JOURNAL PUBLICATIONS
2008-2009 ACADEMIC YEAR to 2010-2011 ACADEMIC YEAR


   **Description:** This manuscript is an overview of the current state of the art in chiropractic including: education, research and practice. The manuscript was designed to give a practicing primary care physician both an overview of what a chiropractor does but also very practical tips on how to chose a chiropractor to refer his/her patients to.


   **Description:** A case is presented that describes and discusses the natural progression of cervical herniated disk to cervical myelopathy, independent of any provoking factor including spinal manipulation.


   **Description:** A case is presented that describes and discusses the safety and effectiveness of a treatment regimen involving manual and self generated end range movements into extension. The patient presented with four disc herniations, two of which compressed the spinal cord, accompanied by radiculopathy and motor loss.


   **Description:** The article presents eight evidence-based recommendations for the use of invasive diagnostic tests, interventional therapies, surgery, and interdisciplinary rehabilitation for nonradicular low back pain, radiculopathy with herniated disc, and symptomatic spinal stenosis. The recommendations were based upon 161 randomized trials.

Description: This cross-sectional research project addresses the potential impact of post-traumatic stress disorder on clinical outcomes of conservative forms of management for musculoskeletal disorders among veteran patients.


Description: Based upon the presentation of clinical features and management of a case, the authors describe that lumbar flexion/distraction may serve as a safe and effective component of conservative management of mechanical low back pain for some patients with spondylolysis and spondylolisthesis.


Description: This paper reviewed the advancements and patents in methods and apparatus developed to assist with closed reduction of diaphyseal fractures of long bones. Pros and cons of each approach as well as the current and future directions were also discussed.


Description: This paper described the development and validation of a X-ray based computer-aided method for closed tibial shaft fracture reduction. The method relies on the measurements of 12 projection parameters from an anteroposterior radiograph, a lateral radiograph, and a transverse projection photograph to calculate the adjustment requirements of a custom-made unilateral external fixation device to execute the reduction.


Description: This paper addressed the feasibility of using EMG-driven musculoskeletal modeling combined with in-vivo ultrasound measurement of musculotendon parameters for the prediction of voluntary elbow movement in subjects with stroke. Our simulation demonstrated that the use of in vivo subject-specific musculotendon parameters would result in better predication as compared with the use of cadaveric data extracted from the literature.

Based upon this review of literature, there is no definite evidence that indicates increased risk of trauma-induced myelopathy or spinal cord injury in individuals who have spondylotic encroachment on the cervical spinal cord without myelopathy. Population-based case-control or, preferably, prospective cohort studies are needed to provide an evidence-based recommendation for prophylactic decompression surgery in patients with spondylotic encroachment on the cervical spinal cord in the absence of frank myelopathy.


**Description:** Based upon retrospective chart review of 226 nerve roots in 169 consecutive patients diagnosed with cervical or lumbar nerve root pain, the sensitivity (SE) and specificity (SP) for dermatomal pattern of pain are low with the exception of the C4 level (Se 0.60, Sp 0.72, n = 5) and the S1 level (Se 0.65, Sp 0.80, n = 37).


**Description:** The article describes the treatment outcomes of 49 patients with lumbar radiculopathy secondary to disk herniation using a prospective observational cohort study design with follow-up. The follow-up period was on average 14.5 months. Using a diagnosis-based clinical decision rule, diagnostic and management algorithms were followed with clinically meaningful improvements in pain and disability occurring in 70% to 79% of the patients immediately post-treatment and at follow-up.


**Description:** The article describes the treatment outcomes of 78 patients with pregnancy-related lumbopelvic pain (PRLP) using a prospective observational cohort study design. Using a diagnosis-based clinical decision rule, diagnostic and management algorithms were followed with clinically meaningful improvements in pain and disability occurring in 82% and 72% of the patients immediately post-treatment, respectively.


**Description:** This case report details the identification, and management of a female patient with the underdiagnosed clinical presentation of cervical angina. This patient responded favourably to cervicothoracic, and costotransverse joint manipulation. Anecdotally, this was the first case report published by chiropractors who delivered care to a patient within the United States Veterans Health Administration.

Description: This study introduces a novel means by which to quantify bone healing in a mouse model of bone grafts. The ability of two types of bone grafts, Allografts and Autografts are investigated by means of Micro-CT imaging and 3D reconstruction of the bone-grate interfaces.


Description: Bone responds to the forces that are imposed upon it. This is commonly referred to as “Wolff’s Law.” While bone is a highly plastic tissue, responding to the environment by which it is surrounded, a great deal of the form and architecture of bone is genetically predetermined, and “Wolff’s Law” can only apply within reasonably strict limits. In this article, we demonstrate this through the study of the histology of multiple bones in human and other vertebrate skeletal material.


Description: There are two distinct healthcare systems in China, Western Medicine and Chinese Medicine. In addition to the Western/Mainstream Medicine, health care in North America (USA & Canada) also includes some form Alternative/Complementary Medicine, which includes Naturopathic Medicine, Chiropractic, Homeopath, Chinese Medicine and Ayurvedic Medicine, etc. The rapid development in modern science and technology has led to great change in public health awareness in North America. Going back to nature and seeking help from the nature has lately become the fashion. The present article intends to introduce the status of Alternative/Complementary Medicine in North American Healthcare system, analysis its characteristics, explore the reasons behind change and its future prospect.


Description: Based on reviewing literature and survey data, the authors used Health Believe Model (HBM) to analyze the social-psychological factor of Acupuncture Fever in the US. Authors also introduce some strategies to promote sustainable development of acupuncture in the US, including promote public perception of benefit, possibility of action
and self-efficacy, increase influence to people with different classes, races and education received, as well as decrease public perception of barriers.


**Description:** Whiplash injury is a common condition in general acupuncture practice in the United States. By reviewing the Sinew Channel Theory from Nei Jing (The Inner Classic of the Yellow Emperor), analyzing the mechanism of whiplash injury and the nature of corresponding symptoms and signs, the authors categorized four common patterns of whiplash injury as Taiyang, Yangming, Shaoyang and Shaoyin. Recognizing these patterns will help practitioners to enhance their clinical therapeutic effects.


**Description:** Head repositioning tasks have been used in different experimental and clinical contexts but have yet to offer insight as to the task performance strategy. The purpose of this study was to explore the kinematics from a head aiming task that encompasses a Fitt’s task in neck pain patients and healthy control subjects. Decreased motor performance was observed in chronic neck pain patients during the most challenging cervical pointing task condition. These results may imply that in order for a performance based outcome measure to yield observable differences conditions that meet or exceed the optimum challenge point of the population tested should be employed.


**Description:** Presented in the framework of a case study, this is a multidisciplinary perspective on the management of spinal stenosis. The authors present the perspectives of: Geriatrician, Physiatrist, Geriatric Nurse and Chiropractor.


**Description:** The manuscript addressed the ongoing dilemma of training and competition versus the growth and development in children. Discussed was the importance of considering child developmental stages when introducing sports activities to youth. Central themes included the fact that children should not be trained as “little adults” and that children, like all things only grow and mature once, which underscores the importance of a plan for development. Subtopics included age of specialization, volume versus intensity of training, role of winning and fatigue syndromes.

Description: This article is designed to briefly address the history and regulatory impacts of recently adopted rules governing the manufacture of dietary supplements. Both the large scale manufacture of herbal products (and other supplements) and the compounding of individualized herbal formulations in small dispensary settings are covered by its regulations. Included in this article is the history of the regulation, a description of the concept of GMP or good manufacturing practice, an examination of what the Food and Drug Administration (FDA) regulates, and a brief discussion of the new regulation and how this impacts Oriental medicine practitioners.


Description: This article addresses issues regarding the recommendation and sale of prepared forms of Chinese medicines or “patent” medicines that are now available as dietary supplements. We will discuss several points that may be important to practitioners whose practice includes the dispensing or sale of dietary supplements. These are: the lack of a good conceptual fit between Chinese prepared medicines or “patents” and dietary supplements, the Food and Drug Administration provisions exempting retailers from the provisions of the Current Good Manufacturing Practice (CGMP), and the basis for and approach to practitioner “due diligence” with regard to sourcing CGMP compliant products. This article will not discuss compounding (preparing formulas from loose herbs or granules) in the office setting. This topic will be addressed in a later publication.


Description: This manuscript presents the results of a Delphi process for recommendations on best practices for the management of older adults. Practical recommendations are presented for both the practicing chiropractor, but also for the educator teaching in a geriatric class.


Description: The female advantage in fatigue resistance may impact strength development. The study addressed strength recovery patterns as a function of gender and training background with implications for designing exercise training programs to optimize
strength development in males and females.


Description: The clinical features of a case with exercise-induced lower extremity numbness and weakness as well as cauda equina symptoms in a patient with infrarenal inferior vena cava (IVC) agenesis and a review of literature are discussed.


Description: Acupuncture is frequently used to manage the side effects associated with cancer therapy. In acupuncture practice, the presence of thrombocytopenia is a relative contraindication to acupuncture use among patients with cancer. However, the safety of acupuncture in patients with cancer treatment-related thrombocytopenia has not been previously investigated. This retrospective case series provides descriptive data on the safety of acupuncture in patients with cancer with and without thrombocytopenia.


Description: Channel Pattern Differentiation has played a leading role in acupuncture practice since the time of Nei Jing (The Inner Classic of the Yellow Emperor). For the past several decades, however, the clinical application of channel pattern differentiation has begun to diminish; there is even a trend that it will be replaced by Zang-Fu (Organ) pattern differentiation. The authors elaborate the importance of channel pattern differentiation by analyzing its theory from Nei Jing (The Inner Classic of the Yellow Emperor) and by summing up the methods, clinical significance and applications of the basic diagnostic tools--inquiry, observation, palpation, and measurement of imbalance using modern instruments (electrical, thermal, etc.) on channels and points.


Description: Lyme disease is caused by an invasive spirochetal bacterium. Generally, the patients in chronic stage do not respond well to long-term antibiotic treatment, and also likely suffer from severe side effects of the drug. Clinical research shows by using special Chinese herbs and acupuncture points would improve various symptoms of Lyme disease, especially in its chronic stages. This new approach is seen to be safe, effective and economical, especially for the chronic stage of Lyme disease.

**Description**: The commentary discusses the role of chiropractic physician in recognizing the patient who may be having vertebral artery dissection and stroke (VADS). The author presents the best current literature refuting the casual relationship between cervical manipulative therapy (CMT) and VADS. The author encourages the chiropractic profession to embrace the idea of a public health campaign to educate the public about the warning signs and symptoms of VADS, an uncommon but potentially devastating disorder.


**Description**: This article provides a retrospective case report and imaging of a patient who sustained a fracture of the lateral talar processes while wakeboarding along with a review of the etiology, diagnosis, and treatment of snowboarder's fractures.


**Description**: Muscle thickness is a widely used parameter for quantifying muscle function in ultrasound imaging. However, current measurement techniques generally rely on manual digitization, which is subjective, time consuming, and prone to error. The primary purposes of this study were to develop an automated muscle boundary tracking algorithm to overcome these limitations and to report its intra-examiner reliability on pectoralis major muscle. Results demonstrated excellent intra-examiner reliability of the sonomyographic measurements.


**Description**: The article examines the cellular and molecular changes that occur in vertebral segments under chronic overload. The study incorporates in a mouse tail model the use of MRI to longitudinally assess both wild type and immune compromised genetically modified mice. This approach enables the investigators to look at the role of specific molecular pathways and their role in the development of degenerative changes in the spine, including the development of bone marrow edema. Using chronic compression the progression of degenerative changes due to external overloading of the spine is assessed. Micro-CT and histological investigation post-mortem help to paint a complete picture of the degenerative process. Translational research such as this helps to inform clinicians as to the true nature of the physiology that manifests in advanced imaging techniques.

**Description:** The objective of this study was to determine if active cervical range of motion (ROM) and Fitts’ task movement time differences occurred after high-velocity low-amplitude cervical spine manipulation (SM) across various indexes of difficulty. A linear relationship between indexes of difficulty and movement time as predicted by Fitt’s law was observed. Significant group effects indicate that SM not only increases cervical active ROM but also facilitates that performance of a cervical spine Fitts’ task requiring rotation. This task may be used to quantify motor performance in clinically symptomatic populations with reduced ROM who are appropriate candidates for SM.


**Description:** This workshop and group development process offers to act a template for other university-based working groups. There are vast resources and opportunities within the publicly funded education system as evidenced by the chiropractic professions in other countries. This manuscript also offers to inform other chiropractors presently operating in isolation (as clinicians, scientists, clinician scientists or clinician scientists in training) within other publicly funded universities of the practical application of group formation and interdepartmental collaboration.


**Description:** The report describes the process, participation, and recommendations of a set of consensus conferences on strategy for professional growth within five key domains. The five domains were education, research, regulation, workplace, and leadership. The overall goal was further development of public trust, better alignment between the chiropractic profession and its stakeholder and strengthening chiropractic’s role in health care.


**Description:** Homeopathy is a relatively independent therapeutic system that is very popular in Europe and the United States. Although homeopathic medicine and Chinese medicine belongs to two different medical systems stemmed from two distinct cultural backgrounds, they do share similar philosophies, holistic treatment principles, and more importantly diagnostic approaches. This study focuses on homeopathic diagnosis and discusses its diagnostic strategies, laws and clinic practice characteristics. Through the
comparison of homeopathic and Chinese medicine diagnosis to learn the essence of homeopathic diagnosis, enrich Chinese medicine diagnostic theory and improve its quality of diagnosis and treatment.


**Description:** Palpation is a common diagnostic method in Chinese medicine. By examining the current status and features of various palpations in different acupuncture schools in the United States, the authors concluded that the palpation feedback examination is not only the manifestation of people oriented individualized treatment both physically and psychologically in America, but also a kind of inheritance and development of diagnosis and treatment in the modernization of TCM.


**Description:** The multi-cultural character of the Unite States supports a variety of acupuncture styles. This article traces the background and analyzes the current developmental stage of 3 acupuncture styles: Five Element Constitutional Acupuncture; Japanese Kiiko Acupuncture; American trigger point Acupuncture by comparing the similarities and differences of diagnostic methods, pattern differentiation, and treatment.


**Description:** The report describes the development of a reliable and valid survey instrument (MedRisk) to measure patient satisfaction with chiropractic care. The ability to capture various aspects of patient care that impact patient satisfaction is of great importance with respect to marketing, reimbursement, and treatment effectiveness. Thus, the development of survey instrument that is both practical to administrate in a patient care setting with adequate psychometric properties to capture important aspects of the clinical encounter is a critical step towards understanding effective practice characteristics of chiropractic care in the real-world setting.


**Description:** Whiplash injury is a common condition in acupuncture practice in the United States. Based on analyzing the mechanism, clinical features of whiplash injuries from both of biomedicine and traditional Chinese medicine perspective, authors claimed the approach of pattern differentiation which including the consideration of the location and
Stage of injury is seen to be effective for Whiplash injury. Considering the location of the injury, it can be classified as Taiyang, Yangming, Shaoyang and Shaoyin patterns. Considering the stage of the injury, Qi Stagnation and Blood Stasis patterns are classified in the acute stage and Phlegm Accumulation, Insufficiency of the Liver and kidney and Qi & Blood Deficiencies patterns classified during the chronic stage.


Description: This small article articulates that need to consider the psychosocial aspects in the management of chronic lower back pain.


Description: This case series presents data collected in a small sample of older adults living in a long-term care center. This is an important step in documenting the safety of the use of spinal manipulative therapy in older adults. While there is a need for larger and more rigorous study on this topic, the data are encouraging that the use of spinal manipulation in older adults, even those with osteoporosis, may be safe.


Description: The report discusses the presentation of symptoms, differential diagnosis, manual therapy and exercise treatment plans and successful treatment outcomes of four patients with idiopathic ear pain referred for chiropractic care.


Description: Investigates the reliability of the flatbed scanning technology. Images of the plantar surface of the foot recorded with an Associate Platinum digital foot scanner measuring the Staheli Index, Chippaux-Smirak Index, Arch Angle, and Arch index. ICC values were calculated to evaluate intra-rater, inter-day, and inter-clinician reliability. Scanning technology provides a reliable measure of footprint indices, as demonstrated by high ICC values.

Description: Investigates the relationship between chronic compression and TNF signaling in compression induced BME utilizing a tail vertebrae compression model with WT, TNF-Tg and TNFR1&2-/- mice to evaluate: 1) healing following release of chronic compression, 2) induction of BME in the absence of TNFR, and 3) efficacy of anti-TNF therapy. Data demonstrates a critical role for TNF in the induction of chronic compression-induced BME, but not in its maintenance. Amelioration of BME is achieved through biomechanical stability, but is not affected by anti-TNF therapy.

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