

## Letter From the President

*Jenna Encheff, PT, PhD, CMPT, CERP*

The ARSIG has some exciting news to report. On April 15, 2019, the Board of Directors of the Academy of Orthopaedic Physical Therapy approved the first ever completed Animal Rehabilitation Practice Analysis and subsequent Standards of Clinical Practice. Kirk Peck, ARSIG Past President describes the importance of this accomplishment below.

We'd also like to introduce you to Tara Jo Manal, PT, DPT, who is our newly appointed liaison to the AOPT Board. The ARSIG will work closely with Tara Jo as we strive toward reaching the goals outlined in our strategic plan. We would like to thank Stephen McDavitt, our former liaison for his assistance and help over the past several years. With the completion of the Practice Analysis and Standards of Clinical Practice, the momentum for the practice of animal physical therapy can continue to move forward. Additionally, the path to meeting our strategic plan goals has opened up immensely. The strategic plan for the ARSIG can be accessed on the ARSIG website at <https://www.orthopt.org/content/special-interest-groups/animal-rehabilitation>.

### ARSIG Practice Analysis Finalized - A Defining Moment

#### In History

*Kirk Peck, PT, PhD, CSCS, CCRT, CERP*

*Past ARSIG President*

A historic landmark event occurred on April 15, 2019, and marked a beginning for the future of animal rehabilitation in the United States. On this date, the Board of Directors of the Academy of Orthopaedic Physical Therapy formally approved the first ever completed Animal Rehabilitation Practice Analysis and subsequent Standards of Clinical Practice. The Standards are now posted on the ARSIG website at <https://www.orthopt.org/content/special-interest-groups/animal-rehabilitation>.

The purpose of the Practice Analysis was to identify post entry-level physical therapy education core clinical competencies for the practice of physical therapy on animals. The resulting clinical competencies now serve as a foundational description of animal practice with a goal to formally establish animal rehabilitation as a unique niche within the profession of physical therapy.

The Standards were derived from a statistical analysis of data from a nationally distributed survey completed in 2016. Competencies are divided into 6 major categories including (1) Foundational Knowledge of Animal Rehabilitation, (2) Patient/Client Management Model, (3) Interventions and Procedures, (4) Equine Specific Competencies, (5) Clinical Reasoning, and (6) Professionalism. Of 322 individual practice competencies assessed on the survey, 289 (89.8%) were found to be statistically significant and therefore comprise the current Standards of Practice for animal physical therapy.

I encourage all of you to please access the Standards of Clinical Practice for animal rehabilitation on the ARSIG website, and review the extensive outline of competencies for this distinct spe-

cialty within the profession of physical therapy. The comprehensive outline of Standards not only establishes a foundational description of animal practice, but also serves as one of the most influential accomplishments of the ARSIG in 21 years since its inception.

#### In Remembrance:

The ARSIG would like to take this opportunity to remember Jennifer Hubbard Brooks, MEd, PT, CERP, CCRP, a longtime member of the AOPT/ARSIG and strident supporter of physical therapy treatment for animals. Jennifer passed away unexpectedly on June 9th, 2019. Jennifer, along with Maggie Donahue and Charles Evans negotiated changes to the PT and Veterinary practice acts in New Hampshire allowing physical therapists to treat animals in both practice acts, one of the first and few states to allow this. She served as an instructor in the University of Tennessee's Equine Rehabilitation Practitioner certification program for many years as well as serving as faculty in Notre Dame College and University of Massachusetts Masters of Physical Therapy programs. Most recently, Jennifer had a very successful animal physical therapy practice in Hollis, NH, Horse 'n Hound Physical Therapy. Past president of the ARSIG, Amie Hesbach relates: "I knew Jen from our mutual work at Massachusetts Veterinary Referral Hospital in Woburn, MA. She was an enthusiastic student, learning canine physio to enhance her work in equine physio. She was a great teacher as well, taking time to expose physical therapy students to equine physio during their rotations/internships at MVRH. Always willing to try new things. Jen actually helped to broaden my horizons as an animal physio, referring a neurologic adolescent alpaca to me when I was first starting my mobile business west of Boston." Jennifer served as past Research Chair for the ARSIG and positively influenced many colleagues, students, and clients in both human and animal physical therapy. She will be greatly missed.

## Myofascial Trigger Point Dry Needling and Manual Therapy in a Yorkshire Terrier: A Case Report

*Cynthia Kolb, PT, DPT, Certified Canine Rehabilitation Therapist*

*William Kolb, PT, DPT, OCS, FAAOMPT*

Currently, there are few published studies that investigate the effectiveness of myofascial trigger point dry needling (MTTrP DN) in animals. The patient in this case report is a 10-year-old SF Yorkshire terrier with left thoracic limb lameness of greater than one year who received MTTrP DN. This, along with manual therapy and exercise resolved her lameness. On initial assessment, the patient presented with reactive tenderness to palpation of trigger points that were located in the latissimus dorsi, teres major, and triceptal muscle areas. The end outcome measures demonstrated improved functional scores, improvement in gait evaluation, and a resolution of altered sensation in the left front paw. The purpose of this case report is to demonstrate the effective inclusion of myofascial

trigger point dry needling in conjunction with manual therapy in reaching goals in an animal rehabilitation case.

Sadie was referred by her veterinarian for lameness of the left front leg (LFL) with a diagnosis of left elbow arthritis that has been ongoing for greater than 1 year. In addition to the lameness, her owners reported that Sadie was chewing on her left front paw and the intensity of her chewing was gradually getting worse. The clients reported that past treatments have included under water treadmill therapy at one canine rehabilitation office and cold laser at another without significant improvement. Current treatment includes a pharmaceutical regimen of Dasuquin daily, Rimadyl (12 mg b.i.d.), and Tramadol (50 mg q.d.). Rest, medications, and massage help to ease her discomfort. They stated that Sadie can run and perform all functional activities during the day, but then demonstrates offloading inconsistently.

On initial assessment, Sadie greeted the Certified Canine Rehabilitation Therapist (CCRT) on a full run with quick turns, then immediately stopped, lifting high the LFL. On slick surfaces, Sadie gaited on 3 legs, carrying the LFL, but used all 4 legs on carpeted areas 80% of the time. In standing, she would immediately off load the LFL. Winging of the LFL elbow was noted with the swing phase of gait, using circumduction to advance. Decreased step length of right hind leg (RHL) limited as compared to the left hind leg (LHL). The LHL was advanced with stifle extension and decreased flexion was noted.

Grade 2 patellar subluxation was palpated on LHL. Multiple trigger points noted in the left latissimus dorsi/teres major area, and subscapularis that when manually palpated elicited a pain response. No medial shoulder instability was noted with shoulder abduction. Full range of motion (ROM) was noted in right front leg (RFL) and cervical spine. No tenderness was noted with manipulation of left or right first rib. Tenderness noted T with dorsal/ventral (DV) grade 2 mobilizations. Conscious proprioception and withdrawal were intact throughout. (Refer to Table 1 for further objective values on initial assessment.)

In summary, Sadie is seen as a highly energetic dog. She is reserved to run on slick floors but continues to run on non-slick surfaces and to jump up onto small furniture. Multiple areas of compensation are seen. Due to patellar subluxation of the LHL, she off loads to the RHL. Limited range of motion (ROM) of the right hamstrings causes her to pull more with the LFL, over working this area. Chewing on the dorsum of the left front paw may be indicative of a nerve/tingling sensation due to referred pain from the latissimus dorsi and /or subscapularis area. The proposed pattern of compensation that was seen in Sadie by the CCRT was explained to the owner, along with the fact that this dysfunctional movement pattern will continue to escalate unless the cycle is disrupted. The client was educated on the benefits of trigger point DN for Sadie to which she voiced her agreement. Written approval was received by Sadie's veterinarian for dry needling by visit 3.

### Visit 2 (1 week after evaluation)

The order for DN had not been received by the second visit appointment time. The clients reported frustration with performing stretches over the past week as Sadie was highly resistant to the stretching and kept pulling away. The stretches were reviewed with the clients for proper technique, and an ice pack was used over Sadie's thoracic area while in sidelying for a calming technique during treatment. Little to no change was noted in the ROM of Sadie's LFL or BHLs (see Table 1). Class 3b cold laser to BHL

hamstrings, sartorius, thoracic and lumbar spine, LFL latissimus dorsi, teres, and triceps at 6-8 Joules/cm<sup>2</sup> prior to stretching and mobilizations. Grade 2-3 mobilizations used x 15 oscillations to T1-L1. Manual stretching to the LFL latissimus dorsi, teres major, tricep and to BHL, including hamstring and sartorius muscles was performed. No change in gait activities noted prior to or after treatment.

### Visit 3 (2 weeks after evaluation)

The clients reported improvement in Sadie since last treatment (see Table 1 for the objective measurements on visit 3). No change noted in the LFL with passive ROM. The written order was received to perform MTrP DN, and this technique was used with a Seirin J type needle, No.5 (0.25) x 30 mm. Multiple trigger points noted in the left latissimus/teres major area and left subscapularis that when palpated elicited a pain response from Sadie. Areas that were dry needled included the left latissimus dorsi, teres major, and triceps. Gentle coning and pistoning were used until a local twitch response was achieved. The insertion time for each was less than 10 seconds for each trigger point. Due to Sadie's quick reactions when a jump sign occurred from DN, a cold compress was again laid across her thoracic area to provide a calming effect. Range of motion of the left latissimus dorsi at 15% before DN. After needling 2 areas, the ROM improved to 75%. Sadie then allowed grade 2-3 mobilization of the radial/ulnar joint, carpals, and sesamoids. Range of motion of the left elbow after needling at 90% (see Table 1). Decreased tenderness noted at T4-12 after needling. Passive ROM of the left sartorius and bilateral hamstring was also performed with Sadie in sidelying.

After treatment, Sadie gaited on carpeted surfaces at a trot, weight bearing on all 4 extremities. She was called toward the therapist, having to cross a tile surface, which she performed at a faster

**Table 1. Summary of Outcome Measures**

Outcome Measures	Visit 1 (IA)	Visit 2	Visit 3	Visit 4
Lameness Scale	4/5	4/5	4/5	0/5
Bioarth Scale <sup>6</sup>	24/38	24/38	16/38	3/38
R hamstring	45% Full ROM	45% Full ROM	75% Full ROM	75% Full ROM
L hamstring	50% Full ROM	50% Full ROM	80% Full ROM	80% Full ROM
L sartorius	10% Full ROM	10% Full ROM	50% Full ROM	60% Full ROM
L latissimus dorsi	25% Full ROM	25%	75%	85%
L triceps	75% Full ROM	Full ROM*	Full ROM*	Full ROM*
		75%	90%	95%
		Full ROM	Full ROM*	Full ROM*

*Note:* [Values seen after myofascial trigger dry needling was performed on visit 3 and visit 4]  
Abbreviations: ROM, range of motion; IA, initial assessment; L, left; R, right



trot on all 4 legs. She continued weight bearing on all 4 limbs in standing. Sadie was then taken outside to perform hill work at various gait speeds on a grassy surface while weight bearing during and after all activity.

#### Visit 4 (1 week after visit 3)

Clients stated, “This is the best that she has been for months and months! She is running wide open outside, is jumping on and off furniture, and is not favoring that leg. She is enjoying the stretches and looks forward

to it, lying down in the middle of the floor.” The clients also stated that since the last visit, Sadie had not chewed or licked on her LFL the entire week.

Sadie was reassessed with a grade 1 patella subluxation (see Table 1 for the objective measures for visit 4) and limited ROM of the left latissimus dorsi at 45% prior to treatment. Latissimus dorsi, teres major, and triceps were again chosen as DN targets due to tenderness with palpation. The hamstrings of the BHL, and the sartorius were not chosen for DN due to the LFL having priority because of the poor response to passive ROM, whereas the BHLs ROM were progressing without the use of DN. After needling 2 trigger point areas in the left latissimus dorsi, teres major and triceps region, passive ROM increased to 85% with shoulder extension, and to 95% with elbow flexion (see Table 1). Sadie then allowed mobilization of the radial/ulnar, carpals, sesamoid, without resistance. No tenderness noted T4-12 after needling.

After treatment, Sadie ambulated with at least 4 different gait speeds over varying surfaces with consistent weight bearing on all 4 limbs. She did not demonstrate offloading in standing, or carrying of the LFL at any time. Improved stride length noted of the bilateral hind legs with swing phase of gait. Sadie also demonstrated proper alignment of the LFL without compensation or winging of the elbow in order to advance the limb. All goals were met by the fourth visit. Due to the clients being out of the country for an extended period, they stated that they would continue with the stretches on a daily basis and contact the CCRT if Sadie began to favor her LFL or regressed in any way. Communication was attempted by the therapist at 2 and 5 months as a follow-up, but was unable to reach the clients to see how Sadie continued to progress.

This case report describes the successful implementation of DN as an adjunctive treatment to a musculoskeletal dysfunction in a Yorkshire terrier. The full, predisposing factors and cause of Sadie’s dysfunctional movement pattern and resultant gait abnormalities is speculative. It can be reasoned that the beginning of Sadie’s issues started with the subluxating patella of the LHL. This condition is primarily seen in small dogs, especially breeds such as the Boston and Yorkshire terriers, and is one of the most common orthopedic conditions.<sup>1</sup> The muscle imbalance noted in the initial assessment of the LHL lacking in girth size of the quadriceps and hamstrings as compared to the RHL along with decreased ROM noted in the hamstrings of the RHL as well, demonstrates this pattern of compensation.

In Sadie’s case, the typical rehabilitation protocol of stretching

and strengthening was proved to be insufficient due to the painful condition of the left front shoulder, questionable numbness/tingling via trigger points in the left front paw, and her energetic temperament. Where she responded well to the passive ROM stretches of the hind limbs, she did not tolerate the stretches to the left shoulder girdle. For this reason, DN was chosen as an intervention and supported with a prescribed home exercise program. This case report demonstrated that DN may be a justifiable option for a diagnosis of shoulder pain in order to relieve pain/numbness/tingling referral patterns, but also to increase scores on functional outcome tools.

The referral pattern to the dorsum of the right front paw where Sadie was prone to lick and chew corresponds with the referral pattern described by Travell and Simons (for a human hand) of the latissimus dorsi muscle.<sup>2-4</sup> A similar human case using dn is described by Lane, Clewley, and Koppenhaver<sup>6</sup> with two visits of DN that alleviated complaints of upper extremity numbness and tingling. Cervical radiculopathy and compression along the course of the nerve had been ruled out in Lane’s case report, with the overall diagnosis being unclear. The patient’s complaints were elicited with manual compression of the trigger points in the teres minor and infraspinatus muscles.

Many different components and theories were incorporated for a successful result in Sadie’s case. This collaboration of treatment methods that were drawn from the human side of physical therapy and applied to the animal population demonstrates a full circle of research. As therapists, this knowledge is applied to our human population with success. As animal rehabilitation therapists, one must take the knowledge that has been gained in working with our human population, employ this to research, and validate the most effective and evidence-based treatment program for our patients in order to meet their needs and improve their quality of life. The need for future research in the area of animal rehabilitation cannot be stressed enough.

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#### REFERENCES

1. ACVS (American College of Veterinary Surgeons). Patellar luxation. Small Animal Topics. [www.acvs.org/small-animal/patellar-luxations](http://www.acvs.org/small-animal/patellar-luxations). Accessed May 21, 2019.
2. Dommerholt J, Fernandez-de-las-Penas C. *Trigger Point Dry Needling. An Evidence and Clinical-Based Approach*. Workbook. New York, NY: Churchill Livingstone Elsevier; 2013.
3. Simons D, Travell J, Simons L. *Travell and Simon’s Myofascial Pain and Dysfunction: The Trigger Point Manual. Volume 1: Upper Half of Body*. 2nd ed. Philadelphia, PA: Lippincott Williams & Wilkins; 1998.
4. Simons D, Travell J, Simons L. *Travell and Simon’s Myofascial Pain and Dysfunction: The Trigger Point Manual. Volume 1*. 2nd ed. Baltimore, MD: Williams and Wilkins; 1999.
5. Bioberica Veterinaria. *Bioarth functional evaluation scale*. <http://www.iavrpt.org/2006/poster3.pdf>. Accessed May 21, 2019.
6. Lane E, Clewley D, Koppenhaver S. Complaints of upper extremity numbness and tingling relieved with dry needling and teres minor & infraspinatus – A case report. *J Orthop Sports Phys Ther*. 2017;47(4):287-292.