Abstract (List of Papers)

- Sacro occipital technique and autism spectrum disorders: A case series
- The effect of the twin block appliance on correcting class II malocclusion and eliminating TMD symptoms: A retrospective case study
- Pelvic torsion: theoretical construct and current evidence
- A clinical prediction rule for 52 patients with cranial dysfunctions and headache: a retrospective case-series report
- Study on inducing fifth lumbar vertebra dis-relationship by M. B. DeJarnette: historical development of sacro occipital technique
- Inter- and intra-rater reliability of the heel tension test
- Sacro-Occipital Technique (SOT) initial exam: predictability of outcomes
- Post-migraine chronic daily headache relieved with coccygeal and sphenoidal manipulation: A case report
- Learning ability restored in pediatric patient following co-managed chiropractic care: a case report
Sacro occipital technique and autism spectrum disorders: A case series

Allen SC

**Background/Objective:** SOT has been successfully used to treat many conditions. The efficacy of use with autism is discussed and procedure outlined. This is a series of five patients. The patients had been diagnosed ASD prior to SOT treatments. The objective is to show the improvements made by the series of patients included.

**Methods:** The methods used are explained in detail and include cranial adjustments, CMRT, spinal adjusting in a particular order. Also used were allergy elimination, emotional clearing, and trans-cranial ultrasound. Signed consent is included on all patients.

**Conclusion:** All 5 patients showed improved cranial symmetry, improved cognition and decreased self-stimulatory behaviors. It is hypothesized that addressing the cranial function as well as the organic dysfunction aids in increased cranial function, better distribution of CSF, improved organ functioning, eliminating subluxation and the balancing of the gut and brain all of which lead to the observed improvements in the ASD patients.
The effect of the twin block appliance on correcting class II malocclusion and eliminating TMD symptoms: A retrospective case study

Bakhtiyari M, Blum CL

Introduction: A class II malocclusion is characterized by a receding lower jaw. Given that 66% of all malocclusions are class II, 80% of which are division I, the desire to find an appliance that successfully corrects class II malocclusion and is easy to apply by both patients as well as clinicians has led to many investigations in the field of Twin Block Appliances. In this retrospective study, 39 class II patients with one or more TMD symptoms who were treated with Twin Block appliances with the purpose of correcting their malocclusion as well as eliminating their TMD symptoms were selected for review.

Material and Methods: Each patient presented with one or more TMD symptoms, but all presented with headaches. All patients had been classified as having a class II malocclusion characterized by the clinical appearance of a retrognathic mandible and undersized lower facial height. Study models, serial x-rays (Panoramic and Lateral Cephlometric), intraoral and facial photographs, and outcome assessment forms were utilized with every patient pre and post-treatment. Patients were prescribed a Twin Block appliance and seen on a monthly basis to shave their posterior molar pads, which allowed the posterior molar teeth to erupt.

Results: Thirty-nine patients suffering from class II malocclusion and TMD symptoms including significant headaches were selected and treated for a duration of 8 to 12 months with a Twin Block appliance. Approximately one year after the treatment, the class II malocclusions of all 39 patients were corrected to class I, and their headaches secondary to TMD, was absent.

Conclusion: Based upon this retrospective case series, it appears that Twin Block appliance can be used successfully with patients between the ages of 8-16 to help treat class II division I presentations. Along with improvement of the patients occlusion, condylar position, and dentition, secondary findings associated with positive outcomes were found, including headache reduction, improved self-esteem, and improved respiration.

Chinnapi A, Getzoff H

Introduction: This review reviews the operating principles of a dental chiropractic co-treatment model as initially discussed 20 years prior by Albert Chinappi DDS and Harvey Getzoff DC in their articles published in the Journal of Manipulative and Physiological Therapeutics.

Principles and Methods: The concept of dental and chiropractic co-treatment holds that the dental occlusion, as well as the spine, pelvis and cranium are determining factors in the functional health of the body. Instead of treating each as an isolated segment, the jaws, cranium, spine and pelvis are considered interdependent parts of a whole body system.

Philosophical Guiding Principles: The co-treatment model entails analyzing each patient from a developmental and postural perspective. The Chiropractor studies the patient’s function by range of motion studies, postural observations, orthopedic tests and SOT indicators. The Orthodontist analyzes developmental influences on the body of poor facial development by evaluating not only the dental occlusion but also the mandibular posture.

Principles of Craniofacial Growth and Development: The vault and cranial base develop first because of their relationship to the expanding brain. The second growth area is the mid-face or maxilla. Cranial bone development, the mid-face and maxilla, is both controlled by and responsive to the functional needs of all the structures and tissues involved. The third growth area, the mandible, is responsive to multiple factors inclusive of the development of the mid-face and since maxillary growth stops earlier it seems to set the anterior limits of future mandibular growth.

Effects of Craniofacial Growth and Development on Structural Function: As the model has evolved over the last twenty years, greater emphasis has been placed on the asymmetric development of the mandible, maxilla and mid-face and its effect on head position.

Conclusion: Essentially both professions need to look outside their world and understand that the body functions as a system that are integrated and interrelated, inclusive of the head, spine, pelvis and dentition.
Historically, physiotherapists and osteopaths as well as chiropractors have considered pelvic torsion to cause back pain and other conditions, either directly or indirectly by leading to poor biomechanics in other structures that are included in the sacroiliac joint’s kinetic chain. In pelvic torsion, the innominate bones rotate in opposite directions around an axis that is perpendicular to the sagittal plane most likely along a transverse axis had to pass through the pubic symphysis.

**Discussion:** Pelvic torsion is an entirely physiological movement that occurs in a number of biomechanical situations. It is an element of the gait mechanism, with anterior rotation on the toe-off side and posterior rotation on the heel-strike side. It also occurs when a person is standing on an unlevel surface, apparently to offset some degree of pelvic obliquity: posterior rotation lowers the sacral base on side where the surface is higher and anterior rotation raises the sacral base on the relatively lower surface side. This same pattern of adaptation occurs when there is anatomical leg length inequality, which is tantamount to always standing on an unlevel surface.

Many technologies have evolved to produce, detect, and measure pelvic torsion, in both cadaveric specimens and in vivo. Pelvic torsion can be evoked by putting the pelvis in stressed positions, such as a one-legged stance and the straddle position. Imaging procedures, raster photography, reflective markers, and inclinometers of various sorts have been used to measure sacroiliac and interinnominate movements to some degree, and can be assessed using Roentgen Stereophotogrammetric Analysis (RSA), which is generally considered the most accurate method for measuring 3-D motions of the sacroiliac joints, and thus pelvic torsion.

**Conclusion:** At the current time it cannot be ruled out that there is a butterfly effect in the neuromusculoskeletal system, whereby a small change in one area can eventuate in a very large change in a remote area. Manual therapists who would explain palpatory and other results by invoking such butterfly effects are posed with a formidable challenge, since small sacroiliac dysfunctions are not yet demonstrated to exhibit such large effects.
Introduction: Sacro Occipital Technique (SOT) and Applied Kinesiology (AK) recognize the inter-relationship between cranial subluxations and whole body muscular dysfunctions, particularly in muscles attaching to the skull.

Methods: 52 patient files with headache (HA) (48 females, and 4 males) were retrospectively examined.

Results: Cranial and upper cervical dysfunctions were found in 49 and 52 patients respectively. Muscle dysfunctions (inhibition) were also found to be associated with HA in these patients as follows: sternocleidomastoid, 42 patients; deep neck flexors, 33 patients; anterior scalenes, 24 patients; upper trapezius, 24 patients; and 3 patients with HA had no muscle inhibition. SOT cranial and chiropractic manipulative treatment changed the initial Visual Analog Scale of Neck & Associated Pain from an average of 6.75 to an average of 0.49.

Discussion: A narrative literature review on the relevance of muscular dysfunctions to the concept of the Cranial Sacral Primary Respiratory Mechanism and to the muscles attaching to the head, as well as the etiology of neck pain and headache, is offered.

Conclusion: SOT and AK both suggests that muscle dysfunctions may arise from, or be a part of the etiology of cranial dysfunctions and should be recognized and corrected as part of the over-all treatment strategy. Manual muscle testing may represent a useful Clinical Prediction Rule for assessing any relationship between cranial dysfunctions and HA.
Study on inducing fifth lumbar vertebra dis-relationship by M. B. DeJarnette: historical development of sacro occipital technique

DeJarnette MB, Blum CL

Introduction: DeJarnette, the developer of Sacro Occipital Technique, felt confident that unless a clinical researcher could actually produce distortions by subluxating the fifth lumbar vertebra, we would never know what a fifth lumbar distortion(s) actually looked like.

Methods: Subject recruitment was from DeJarnette’s patient base and target ages ranged between 18 to 50 years old. Apparently over 200 subjects were examined before 16 were found that fit the inclusion criteria. Each of the 16 persons received an adjustment designed to place a strain on the fifth lumbar that would carry the spinous to the subject’s right, this adjustment was repeated daily for four days. Apparently they were followed without receiving further care and assessed for what DeJarnette presumed were health and body reactions to a 5th lumbar vertebra subluxation distortion.

Results: Of interest, one consistent finding was that “each of the 16 subjects developed palpatory pain over the left transverse of their atlases. None of the 16 had such pain prior to the first experimental adjustment. DeJarnette’s experimentation concluded with the remaining 14 subjects receiving a corrective fifth lumbar adjustment. Of significance the left transverse of the atlas remained painful on each until correction was completed.

Conclusion: DeJarnette attempted to employ research methodologies to study and investigate his interventions. Due to the limitations at that time, as well as a minimal chiropractic research support, his attempt was laudable. While it is unlikely that there will be future human studies investigating purposefully causing a vertebral subluxation and studying its effect, future animal studies are promising.
Inter- and intra-rater reliability of the heel tension test

Feely K

**Background:** Neurodynamic tests are used to assess the nervous system’s mechanosensitivity through monitoring the response to movements that are known to alter the mechanical stresses acting on the nervous system. In Chiropractic these tests are often used to assess the neurological component of the vertebral subluxation.

**Objective:** To test inter and intra reliability of the measurement of adverse mechanical cord tension, using measurements of the flexion extension aspect of passive ankle movement, (termed heel tension).

**Methods:** Three experienced Network Spinal Analysis (NSA) practitioners examined 21 individuals, right and left ankles - at two different times. The examinees were lying prone on a table with the ankles over the edge of the table. The practitioners tested levels of tension while passively putting the ankle thru flexion extension. The amount of tension was graded from 1-mild, to 5-severe. The tension was also noted to be at the beginning of the maneuver or towards the end. Statistical analysis consisting of inter-class correlation coefficient (ICC) was applied to the heel tension data. Area of spinal tension data was analyzed using the Kappa statistics.

**Results:** We observed strong agreement with intra-reliability and moderate to strong correlation for inter reliability tests done for this data on measuring heel tension. The findings for assessing the area of spinal cord tension were fair for intra reliability and weak for inter reliability on this assessment of heel tension.

**Conclusion:** Intra and inter rater reliability are important characteristics that document the potential of a scale to produce stable results within and across assessors. Test – retest reliability is a pre requisite for scales that are to be used in a follow up situation, such as with chiropractic care, and help to document its objectivity.
**Introduction:** The intent of this paper is to illustrate methods of utilizing certain Sacro Occipital Technique (SOT) procedures (adjustments) that enable the examiner to establish, at the initial examination, a level of predictability of patient outcomes. The patient’s history and physical examination allows decisions about treatment and prognosis to be made. The SOT initial exam is intended to primarily determine which of the three SOT Categories (Functional Systems) is most in need of adjusting.

**Discussion:** The 3 SOT Categories (Functional Systems) are described as follows: Category 1 addresses the Primary Cranial Sacral Respiratory Mechanism (PCSRM). The PCSRM is a system of harmonious functional units that allows the Central Nervous System to be nourished and protected as it regulates and coordinates function throughout the body. Category 2 addresses the ability of the weight bearing structural system of the body, inclusive of the head righting reflexes, to fully communicate through the nervous system so that maximum weight bearing function can occur within the demands of a gravitational environment. Category 3 addresses subluxations of the lumbar spine and its compensatory mechanisms in both the pelvic structures and the cervical spine.

**Conclusion:** The non-invasive nature of these procedures (adjustments) allows for a deeper understanding of not only the nature of the problem but also its level of severity. Prognosis is critical when conveying treatment and a management plans to the patient. SOT assessment and treatment procedures help measure the ability of tissue to respond not only in the initial exam but also throughout treatment.
Post-migraine chronic daily headache relieved with coccygeal and sphenoidal manipulation: A case report

Hochman JI

Introduction: Chronic daily headache, also known as new persistent daily headache, has been proposed to develop from stress events, medication overuse, and previous migraine due to overlapping of neural circuits and cellular events, but a definite etiology has thus far elude researchers.

Case Report: A 32-year-old male patient complaining of “chronic non stop headache with facial pain” that began in the summer of 2003 referred himself to my office in May 2010. This patient identified the two greater sphenoid wings as the location of the facial pain and reported seeing between 25 to 30 doctors over the past 7 years for treatment of these headaches.

Interventions: Treatment focused on reducing the Activator Methods chiropractic indicator of coccyx dysfunction and Sacro Occipital Technique’s cranial assessment of a sphenoid dysfunction, a functional short leg appearing after contracting of the buttocks muscles. The patient was seen a total of 6 times over the course of a one month period, treated with 3 external coccyx and 2 sphenoid corrections.

Results: After the third coccyx and sphenoid corrections, the patient reported a break in the pain. 2 visits later he reported an 80% decrease in intensity and duration of pain. 3 weeks later he still reported an 80% improvement in pain relieve. At the last visit 2 months after his initial presentation, he reported no pain at all.

Conclusion: This case of chronic headache relief raises several questions regarding etiology and reminds the clinician that the cause may indeed be quite far from the location of the pain, and that anatomically based mechanical factors may play a role.
Learning ability restored in pediatric patient following co-managed chiropractic care: a case report

White R

Objectives: Learning disabilities are a major public health concern in the United States. There is mounting evidence suggesting that chiropractic care may play a part in the improvement of learning disabilities. This case study reviews the effect of co-managed care integrating chiropractic sacro occipital technique (SOT) and neurodevelopment therapy.

Clinical Features: A six-year-old female presented with complete inability to remember letters and numbers. Upon the first visit, chiropractic evaluation utilizing SOT revealed a category one (pelvic torsion, sacroiliac joint fixation with reduced sacral nutation) dysfunction, specifically with fixations at sacrum and occiput. Intervention and Outcomes: SOT care focused on adjusting the sacral apex right along with a sustained rotational occiput contact, until the patient’s indicators cleared. She was subsequently referred back to her neurodevelopmental therapist who instituted a series of exercises incorporating an intense math and reading program.

Results: Following the chiropractic intervention, the patient’s hand dominance or preference changed sides and concurrently her parents and neurodevelopmental therapist noted significant improvements in cognitive function. Within weeks of receiving chiropractic care, the patient was reading chapter books, within 6 months, she was able to read and sing along with hymns.

Conclusions: This case suggests that a subset of patients with learning disabilities may be effectively co-managed with chiropractic (SOT) care and a mental health professional. Further research is advised into determining which patients with learning disabilities may best be treated with interdisciplinary care including chiropractic and what role chiropractic can specifically play in the care of patients with learning disabilities.