includes back injury in 2021 where she was found unable to stand up. Currently, Angel does not ever try to stand on her back legs, has very little activity, and the owner has noted a new circling behavior. Angel lives in a 1-story house with a fenced backyard. Rugs are located throughout the home. Angel typically goes to work with her owner, sleeps during the day (not very active), and no longer sleeps in bed (stays on the ground in her own dog bed).

### Objective

**Posture:** Splays back legs/sloppy sits per owner report. Decreased curvature in spine when standing. Sitting posture was unable to be assessed, as Angel was not observed to sit during the visit. It is suspected the avoidance of sitting was due to pain.

**Body Condition Score:** 4 out of 9 - Normal

**Gait/Transfers:** Unable to assess sit to stand. Shortened steps with gait, decreased stance time on hind right leg. Able to walk short distances before requiring standing breaks. Intermittent dragging of hind limbs, more so on the right hind.

**Range of Motion:** Limited hip motion in extension bilaterally (muscle shortening of iliopsoas/sartorius). Difficult to fully assess due to Angel not being able to sit or lay - demonstrating painful responses. Decreased spinal range of motion - limited into left and right lateral flexion and rotation by 50%. Decreased thoracic extension.

**Muscle Mass/Strength:** Generalized weakness throughout hips and back legs. Grossly <3/5. Painful palpation to L pectineus/gracilis muscle. Increased muscle tension/spasms along paraspinals.

**Neuro Findings:** Delayed conscious proprioception paw flip of the hind right. Normal front and hind left conscious proprioception. Delayed side step reaction to the hind right.

**Ortho Findings:** Pain response with hip assessment. Decreased spinal ventral glides with painful response along thoracolumbar region.

### Assessment

Angel is a geriatric F/S Shitzu who arrives for therapy with goals from the owner to improve quality of life and reduce pain. Angel has significant past medical history including deaf and blindness with a recent back injury in 2021. Owner reports a significant decrease in activity since back injury and believes Angel is in pain. Angel has had recent radiographs of her hips and based on today's clinical findings, suspect arthritis and possible dysplasia bilaterally. Angel demonstrates delayed neurological status to the hind right leg (suspecting possible pinched nerve/disc herniation) and decreased weight bearing to hind right during gait. Throughout assessment Angel demonstrates painful responses with range of motion assessments and avoids sitting. At this time, Angel would benefit from skilled canine rehab to reduce pain throughout back and hips as well as improve range of motion and strength. Angel would benefit from gentle exercises, massage, and LASER therapy to improve gait mechanics, activity tolerance, and overall quality of life.

### TREATMENT

Angel has been attending rehab sessions 1x per week since her evaluation in August 2022, with a bout of 2x per week in November 2022 for 2 weeks due to a back pain flare up. Initially her sessions did not include spinal traction, but following the



unknown event that caused a significant increase in back pain it was added into her plan of care.

LASER Respond Systems Luminex Vet class 3b - 500mW power, 8J along entire spine and bilateral hips. Hot stone (heated to 120°) massage along the spine. Slow stroking to facilitate muscle relaxation of the paraspinals. Petrissage massage along paraspinals and hips as tolerated. Passive range of motion in all directions to bilateral hips. Active range of motion to spine using cookie-luring. Grade 1-2 joint mobilizations to bilateral hip joints, fast oscillations in a variety of hip positions (flexion to extension) x 30 seconds.

Generalized hip strengthening exercises.

### Clinical Progress November 2022

While Angel was being treated weekly for her arthritis and hip dysplasia, she arrived to session #14 in significant pain. She was panting excessively and was walking in a state of panic. Upon evaluation, Angel tried to avoid the touching of her back and neck. In previous appointments, Angel always allowed stroking of her back and this time demonstrated a much more painful response to touch along her spine. This behavior was different from her normal and led me to believe she was in significant back and neck pain. Increased time was spent talking to the owner to try and discover the cause of the injury. It was determined that Angel likely injured her back when she was getting a bath and the owner reported excessive squirming during the bath. Due to Angel's hypersensitivity to touch along her back, performing LASER or massage was challenging. Spinal traction was attempted. I picked up Angel and held her under her trunk, supporting her from pelvis to chest with both arms. Using gravity and Angel's own body weight, I slowly lowered Angel's head and tail, creating a gentle oppositional stretch along her spine (see image demonstration below). Angel immediately demonstrated a pain-relief response with spinal traction stretching and ceased panting. Angel's entire body language changed once in the spinal traction position and all her muscles were completely relaxed. This elongated stretch was held for 30-60 seconds, with rest breaks and performed a total of 5 times. Due to Angel's positive response following spinal traction, it was added to her home exercise program and continued at every rehab session. The owner was taught how to perform the stretch and was able to perform properly during the session for safe carryover at home.

## Clinical Update January 2023

Angel arrives at weekly rehab sessions with “pep in her step” and minimal signs of pain. Her owner reports a drastic improvement in her personality stating that she is cuddling more, interactive at work, and is asking to go on walks. Angel’s gait has significantly improved due to her hip strengthening exercises (>3/5) and demonstrates longer stride lengths, equal weight bearing throughout right and left hind limbs and faster cadence.

Angel demonstrates full range of motion in her spine as well as her hips with no painful response to touch. Angel participates very well in rehab and has made great progress with pain-relief as well as improving her overall quality of life. Angel’s owner verbalizes gratitude for “having her dog back.” Adding spinal traction into Angel’s rehabilitation program noticeably made the biggest impact in her recovery in both physical and emotional gains.

## RESOURCES

1. Spinal Decompression Therapy. Cleveland Clinic. Accessed January 2, 2023. [my.clevelandclinic.org/health/articles/10874-spinal-decompression-therapy](https://my.clevelandclinic.org/health/articles/10874-spinal-decompression-therapy)
2. Beranek J, Tomek A, Lorinson D. Distraction-stabilisation of two adjacent intervertebral spaces in a Dalmatian dog with caudal cervical spondylomyelopathy. *Schweizer Archiv für Tierheilkunde*. 2013;155(5):299–303. doi:10.1024/0036-7281/a000461

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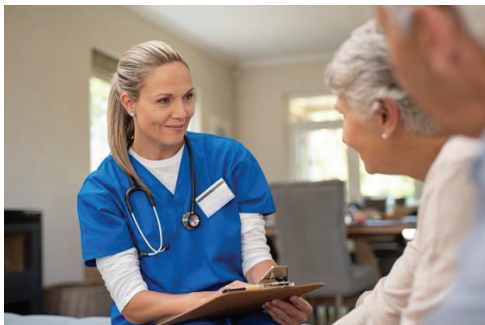
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