Abstract (List of Papers)

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- Sacro Occipital Technique: Palpating Occipital Fibers on Animals – A Pilot Study
**Introduction:** The Alexander Technique (AT) is a method that works to change (movement) habits in our everyday activities. It is not a series of treatments or exercises, but rather a reeducation of the mind and body. The AT is a method which helps a person discover a new balance in the body by releasing unnecessary tension. It can be applied to sitting, lying down, standing, walking, lifting, and other daily activities.

**Discussion:** AT has been developing an extensive evidence base of information with recent studies supporting its use for low back pain, neck pain, movement enhancement, and quality of life improvement.

**Conclusion:** While research is being gathered to support the use of AT for low back, neck, and craniomandibular disorders the benefit of AT is its low risk and active rehabilitative focus. Helping patients develop awareness through movement and developing a sense of postural balance both statically and functionally offer a significant biological plausibility to AT. AT teachers call themselves “teachers” because they see the care rendered as being participatory and that the patient or student plays an important part of the therapeutic experience. AT therapeutic interventions may have a place as an important aspect of chiropractic care either by incorporating its principles into chiropractic or through interdisciplinary co-treatment.

**Key Word:** Alexander Technique, Sacro Occipital Technique, SOT, Major Bertrand DeJarnette, Sacro Occipital Technique Organization – USA, SOTO-USA, SOT Research Conference
Introduction: The chiropractic profession in recent years has been studying the need for hand and chiropractic table sanitization, with studies noting gram-positive and negative bacteria (cocci and bacilli) – such as: Methicillin-resistant S. aureus, S. epidermidis, S. saprophyticus and S. aureus.

Objective: What is proposed in this comparative study is to investigate the role of a green alternative, aqueous ozone (TSB-100 TherOzone), as a surface disinfectant for chiropractic tables, since ozone is an unstable molecule, safe in aqueous solution, a powerful anti-bacterial, fungal, viral agent, and its byproducts are water and oxygen.

Methodology: Chiropractic tables in a chiropractic teaching college’s technique laboratory will be randomly selected and a pre-assessment of the microbes on the table will be used as a baseline reading. One group of ten tables will use the sanitizing agent (Lemon Fields) the other group of ten tables will use the Aqueous Ozone (TSB 100) sanitization method; both following a standardized protocol for cleaning and assessing microbial residue on the tables.

Conclusion: Healthcare encounters should at all times minimize risk as chiropractors attempt to offer examinations and treatment. It is possible that the use of aqueous ozone may offer the chiropractic profession the ability to utilize a green technology that prevents the spread of infection while at the same time reduces any toxic load on the patient, doctor, or environment.

Key Word: Aqueous Ozone, Chiropractic Table Sanitization, Sacro Occipital Technique, SOT, Major Bertrand DeJarnette, Sacro Occipital Technique Organization – USA, SOTO-USA, SOT Research Conference.
**Introduction:** The awareness of sports-related concussions with post-concussion syndromes is gaining exposure in the chiropractic profession. The following case describes a 21-year-old female patient who had a concussion with subsequent post-concussion syndrome symptoms that persisted for five months.

**Methods/Intervention:** Along with reduced TMJ functioning the patient presented with some altered cranial nerve findings related to photophobia, contrast sensitivity, and convergence insufficiency. Sacro occipital technique category one and two findings relating to pelvic torsion and sacroiliac joint hypo/hypermobility was found and treated along with cranial and TMJ adjusting. A dentist equilibrated the patient’s mandibular occlusal splint over a 9 week period which was immediately preceded by chiropractic care.

**Results:** As of March 18, 2014 the patient was completely pain free with no symptoms of lightheadedness, brain fog, or nausea. She has been able to exercise, and has been lifting light weights. She was also able to run five miles. This is a significant improvement given that her symptoms and lack of function were consistent since her accident of September 2013.

**Conclusion:** Further research is needed to determine whether a subset of post-concussion or head trauma patients may have TMD which is limiting their ability to fully recover function and return to their activities of daily living. Collaborative efforts between emergency room doctors, chiropractors and dentists (with TMD care training) with post concussion patients may help ultimately lead to improved patient outcomes.

**Key Word:** Temporomandibular Joint, TMJ, Post-Concussion Syndrome Sacro Occipital Technique, SOT, Major Bertrand DeJarnette, Sacro Occipital Technique Organization – USA, SOTO-USA, SOT Research Conference
Intervention in menorrhagia through chiropractic adjustment and spondylotherapy: A case report.

Boro WJ

Introduction: Low back pain and female reproductive problems are the source of frequent consultations to a chiropractor. The purpose of this case report is to describe the clinical course, treatment, and immediate response of a 37-year-old female patient suffering from uncontrolled uterine bleeding of over two weeks duration to the application of chiropractic adjustments and the use of spondylotherapy.

Methods/Intervention: Three treatments were performed to care for this patient’s specific menorrhagic condition. Sacro Occipital Technique Category II supine block placement was used to reduce pelvic torsion and improve sacroiliac joint juxtaposition. With the patient in standing posture and assuming postures of flexion, extension, lateral flexion, and rotation adjustments were made to the lumbar spine (L1-5) with an activator instrument; and adjustments to femoral heads bilaterally. Spondylotherapy was administered to C7, L3, and L5 at a percussive rate of 200 beats per minute. Van Rumpt’s cranial analysis involves subluxation listings on the temporal, sphenoid and mandibular bones.

Results: The patient has returned to this office on 8 other occasions for various reasons (mostly for hip pain), but has had no menstrual or bleeding complaints throughout this time.

Conclusion: Further research is needed to determine if the care rendered in this case study might offer a low risk alternative for menorrhagia for a subset of patients that may be responsive to this novel chiropractic intervention.

Key Word: Sacro Occipital Technique, SOT, Major Bertrand DeJarnette, Sacro Occipital Technique Organization – USA, SOTO-USA, SOT Research Conference, Menorrhagia, Spondylotherapy, Van Rumpt
The correlation of the Arm-Fossa Test with other sacroiliac findings: A feasibility study
Cooperstein R, Blum CL, Cooperstein E

Introduction: The arm-fossa test (AFT) is a sacroiliac test used by practitioners of Sacro-Occipital Technique (SOT). A positive test is thought to correlate with sacroiliac hypermobility, and a negative AFT with either normal sacroiliac mobility or sacroiliac hypomobility. We hypothesized that the finding of fixation using the Gillet test would predict a negative AFT.

Methods: A convenience sample of college students enrolled in a weekend SOT seminar received the AFT from two examiners, and a battery of orthopedic and motion tests from another examiner, including the Gillet test for sacroiliac motion. Kappa values were computed among the pairwise combinations of tests given.

Results: Highest kappa value was for the AFT of examiner 1 and the Gillet test: $\kappa = 0.55$, which corresponds to “moderate agreement.” Sensitivity of a negative AFT for fixation $= 0.88$, specificity $= 0.67$, diagnostic accuracy $= 0.79$.

Conclusion: Pilot data support hypothesis that a positive AFT is consistent with (but does confirm) sacroiliac ligamentous laxity. This prelude to future full study suggests it should include more a mix of symptomatic and asymptomatic participants; examiner training; and a more selective inclusion of orthopedic exams.

Key Word: Sacro Occipital Technique, SOT, Major Bertrand DeJarnette, Sacro Occipital Technique Organization – USA, SOTO-USA, SOT Research Conference, Arm Fossa Test, Sacroiliac Joint
The short leg question in chiropractic: Qualitative clinical research on the significance of the type of “short leg”

Cooperstein R

**Introduction:** It is widely believed in the manual therapy professions that an anatomic short leg predicts an anterior rotation of the ipsilateral ilium, and posterior rotation of the ilium on the long leg side. This is opposite the pattern of pelvic torsion commonly thought to be associated with a (functional) short leg. This creates a paradox for the manual therapy professions that may lead to sub-optimal clinical outcomes.

**Methods:** This project identifies chiropractic technique systems that practice according to the “short leg = PI ilium rule.” Taking into account the incidence of anatomical short leg, making some assumptions as to what proportion of patients are symptomatic vs. asymptomatic, and another assumption on how often leg checking is accurate, an inference may be drawn on how often appropriate mechanical vectors are used for SI adjusting.

**Results:** With perfectly accurate leg checking, in a patient population evenly divided between symptomatics and asymptomatics, a manual therapist uses an appropriate line of drive less than half the time; the more accurate leg checking is, the more often an inappropriate vector is used.

**Conclusions:** It is necessary to use a mix of physical examination methods (radiological, tape measure methods, block indirect method, and sitting-standing indirect method) to distinguish anatomical from functional short leg to derive appropriate mechanical vectors for sacroiliac interventions. Other physical examination methods may be preferred to leg checking to derive appropriate vectors.

**Key Word:** Sacro Occipital Technique, SOT, Major Bertrand DeJarnette, Sacro Occipital Technique Organization – USA, SOTO-USA, SOT Research Conference, Short Leg, Anatomical Short Leg, Pelvic Torsion, Leg Length
Sitting PSIS positions and prone blocking preferences: A preliminary report

Cooperstein R, Crum E, Cooperstein E, Lisi A

**Introduction:** Blocking the pelvis with padded wedges, a technique procedure most closely identified with Sacro-Occipital Technique is believed to correct pelvic torsion, in which the innominate bones have rotated in opposed directions. This study used the direct approach of sitting PSIS palpation to identify pelvic torsion, rather than the more typically used and indirect approach of leg checking. This study also tested the assumption that blocking preferences are related to pelvic torsional patterns as assessed by PSIS palpation.

**Methods:** In an n=28 study, investigator 1 palpated each of these asymptomatic participants in the seated position for evidence of PSIS positional asymmetry. Immediately following, investigator 2 examined each of the participants for blocking preferences. One block was inserted under the left ASIS and the other under the right greater trochanteric area, after which the blocks were removed and reinserted in the opposite pattern.

**Results:** Of the 26 study participants whose PSISs were palpable, 21 exhibited preference for one of the blocking patterns, and 3 did not: 16 for one thought corrective of a right PI pattern, and 5 for a left PI pattern. Twelve had a lower PSIS on the right (thought to identify right PI), 4 to a low PSIS on the left (thought to identify left PI), and 8 were judged symmetric. A subset of 14 participants had both PSIS asymmetry and a clear blocking preference. Of these, 9 showed concordant right-sided PSIS calls and blocking preferences, 3 showed left-sided concordance, and two were not concordant. Thus, 12 of the 14 study participants showed a concordant pattern of PSIS asymmetry and blocking preferences.

**Conclusion:** The results of provocative prone pelvic blocking and seated PSIS palpation were strongly concordant in this preliminary study. If the current findings are substantiated, Sacro-Occipital Technique and other practitioners may consider re-evaluating the manner in which they obtain their indications for pelvic blocking.

**Key Word:** Sacro Occipital Technique, SOT, Major Bertrand DeJarnette, Sacro Occipital Technique Organization – USA, SOTO-USA, SOT Research Conference, Pelvic Block Placement, Sitting PSIS Testing
The influence of the chiropractic treatment in patients with insulin resistance associated with diabetes type 2: A case series

dal Bello F, Bergesch P, Blum CL

Introduction: High plasma levels of insulin and glucose due to insulin resistance are a major component of the metabolic syndrome, a syndrome with a group of risk factors that raises the risk for heart disease and other conditions, such as Diabetes Mellitus (DM) type-2 and stroke. Since some low-level evidence has found chiropractic care may demonstrate some influence in non-musculoskeletal interactions such as in DM individuals this study was performed to analyze any possible influence of chiropractic treatment for patients with DM and insulin resistance.

Methods: Four patients with DM type-2 with insulin resistance were selected by an allopathic diabetes specialist to participate in this study. The treatment consisted of eight chiropractic office visits that incorporated adjustments to the spine and chiropractic manipulative reflex technique (CMRT) to balance viscerosomatic/somatovisceral autonomic reflexes. Laboratory blood tests were taken on the second and eighth office visits, before and after the chiropractic adjustment.

Results: After the eight-visits, the levels of insulin resistance, following chiropractic care, decreased significantly when compared to prior to the chiropractic intervention.

Conclusion: Further research is needed in this arena to determine which subset of patients and type of chiropractic care would achieve the optimal results.

Key Word: Sacro Occipital Technique, SOT, Major Bertrand DeJarnette, Sacro Occipital Technique Organization – USA, SOTO-USA, SOT Research Conference, Nonmusculoskeletal, Insulin Resistance, Diabetes Mellitus, Chiropractic Manipulative Reflex Technique, CMRT
The history of temporal sphenoidal (TS) diagnosis and its clinical applications.

Davis KY, Blum CL

**Introduction:** Temporal sphenoidal (TS) diagnosis is an assessment tool discovered by Major Bertrand DeJarnette and developed by M. L. Rees in the 1960s. TS diagnosis is based upon palpatory exploration of the circumference of the greater wing of the sphenoid and temporal bones assessing regions of swelling and/or sensitivity to the patient.

The TS Points and EEG: Rees studied the TS points extensively and attempted to determine how these reflex points might relate to the body and be used for diagnosis and guiding treatment. To deal with this reflex activity Rees developed a method he termed the “Alpha Wave Enhancement” technique to address this imbalance and facilitate both afferent and efferent supraspinal visceral communication.

**Conclusion:** The TS point assessment, as described by Rees, offers the doctor a rapid assessment of the health of the body using the network of relationships between the TS points, spine, viscera, and soft tissue. Through decades of clinical study Rees found that in addition to improving spinal segmental and related organ (viscerosomatic reflex) balance and function, that the Alpha Wave Enhancement technique was an integral process in aiding a patient’s recovery. With this novel and complex manner of assessment and treatment, further study into its biological plausibility as well as determining its reliability and validity will be needed.

**Key Word:** Sacro Occipital Technique, SOT, Major Bertrand DeJarnette, Sacro Occipital Technique Organization – USA, SOTO-USA, SOT Research Conference, Soft Tissue Orthopedics, M. L. Rees, Temporosphenoidal Reflexes, Alpha Wave Enhancement
**Introduction:** The purpose of this presentation is to facilitate an understanding of cranial facial distortion (CFD) patterns as a reaction to compromised growth and development of the cranial facial structures, along with the results of these patterns on the whole body’s kinematic chain. There are various factors that will be discussed which include cervical headgear (CHG) and its effect on craniofacial growth and development, the orthotropic paradigm, related sympathetic nervous system overload and stress, and suggestions for interdisciplinary treatment and prevention.

**Therapeutic Interventions:** There are various methodologies available to deal with CFD associated with CHG or poor growth and development. One aspect can be incorporating dentistry and chiropractic (SOT cranial techniques) preventatively to facilitate a child’s growth and development allowing for upper dental arch development and good orofacial behavior.

**Conclusion:** Looking at the body as a matrix of structure and function, with the dental growth and development, airway, and autonomic nervous system balance as integrated aspects of a patient’s health, can be an essential aspect of healthcare treatment or prevention. Ideally the future for these patients will be more hopeful if interdisciplinary relationships can be developed between dentists, chiropractors, osteopaths, OMT, podiatrists, nutritionists, and other healthcare practitioners.

**Key Word:** Sacro Occipital Technique, SOT, Major Bertrand DeJarnette, Sacro Occipital Technique Organization – USA, SOTO-USA, SOT Research Conference, Interdisciplinary Care, Chiropractic and Dentistry, Dentistry and Chiropractic, Temporomandibular Joint, TMJ, TMD, Craniofacial Distortions
**Sacro occipital technique (SOT) cervical protocol: analysis, adjustment and assessment: A retrospective case series [n=48]**

Getzoff H

**Introduction:** A non-randomized retrospective sequential review of patient records at this chiropractic office [n=48] with presenting symptoms in the cervical spine was included in this case series review. The purpose of the assessment portion of this paper is to be able to measure incremental improvement as well as to be able to state, to the patient, the initial expectations of the outcome.

**Methods/Intervention:** A review of patient records isolated 48 patients who presented at this chiropractic office with chronic cervical spine symptoms as their reason for seeking chiropractic care. SOT cervical techniques (stairstep and figure 8) was utilized to adjust the cervical spine as well as to continually analyze and assess the technique’s progress during the adjustment.

**Results:** Of the 48 patients studied, improvement of range of motion function was noted in all 48. Each subject was adjusted at least five times within a six-week period. Of the 48 patients all but three reported a decrease of cervical pain, improved range of motion, and a return to full activities of daily living.

**Conclusion:** Greater studies with controls and comparative therapies should be performed to better determine the efficacy of using SOT category and cervical stairstep analysis and treatment with patients presenting with cervical pain and decreased range of motion.

**Key Word:** Sacro Occipital Technique, SOT, Major Bertrand DeJarnette, Sacro Occipital Technique Organization – USA, SOTO-USA, SOT Research Conference, Cervical Spine, Chronic Cervical Spine Pain, Chronic Neck Pain, Cervical Stairstep, Cervical Range of Motion
Gastroesophageal reflux disease (GERD) and sacro occipital technique (SOT) chiropractic: A case report

Getzoff H

Introduction: The intent of this paper is to study the Sacro Occipital Technique (SOT) chiropractic care of a patient experiencing a sore throat, heartburn, and difficulty swallowing along with various digestive symptoms such as cramping, bloating, and stomach pains. A 43-year-old female patient, presented with a sore throat, heartburn, difficulty swallowing, and various digestive symptoms such as cramping, bloating, and stomach pain.

Treatment/Intervention: SOT category 2 adjusting methods were utilized, inclusive of SOT blocks, cervical stair step and figure 8 adjusting, and cranial suture adjusting primarily at the right maxillary malar suture. Incorporated into the SOT category 2 adjusting method was the Line 2 Occipital Fiber Technique, Thoracic 5 line 2 adjusting, and SOT Chiropractic Manipulative Reflex Technique (CMRT).

Results: Measured cervical right rotation initially at 80 degrees improved to 90 degrees. The line 2 occipital fiber, the associated thoracic vertebrae (T5), and the anterior soft tissue reflexes were still present, yet were less sensitive to palpation, according to the patient. All GERD related symptoms were greatly improved and was able to eliminate the medication (Prilosec) and replace it with a digestive enzyme containing hydrochloric acid.

Conclusion: This case study’s method of clinical care could be useful in the management of patients with GERD symptoms. Further research and study is needed into the role of the interventions studied in this case report.

Key Word: Sacro Occipital Technique, SOT, Major Bertrand DeJarnette, Sacro Occipital Technique Organization – USA, SOTO-USA, SOT Research Conference, GERD, Gastroesophageal Reflux Disease, Chiropractic Manipulative Reflex Technique, CMRT, Nonmusculoskeletal
Chiropractic – preventative and wholistic care: Two representative case reports

Kooby M, Blum CL

**Introduction:** The following two cases illustrate how sacro occipital technique and chiropractic care looking beyond just a musculoskeletal component may play an effective part in patient healthcare delivery.

**Case History #1:** A 13 year old female complaining of a headache (right temporal bone region) with symptoms resembling a sinus type headache. Due to unusual head and neck findings a tooth/meridian chart was reviewed and found that the patient’s presenting symptoms could be correlated to her right upper canine tooth, she was referred to a dentist and following a root canal intervention her headache resolved.

**Case History #2:** Following the birth of her first child, the patient’s complaint was of low back pain and pain in the right lower quadrant of her abdomen. Analysis revealed a pelvic torsion with sacroiliac joint hypermobility syndrome (sacro occipital technique’s category 2), rotation malposition of the L5, and chiropractic manipulative reflex technique (CMRT) findings congruent with uterine reflex imbalance. After treatment, the patient reported that the care helped her body to release all the emotional trauma she had held from her first childbirth and was able to function without any limitations and reported significant improvement in her quality of life.

**Conclusion:** It is the obligation of healthcare practitioners to understand patients at every level, so they can be provided the most personalized and appropriate care possible, whether that entails treatment, proper referral, or co-treatment.

**Key Word:** Sacro Occipital Technique, SOT, Major Bertrand DeJarnette, Sacro Occipital Technique Organization – USA, SOTO-USA, SOT Research Conference, Chiropractic Manipulative Reflex Technique, CMRT, Chiropractic Preventative Care, Nonmusculoskeletal
Introduction: The widely held model of orthodontics, which considers developmental problems in the jaws and head to be genetic in origin, never made sense to me. Since they are wedded to the genetic model, orthodontists dealing with crowded teeth end up treating the condition with tooth extraction in a majority of the cases.

Sympathetic Overload and Forward Head Posture: Sympathetic nervous system overload also occurs when the airway is obstructed and the input or sense to the nervous system is akin to a hand around the neck. So mouth breathers tend to have amped-up sympathetic nervous systems, always on alert, and they have a hard time getting their physical or mental bodies to relax.

Long-Term Consequences: People who are not well oxygenated and who have poor posture often suffer from fatigue and fibromyalgia symptoms, they snore and have sleep apnea, they have sinusitis and frequent ear infections often with long-term dependence on medications.

Humans Recognize Proper Facial Form: While very few people have heard of the work of Weston Price these days, we haven't lost our ability to recognize proper facial form. To make it in today's society, you must have good facial development. Great research has demonstrated that cells communicate with one another via a form of light and surgery tends to disrupt these light pathways, also called meridians or chi pathways.

Key Word: Sacro Occipital Technique, SOT, Major Bertrand DeJarnette, Sacro Occipital Technique Organization – USA, SOTO-USA, SOT Research Conference, Dental Chiropractic Co-treatment, Craniofacial Growth and Development, Forward Head Posture, Sympathetic Overload
Introduction: Sacro occipital technique (SOT) used occipital fiber analysis and treatment (OFT) to find regions of the body that have interrelationships through direct musculoskeletal and/or indirect reflex to the occipital region, spinal segments, and possibly to visceral referred pain pathways used with chiropractic manipulative reflex technique (CMRT). The purpose of this pilot study was to determine if experienced SOT doctors could palpate occipital fibers on canines and if it could be determined that certain fibers were more prominent on one side or the other.

Methods and Intervention: Three canines occipital fibers were palpated by 11 experienced SOT doctors that had no knowledge of each dog. The doctor would palpate subject one, two, and three without anyone else in the room, except for the canine’s owner and the doctor gathering answers to survey questions.

Results: All doctors in this study reported that they could palpate occipital fibers on the three canines, however the number of fibers palpated was inconsistent, with the number 7 being the most common finding [6 of 11 doctors].

Conclusion: This study is the first attempt to demonstrate palpable occipital fibers on a canine. Future study is needed to better address the questions asked as well as determine how to gain clearer data. Since there have been no other studies to date published on the palpation of OFT in animals, this pilot study was is an important first step.

Key Word: Sacro Occipital Technique, SOT, Major Bertrand DeJarnette, Sacro Occipital Technique Organization – USA, SOTO-USA, SOT Research Conference, Occipital Fiber, Chiropractic Manipulative Reflex Technique, CMRT, Canines Chiropractic, Dogs Chiropractic, Equine Chiropractic, Horses Chiropractic, Animals Chiropractic