

ANIMAL REHABILITATION

SPECIAL INTEREST GROUP

Letter from the President

Kirk Peck, PT, PhD, CSCS, CCRT

APTA REVISED VISION STATEMENT & THE ARSIG

During the 2013 House of Delegates members voted unanimously to adopt a new APTA Vision for the profession of Physical Therapy. The new Vision reads, “*Transforming society by optimizing movement to improve the human experience.*” Interesting side note, several delegates spoke during the House debate expressing concern that the practice of animal rehabilitation might be overlooked in the new Vision. The APTA legal counsel was consulted and the response was simply “no,” the new Vision Statement does not alter any APTA position on practitioners who desire to treat animals. So on behalf of the ARSIG, I wish to express a sincere note of thanks to Stephen McDavitt, PT, DPT, MS, FAAOMPT, President of the APTA Orthopaedic Section, for vocalizing his concerns about animal rehabilitation on behalf of the ARSIG. His support of our cause during the debate was greatly appreciated. I can say this from personal experience since I was present at the House serving as Chapter Delegate from Nebraska.

WHERE ARE THE NEWBIES?

No, I did not say ‘babies,’ I said ‘newbies,’ meaning where are the new recruits to the ARSIG? A primary responsibility of members involved in any formal organization is recruitment of new members...the ARSIG is not immune. There are many ways we all can take part in this endeavor including sending a positive message to PTs and PTAs who may just be thinking about treating animals some day. Let them know the benefits of animal rehab and how it does not necessarily mean giving up human practice. Second, organize speeches for other therapists and students in PT and PTA schools, and at state chapter meetings if you can get your foot in the door. Or maybe allow a student or a therapist to shadow you in practice. These are only a few examples of how you might consider getting others excited about a growing area of practice within the profession.

Yes, I completely realize that not every PT or PTA in this country is philosophically on board with therapists supposedly *jumping ship* to treat animals. There seems to be a mythological perception that we are neglecting our human traits as a profession, but *au contraire*. Anyone involved in animal rehab knows for a fact that we as practitioners interact with humans every bit as much as we do when treating humans directly, even more so in some cases. Educating animal owners is certainly one of the biggest aspects of being successful in animal rehab, and let us not forget the countless number of clients who all too often jump at the chance to ask a PT a question about their own injury while treating ‘Fluffy.’ Yes, we all could tell stories. So my response to the nay-sayers is that animal therapists are pretty darn good at dealing with the psychosocial aspects of human care to comfort emotional distress and to also maximize personal ability to care for...yes, I am going

to say it again, animals. In effect I would argue that animal therapists treat both animals and humans simultaneously.

PRACTICE ANALYSIS SURVEY & CSM

The ARSIG would like to move forward with some exciting initiatives but cannot do so until raw data from a practice analysis survey conducted in 2007 are analyzed. Yes the survey is somewhat dated, but elements of it are salvageable and may prove useful in the creation of a new survey that needs to be conducted in the next year or two. The ARSIG officers cannot make arbitrary decisions for action without valid data to support new and innovative proposals. Therefore the practice analysis survey will become a primary focus of attention over the next few months and will be discussed during the APTA Combined Sections Business Meeting, 2014.

Speaking of Combined Sections, I am very excited to announce that the ARSIG had another continuing education program accepted for the conference in Las Vegas, NV. The topic will be on manual therapy of the canine thoracic spine and will be taught by Laurie Edge-Hughes BScPT, MAnimSt (Animal Physio), CAFCI, CCRT. I sincerely hope you will be able to join us at CSM next February for a fun and exciting continuing education course and business meeting.

PHILOSOPHICAL NOTE ON THE TOPIC OF RESEARCH

Finally, I want to address a very important topic, especially for the ARSIG as it continues to gain greater reputability. Simply put, we need more research in the field of animal rehab. The area of focus is wide open considering how little has been validated by way of evaluation tools, movement disorders, evidence-based interventions, and quality outcomes. Research may encompass several methodological designs including case studies, literature reviews, and randomized controlled trials. Another option is for SIG members to consider the idea of looking at multi-site studies to pool large amounts of data on a specific phenomenon of interest. As a brief side-note, it is important to recognize that consistently observed anecdotal evidence certainly influences clinical decision making, but findings should still be validated by quality research before any claims of true efficacy can be made.

I am not sure how else to say this fellow colleagues, but research is what ultimately will define how we practice in the future. There is no escaping this simple fact. Health care today is all about evidence-based practice, so we need to encourage more PTs and PTAs to take the lead on research initiatives and I am referring specifically to topics on animal-based rehabilitation.

Engagement in the process of research is a natural sequence of growth for any new profession or area of practice within a profession. When the early pioneers of physical therapy organized our profession in the 1920s, they were not conducting large amounts of research to validate practice. But look where we are today! The voluminous amount of research published by PTs and PTAs alike is phenomenal, and so too this must happen

in our niche market of animal rehab. If we want credibility as practitioners in the future, there is only one path to travel, and that road includes scholarly endeavors. So someday when you are asked, "How do you know that particular procedure is the best option in this case?" What will you hang your hat on?

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Costovertebral Joint Dysfunction in an Obedience Trained Golden Retriever: A Case-Study

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PAST MEDICAL HISTORY

Buoy is a 7-year-old intact male Golden Retriever, and 2010 AKC National Obedience Champion. Buoy had been treated previously in rehabilitation for a partial tear and avulsion of the left biceps brachii tendon in April 2010, and for a nonpainful gait dysfunction related to compensatory actions of his left forelimb. Both conditions were successfully rehabilitated and allowed Buoy to return to competition. In January 2013, Buoy returned to rehab for evaluation of a 'roached' thoracic spine causing a malaligned sitting posture. The client was concerned the poor sitting conformation would impact Buoy's performance during competition so a professional evaluation was pursued. Figure 1 displays a radiographic view of a roached spine.

SIGNIFICANT PAST HISTORY

During the initial evaluation, the client revealed that when Buoy was young he 'wrapped' himself around a tree while playing and may have injured his spine at that time. The incident did not require formal rehabilitation, and no additional injuries to the spine were reported.

INITIAL PHYSICAL EXAMINATION

In early January 2013, Buoy was examined by a certified rehab veterinarian. Physical evaluation revealed no palpable difference in supraspinatus, pectoralis, or deltoid muscle mass. Tendinous resistance to left elbow extension was noted, but

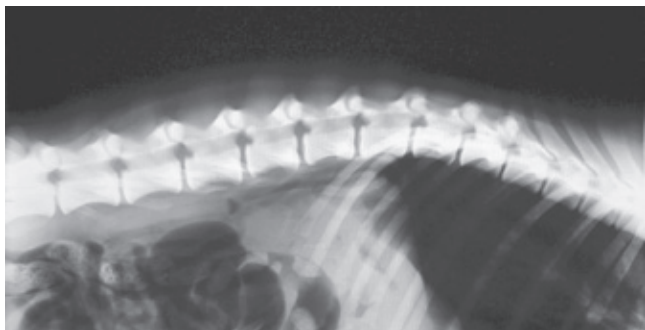


Figure 1. Radiograph image displaying increased kyphosis, eg, roach spine posture.

full painfree range of motion was present bilaterally. Vertebral mobility testing using dorsoventral joint glides revealed no signs of pain or discomfort. No change in lameness or gait abnormality was observed during initial assessment. Buoy was cleared of all other medical conditions. Buoy's owner was therefore instructed to resume regular obedience training as tolerated along with weekly sessions of aquatic therapy for conditioning. Following one month of therapy, Buoy's roached back posture remained and a consultation was arranged with a physical therapist certified in canine rehabilitation.

PT PHYSICAL EVALUATION

On February 14, 2013, an evaluation was performed by the physical therapist that resulted in no abnormal findings or elicitation of pain with the following assessments: (1) passive range of motion to all 4 extremities (including isolated stretching of a variety of thoracic and pelvic limb muscles); (2) dorsoventral mobilizations of the cervical, thoracic, and lumbar spinal segments using pressure over the spinous processes; and (3) all special tests evaluating ligamentous integrity at the shoulders, elbows, hips, and knee joints. Isolated costovertebral joints were then assessed for signs of pain or dysfunction. Grade 3 dorsoventral glides were performed on all thoracic costovertebral joints. A significant and immediate painful response from Buoy was elicited with pressure directly over the right T10 and T11 segments. No signs of pain or dysfunction were found with similar grades of joint movement on the left T10 and T11 segments. No other significant findings were found upon physical examination.

INTERVENTION

Joint mobilization was applied to the right costovertebral segments at T10 and T11 secondary to hypomobility and pain. Grades 3 and 4 joint mobilizations were performed as tolerated in a dorsoventral and slightly oblique plane along with direct mobilization over the corresponding ribs just lateral to the costovertebral joints. Buoy exhibited a decreased roached sitting posture immediately following treatment. The client was instructed to perform deep tissue massage of the epaxial muscles and gentle rib springing over the affected thoracic area as a home program.

FOLLOW-UP VISITS

Buoy returned to rehab on February 18 for deep tissue massage, treatment of involved ribs with costovertebral joint mobilization, lateral rib springing, and laser therapy to the right T8- T12 costovertebral joints. During assessment Buoy continued to exhibit a slight roached back in a sit position although markedly improved in 5 days. He also exhibited significantly less discomfort upon palpation and joint mobilization over the T10 and T11 segments.

Buoy did not return to rehab until March 7, 2013. During follow-up, he exhibited only a mild twinge of discomfort with joint mobilization on the right T11 costovertebral segment, but range of motion of the same segment was unrestricted in comparison to adjacent costovertebral joints. The T10 segment had full painfree joint play. Buoy exhibited only a mildly observable roached spine posture in sitting. The client was so pleased with Buoy's progress she entered him in full Obedience competition.

On March 16-17, 2013, Buoy competed at the AKC

National Obedience Competition in Tulsa, Oklahoma and won the National Championship for the second time in his career (Figure 2). The client reported that he was training well and looked like a “million bucks” during competition.

CLINICAL SIGNIFICANCE

In general, a roached spine is defined as an abnormal convex curvature located in the cervical, thoracic, or lumbar regions. Visual inspection reveals an arch in the spine that may or may not be painful upon palpation. If the arch remains present during standing, sitting, or active movement, it is considered to be roached and may be the source of movement or postural dysfunction. Differential diagnoses of a roached spine includes, but is not limited to, the following: intervertebral disk disease, tumor, kidney disease/infection, abdominal masses, liver disease, gastrointestinal upset, abnormal bone growth, excessive muscle development, congenital abnormality, joint dysfunction, or a benign clinical finding.

The costovertebral joints are classified as ‘planar’ synovial joints reinforced by several ligamentous structures and muscle attachments.¹⁻³ Costovertebral joints are located lateral to the zygapophyseal (facet) joints as seen in Figure 3.

Costovertebral joints possess only a few degrees of range of motion at each segment allowing for normal painfree body movements. The limited amount of segmental mobility however serves to also prevent excessive rib displacement during flexion, extension, and side bending of the thoracic spine.¹ Costovertebral segments consist of a synovial joint capsule, mechanoreceptors, and pain nerve fibers. Therefore these joints are a potential source of pain in the presence of movement dysfunction, dislocation, or fracture.⁴

Mechanical disorders of the costovertebral joints may include states of hyper- or hypomobility secondary to ligamentous sprains, muscle strains, bony pathology, or prior fractures. Rehabilitation will vary depending on the cause of

injury, involved structures, and state of tissue healing. Therapeutic interventions for rehabilitation may include soft tissue and joint mobilization to restore normal mobility, splinting for protection during periods of controlled healing, physical agents such as laser, ultrasound, or electrical stimulation to reduce pain, swelling, and muscle spasm, and therapeutic exercise for balance/coordination and core stabilization.

CONCLUSION

The importance of this case study is to emphasize the need to evaluate costovertebral segments, in addition to zygapophyseal joints, as part of an initial evaluation on a dog exhibiting a roached thoracic spine, or any painful condition of the spine with suspected mechanical joint dysfunction. It is clinically possible for costovertebral segments to be a primary source of pain and dysfunction even when adjacent zygapophyseals joints exhibit normal painfree motion. Costovertebral joints are a potential trigger for pain and dysfunction but with proper intervention can be restored to normal mobility allowing the canine patient a return to desired activities and sport participation.

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Figure 2. Buoy, National Obedience Champion. March 17, 2013, Tulsa, OK.

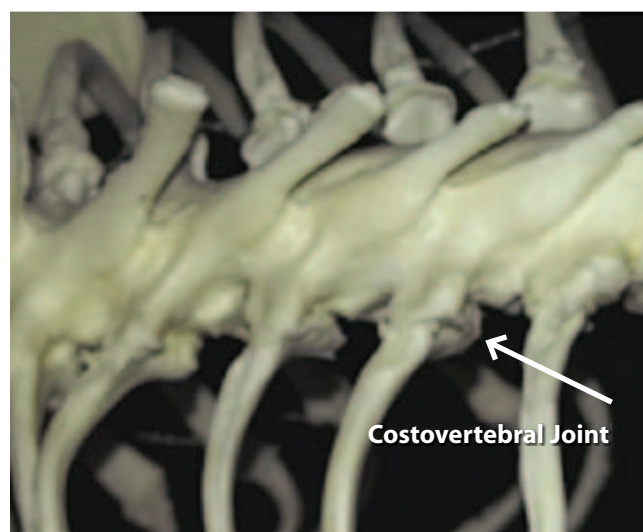


Figure 3. Thoracic spinous process displayed pointing upward with costovertebral joints articulating with vertebral bodies just lateral to the zygapophyseal joints.