

*Description: In a basic sciences microscope laboratory course, the implementation of Prezi educational technology was used to facilitate student learning. Prezi is an online presentation software tool which can be used to create a visual story for presenting ideas on a virtual canvas which can aid in scanning pathology slides as students often lose the full educational benefit intended when they cannot recall their study of normal tissue or recognize and understand the presented pathology.*


*Description: This commentary identifies the purpose of dedicating a special issue of the Journal of the Canadian Chiropractic Association to understanding spine neuromuscular control.*


*Description: The research compared muscle activations of the gluteus maximus and gluteus medius muscles during the performance of the three different hip rotation exercises. The hip rotation exercises were designed to increased functional hip strength that would lead to improvements in golfing performance. Muscle activation patterns suggested that medicine ball rotational throw exercise may be an appropriate training exercise to target hip musculature underlying the performance of the golf swing. Using the Somax Power Hip Trainer may also be appropriate as a home exercise when training space is limited.*

**Description:** The study of passive stretching response of individual muscles can help the diagnosis of muscle disorders and aid the evaluation of surgical and rehabilitation treatments. However, it is still beyond the current state-of-the-art. This study aimed to evaluate the feasibility of using a novel ultrasound technology, namely Supersonic shear wave elastography (SSWE), to quantify passive stretching response of human tibialis anterior muscle. Results demonstrated that the technique can successfully extract physiologically meaningful parameters from the elasticity-angle curve curves for better quantification of passive stretching response with excellent test-retest reliability.


**Description:** This manuscript summarizes the finding from the evidence based guidelines committee of the North America Spine Society. There were two chiropractors on this committee, P Dougherty and A Lisi.


**Description:** This is a systematic review of the literature that looks at outcome assessment questionnaires in the Spanish language. The review identified several questions that have been translated into Spanish, including the Oswestry Low Back Pain and Disability Questionnaire, the Roland Morris Disability Questionnaire, the Northwick Park Neck Pain Questionnaire and the Neck Disability Index. Recommendations are made regarding the questionnaires that are most useful for Spanish-speaking patients.


**Description:** Postoperative nausea and vomiting (PONV) is the most common complication occurring after surgical anesthesia in children. Postoperative vomiting (POV) remains a major cause of morbidity in children. Antiemetic drugs are the most common treatment but are not always effective. The goal of this study was to assess the quality, comparability, and outcomes of randomized controlled trials (RCTs) of acupoint stimulation (AS) in reducing PONV in children. The authors reviewed seven trials involving 814 people ages one year through 18 years. Study quality was high and all seven trials showed positive outcomes for AS in POV or PONV. AS for pediatric PONV was determined to be a safe intervention that may reduce the incidence of PONV and diminish the need for pharmacological intervention.

**Description:** The validation of PROMIS and GAITRite outcome measures through correlation to previously validated “gold standard” International Knee Documentation Committee (IKDC) patient reported outcome measures. We looked at the time taken for each type of assessment, and found decreased patient and clinician burden for the PROMIS and GAITRite instruments. We also looked at the ability of PROMIS to identify those patients likely to have poor outcomes, and found that baseline measures of physical function were indicative.


**Description:** This narrative review provides an overview of the application and origin of somatosensory evoked potentials (SEPs), a neurophysiological technique. SEPs can be applied to identify cortical activity changes associated with spinal manipulation (SM).


**Description:** This paper describes the design and protocol for a randomized, controlled trial that is currently being conducted at the University of Pittsburgh. This study compares a specific protocol for the management of lumbar spinal stenosis, in part developed by Dr. Murphy and focused on spinal manipulation and neural mobilization, with two other approaches to this disorder – “usual medical care” and a group exercise program.

**Academic Year: 2014-2015**


**Description:** The case series data provided initial evidence on the utility of NIH PROMIS instruments to measure the latent trait of pain (pain intensity, pain behavior and pain interference) as a clinical and research outcome in chiropractic patients following ConnecTX Therapy. ConnecTX Therapy is a recent development in the field of instrument-assisted soft tissue mobilization (IASTM) that uses a single, double-beveled, convex and concave, instrument with long and short radius surfaces to treat the various shapes and curves of soft tissue structures of the body.

**Description:** Correlation analysis, factor analysis, and cluster analysis were performed on data collected from a clinical survey of various types of neck whiplash injuries. The statistical analysis revealed meridian sinew syndromes in whiplash-associated disorders (WAD). Based upon the statistical analysis, therapeutic strategies of acupuncture treatment in WAD are proposed by categorizing four types of neck symptom presentations.


**Description:** A clinical survey was used to collect data on the characteristics of meridian sinew (jinglin) syndrome in 313 patients with whiplash-associated disorders (WAD). The descriptive data revealed that meridian sinew differentiation was practical in WAD with respect to “Sinew Knotted Points” tenderness and corresponding symptoms: widespread spasm and tenderness in the neck (Taiyang), difficulty in lateral flexion (Shaoyang), problems of extension and flexion (Taiyang), and stiffness and pain during neck movement (Yangming).


**Description:** This study describes the results of a VA Merit grant. The study evaluated the role of a broadly defined spinal manipulative therapy compared to a sham therapy in older adult veterans (>65) who were naïve to chiropractic. The results of the study found no difference in pain or timed up and go between groups. They did however find that the group that underwent SMT had greater improvements in disability as compared to the sham group.


**Description:** This study describes the results of the HRSA sponsored randomized controlled trial. This study evaluated the role of the clinical prediction rule for spinal manipulation (which was developed in acute/subacute and chronic populations) in chronic pain only. The study evaluated changes in pain, disability and quality of life in patients undergoing either Active Exercise Therapy (AET) or Spinal Manipulative Therapy (SMT). The study found that the clinical prediction rule did not predict responsiveness to either treatment in patients with CLBP.

Description: This article describes an investigation into the use of novel device to present pain stimulus of the lumbar spine during fMRI recordings. The frequency of individuals with cortical activity in 3 bilateral brain regions, is described, along with scan to scan reliability for 6 brain regions. Motion artifact was found to influence the results, but the technology shows much promise.


Description: In an observational study, kinematic data of spinal manipulative therapy (SMT) delivery to the cervical, thoracic, and lumbar spinal regions was recorded. Our goal was to determine the acceleration characteristics of manipulative thrust input delivered to a patient. Similar to studies on SMT forces, for acceleration amplitudes there was high variability across spinal regions.


Description: There is limited evidence regarding neurophysiological changes across time that occur with motor learning. Our objective was investigate corticomotor excitability over the course of two motor training sessions. We found corticospinal excitability decreases following a motor training task.


Description: Evidence on the beneficial effects of taping and bracing on competitive sports performance is absent. To validate anecdotal reports, the current research was conducted on wrist wraps in highly skilled shot-put athletes to determine the beneficial effects, if any, of taping and bracing on competitive sports performance. The use of power lifting style wrist wrap by collegiate track and field athletes increased the maximum throwing distance of the shot put by an amount that would benefit competitive sports performance.


Description: Our goal was to discuss knowledge translation for Canadian chiropractors. We hope to reduce the gap between research and chiropractic practice.

Description: This study aims to develop a radiation-free ultrasound-based system to qualify scoliotic deformity. Three-dimensional coordinates of spinous process tips from C1 to L5 of 30 deformity configurations were acquired by the system and curve-fitted using locally weighted polynomial regression. Spinal process angle was calculated from the spinal curve for each configuration. Results revealed that SPA is significantly correlated with Cobb angles (Pearson’s correlation coefficient = 0.918), indicating that the system developed in this study is a viable technology for quantifying scoliotic deformity.


Description: Primary spine care is a new service line in the health care system led by a new type of practitioner, the Primary Spine Practitioner (PSP). This new practitioner requires a focused and refined skill set to function in mainstream health care settings providing primary care for patients with spine related disorders. The article describes opportunities, challenges, and implementation of this patient-centered, team-oriented spine care pathway.


Description: This article describes a newly developed automated technique for study of pain pressure applied over the lumbar spine. The device sufficiently mimics the palpatory technique used in clinical practice to elicit pain. The pain thresholds found at two separate time points was found to be reliable and reproducible. Future work will incorporate this device to assess cortical responses to this unique pain stimulus.


Description: Performance-based outcome measures are lacking to assess people with lumbar spinal stenosis (LSS). Our objective was to apply a well established motor control law to assess patient ability pre and post strain. We found that strain prevented the LSS patients from demonstrating improvement gains and LSS peoples were more adversely impacted than healthy controls.

**Description:** Tactile learning is difficult. Our goal was to explore whether induced radiating paresthesia disturbs the acquisition, and/or utilization of tactile information and if so by what mechanism. We found that anatomical spatial location of a perturbation was a key factor during complex tactile knowledge acquisition and recollection.


**Description:** Our goal was to highlight the launch of the Canadian Institutes for Health Research Institute for Musculoskeletal Health and Arthritis strategic plan release as it relates to the chiropractic profession.


**Description:** The pilot study looked at the perceived effectiveness and learning potential of three distance education instructional methods in the context of chiropractic diagnostic imaging residency training. Three mini-courses were developed using asynchronous discussion boards, synchronous web conferencing, and asynchronous voice-over case presentations formatted for web viewing. The participants rated highly the perceived effectiveness of each method in achieving the course objective and goals. The utilization of various instructional methods may be most appropriate in this context.

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