

Chiropractic “Name Techniques”: a review of the literature

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In a previous article, the author discussed current trends in utilization rates of chiropractic “Name Techniques” in Canada, and provided recommendations for their inclusion into the curriculum at the Canadian Memorial Chiropractic College. In this article, a review of the literature on “Name Techniques” was conducted, with interpretation and synthesis by the author. One hundred and eleven articles were found. These were: technique discussions (N = 39), case studies (N = 25), case series (N = 5), experimental studies (N = 25) and clinical trials (N = 17). The literature suggested that prone leg length testing and some x-ray mensurations may have acceptable inter and intra-rater reliability. In addition, there are several case studies that reported significant clinical benefits by patients receiving Activator, Alexander, and Upper Cervical treatments. Patients also reported improvements in quality of life while under either Upper Cervical or Network Spinal Analysis care. This information may help develop professional practice guidelines, and it may have implications for chiropractic research and education.

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KEY WORDS: chiropractic, technique.

Dans un article précédent, l’auteur discutait des tendances actuelles dans les taux d’utilisation des « techniques de nom » chiropratiques au Canada et fournissait des recommandations pour leur inclusion au programme du Canadian Memorial Chiropractic College. Cet article fournissait un examen qualitatif de la littérature sur les « techniques de nom », avec interprétation et synthèse par l’auteur. 111 articles ont été étudiés. Il s’agit de : discussions des techniques (N = 39), exposés de cas (N = 25), série de cas (N = 5), études expérimentales (N = 25) et études cliniques (N = 17). La littérature suggérait que les tests de longueur de jambe en pronation et certaines mensurations radiographiques pouvaient avoir une fiabilité inter et intra-évaluateur. En outre, plusieurs exposés de cas rapportaient des avantages cliniques significatifs pour des patients recevant les traitements Activator, Alexander et Upper Cervical. Les patients ont également signalé une amélioration de leur qualité de vie durant des soins Upper Cervical ou Network Spinal. Ces informations pourront contribuer à définir des consignes de pratique professionnelles et peuvent avoir des retombées dans la recherche et l’éducation chiropratique.

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MOTS CLÉS : chiropratique, techniques.

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Introduction

In a previous article, the author discussed current trends in utilization rates of chiropractic “Name Techniques” in Canada, and provided recommendations for their inclusion at the Canadian Memorial Chiropractic College.¹ The term “Name Techniques” refers to the group of chiropractic technique systems that can trace their origins back to individual developers, such as Clarence Gonstead, Clay Thompson, Hugh Logan or BJ Palmer. The purpose of this article is to describe the results of a literature search of several different “Name Techniques”. This process is an important first step in building an evidentiary foundation upon which clinical decisions should be made, and it further guides research efforts by exposing those areas that are insufficiently investigated. Moreover, this information may better enable academic administrators to make more rational decisions with respect to the inclusions of those “Name Techniques” previously identified by the author into the colleges’ curricula.

Method

A review of the literature was conducted, with interpretation and synthesis by the author. The search strategy involved accessing Mantis, Medline and CINAHL databases from 1993–2000 (English language) using the following key words:

Activator, Activator Methods, Active Release Therapy, Alexander, Applied Kinesiology, Atlas Orthogonality Technique, Barge, Basic, Blair, BioEnergetic Synchronization Technique, BEST, Carver, Chiropractic Biophysics, Cox Flexion-Distraction, Crane Lift, Directional Non-Force Technique, DNFT, Duffy, Flexion-Distraction Technique, Gonstead, Grostic, HIO, Leander Technique, Life Upper Cervical, Logan Basic, Kale, Mears, Meric, Mitza Neuroemotional Technique, NET, Network Spinal Analysis, National Upper Cervical Chiropractic Association technique, NUCCA, Occipital Lift, Orthospinology, Palmer HIO, Pettibon, Pierce-Stillwagon, Sacro-Occipital Technique, Spinal Stressology, SOT, Sweat Adjusting Technique, Thompson Terminal Point, Total Body Modification, TBM, Toftness, Torque Release Technique, Touch for Health, Truscott System, Upper Cervical, Van Rump Technique.

The majority of chiropractic literature is indexed by these databases.

Results

One hundred and eleven articles were found within the search parameters, and an annotated bibliography was compiled. Each article was then grouped together by technique (Table 1). When the articles were grouped by “type”, this search revealed the following; technique descriptions ($N = 39$), case studies ($N = 25$), case series ($N = 5$), experimental studies ($N = 25$) and clinical trials ($N = 17$). It should be noted that it is possible that other studies described as using “spinal manipulative therapy” were in fact performed using a “Name technique” such as Gonstead or Thompson Terminal Point, which would not be identified by this search strategy. However, no effort has been made by the author to identify if this had occurred, and only articles found within the search strategy parameters are included in this report.

For the purposes of this article, “experimental studies” refers to studies that sought to investigate a diagnostic or therapeutic feature of a Name Technique such as leg length evaluation or x-ray mensuration. Such studies typically investigate the intra and inter-reliability of a particular procedure. However, this does not include those studies that assessed the effectiveness of a technique on a patient in a clinical setting, which are instead referred to as “clinical trials” in this article.

Review of the literature by technique

Activator Methods Chiropractic Technique

Twenty one studies were found on Activator Methods Chiropractic Technique. Three articles^{2–4} were descriptions of the technique (history, philosophy, diagnostic or therapeutic protocols etc.). Six articles were case studies, detailing the successful Activator treatment of patients with coccygodynia,⁵ lumbar disc herniation,⁶ cervical disc protrusions,⁷ adhesive capsulitis,⁸ frozen shoulder associated with metastatic carcinoma,⁹ and torn meniscus.¹⁰ Activator technique was also reported to have successfully managed 10 patients with primary chronic uncomplicated sacro-iliac joint syndrome,¹¹ as well as 3 patients with calcaneal subluxations with plantar fascitis and heel spurs.¹²

The search revealed eight experimental studies involving Activator technique. In two of these studies, investigators reported good inter-rater reliability of activator prone leg check procedures.^{13,14} Five other experimental studies

sought to measure or describe the characteristics of the force pattern that results from the administration of an activator adjustment.^{15–19} These studies indicated that there was a measurable adjustive force generated by an activator which had characteristics that were different from those measured by a high-velocity, low amplitude (Diversified-style) thrust. Another study concluded that the activator set to zero (no thrust) was a useful research tool to simulate a sham adjustment.²⁰

Two randomized clinical studies were reported using Activator technique.^{21,22} One study compared the immediate effect of Activator versus Meric adjustments on patients with acute low back pain.²¹ The other study sought to compare differences in pain and lateral flexion among patients with neck pain by either Activator or spinal manipulative therapy (7 patients in each group).²² No statistically significant differences were found in either study.

Table 1
Summary of Annotated Bibliography of Name Technique within search parameters

TECHNIQUE	DESCRIPTION OF TECHNIQUE	CASE STUDY	CASE SERIES	EXP'T STUDY	CLINICAL TRIAL	N
Activator	3	6	2	8	2	21
ART	1					1
Alexander	5	2		1	1	9
AK	5			2	1	8
BEST	1				1	2
CBP	5	1		3		9
Flex/ Dist				1		1
Gonstead		1		2		3
Logan	1			1		2
NSA	2	1		1	1	5
Palmer HIO	6	10	2	5	6	29
SOT	6	4	1			11
Thompson	1					1
Toftness	1			1	2	4
Mixed	2				3	5
<i>Total</i>	39	25	5	25	17	111
Code: Exp't study (experimental study), ART active release therapy, AK applied kinesiology, BEST BioEnergetic Synchronization Technique, CBP Chiropractic BioPhysics, NSA Network Spinal Analysis, SOT sacro-occipital technique						

Active Release Technique

Only one study was found within the search parameters, and it was a description of ART by its developer.²³

Alexander Technique

Alexander technique is a technique that focuses on faulty postural and other kinematic movements. Five of the nine articles found were descriptions of the technique.^{24–28} There were two case studies found. In one of these studies, the successful management of a patient with chronic low back was achieved by the use of three treatment models; “manual techniques”, Rolf’s method of soft tissue mobilization and Alexander technique.²⁹ The other case study described the successful management of an older patient with chronic low back by the use of back school, chiropractic adjustments, acupuncture, psychological interventions and Alexander technique.³⁰ Another study had patients with Parkinson’s disease complete a questionnaire before and after instruction in Alexander technique. Statistically significant improvements were reported in terms of depression and improvement in management of disability.³¹

One clinical trial using Alexander technique was found. Three groups of patients (pilot, experimental and control group of older women over age 65) were instructed in Alexander technique. Statistically significant improvements were measured in the pilot and experimental groups in terms of functional reach, which was thought to possibly improve balance and decrease the risk of falls.³²

Applied Kinesiology (AK)

Eight articles on AK were found in this search. Five were descriptions of the technique.^{33–37} Two studies investigated the results obtained using AK testing methods (manual muscle testing)^{38,39} and one study was a randomized clinical trial.⁴⁰

In one study, the inter-examiner reliability of the manual muscle testing (MMT) was assessed using trained AK practitioners in two separate trials.³⁸ In the first trial, three examiners had significant agreement for the strength assessment of the piriformis muscle, but not the hamstring muscle. In the other trial, the AK examiners had significant agreement for strength assessment of the pectoralis muscle, but not the tensor fascia latae muscle.

The other experimental study compared 17 patients found to be positive to an AK testing method (MMT and

response to oral provocation test). The researchers compared these findings to any hypersensitivity serum reactions (IgE and IgG). These serum tests reportedly confirmed the presence of 19 of 21 food allergies suspected by AK screening procedures.³⁹

A prospective double-blind randomized clinical trial sought to investigate the provocative vertebral challenge test used in AK and the response of the piriformis muscle.⁴⁰ In this study, the response of the piriformis muscle appeared to be a random phenomenon unrelated to manipulable subluxations.

BioEnergetic Synchronization Technique (BEST)

Two studies were found on BEST. One was a description of the technique by its developer.⁴¹ The other article was a clinical trial involving patients receiving BEST treatments at a 4-day health program.⁴² Using the Rand SF-36 and Global Well-Being Scale, the patient’s self-reported qualitatively health status was assessed at the end of the 4-day health program, and 8 weeks later. The researchers reported improvements in 6 of the 8 subscales of the SF-36, even after the eight week follow-up.

Chiropractic BioPhysics (CBP)

Nine articles on CBP were found in this study. Five were descriptions of the technique.^{43–47} One article was a case study of a 5 year-old child with reoccurring otitis media who, prior to CBP treatment, reportedly had ear infections every 3 to 6 weeks. During a six month period of CBP treatment, however, the child experienced only one ear infection.⁴⁸ Three other studies sought to assess the reliability of different radiographic mensurations used in CBP.^{49–51} In all three studies, the researchers concluded CBP radiographic mensuration procedures demonstrated good reliability.

Flexion/ Distraction

Only one study was found discussing flexion/distraction technique.⁵² In that study, the researchers determined that the intra-examiner reliability was greater than inter-examiner reliability for the protocols used to determine the need for chiropractic adjustments.

Gonstead

A total of three articles on Gonstead technique were found in this search. One article was a case study of a 21-year-old

women with low back pain and grand mal seizures.⁵³ The authors of the article reported that the patient experienced improvements in low back pain, neck complaints and a decreased frequency of seizures while receiving Gonstead treatment. The two other studies evaluated elements of radiographic imaging techniques used by Gonstead practitioners.^{54,55} One study suggested ways to ensure Gonstead x-ray positioning consistency,⁵⁴ and the other study reported that, using Gonstead listing methods to investigate the frequency distribution of preload state, there was a biomechanical co-dependence of some motion segments, and a randomness of others.⁵⁵

Logan Basic

Two articles on Logan Basic technique were found in this study. One was a description of Logan Basic technique,⁵⁶ and the other was an experimental study that sought to evaluate the reliability of x-ray protocols of Logan Basic technique.⁵⁷ A review of 100 x-rays by three Logan basic practitioners revealed that there was fair to moderate inter-rater agreement in determining the side of contact for Logan basic technique.

Network Spinal Analysis (NSA)

Two of the five articles on NSA were descriptions of the technique, one authored by the technique's developer.^{58,59} One article described a case of a 52-year-old male patient with psoriasis.⁶⁰ Medical management of this condition was by the use of methotrexate, which resulted in mild improvements that were not sustained when the patient went off the medication. Under NSA, however, the authors reported that, after being put on and then taken off the medication yet again, the patient did not experience any recurrence of his condition.

An experimental study sought to evaluate the changes in digital skin temperature (DST), surface electromyography (sEMG) and electrodermal activity (EDA) in 20 patients under NSA care compared to five control patients.⁶¹ The authors reported that the NSA treatment group displayed consistent sEMG readings, while the control group displayed increase sEMG readings. Significant decrease in EDA was also reported in the intervention group. These findings led the authors to conclude that NSA treatment had a "sympathetic quieting effect" on patients under NSA care.

A large retrospective study involving 156 Network clin-

ics and 2,818 patients under NSA care was reviewed.⁶² The authors reported that the assessment of a patient's wellness, as measured by self-rating evaluation instruments, revealed statistically significant positive perceived changes, with improvements in four health domains (physical state, mental/emotional state, stress evaluation, and life enjoyment), as well as increases in quality of life measures.

Palmer HIO/ Upper Cervical techniques

For the purposes of this study, all articles pertaining to upper cervical chiropractic techniques were grouped together. This included articles on such topics as Palmer HIO, Grostic, and Atlas Orthogonal (Sweat) techniques. Using this method, 28 articles were found on upper cervical techniques. Six articles were technique descriptions.⁶³⁻⁶⁸ Ten articles were case studies detailing the successful management of patients with different clinical conditions while under upper cervical care. Clinical conditions that were reportedly successfully managed include cervical disc herniation with neck pain and radiculopathy,⁶⁹ aberrant cervical postural with neck, upper back and upper arm pain,⁷⁰ juvenile idiopathic scoliosis,⁷¹ vertigo, tinnitus and hearing loss in an older patient⁷² and secondary to a motor vehicle accident,⁷³ scalenus anticus syndrome in an older patient,⁷⁴ head tilt in an 11 year old child secondary to MVA,⁷⁵ hepatocellular carcinoma,⁷⁶ intermittent bouts of fatigue, dizziness, facial numbness, ataxia, headache, difficulty speaking and diffuse arthralgia secondary to mild Arnold-Chiari malformation,⁷⁷ and lumbar disc herniation.⁷⁸ One article detailed the successful management of two patients with Bell's palsy while receiving upper cervical care.⁷⁹ Another case series chronicled iatrogenic symptoms (headache, dizziness, neck pain, low back pain and pain of the leg and foot) experienced by four patients which were attributed to upper cervical adjustments being delivered in the incorrect adjustive vector.⁸⁰

Five experimental studies were found within the search parameters. One study sought to investigate intra and inter examiner reliability of supine leg length testing used by upper cervical practitioners.⁸¹ Nine clinicians examined nine patients (three of which were assessed twice). The author's reported that intra-class agreement and reliability were high. The remaining studies assessed different elements of radiographic protocols used by upper cervical

practitioners.^{82–85}

One study concluded that there was a poor correlation between upper cervical x-ray analysis and other analytic methods used to assess upper cervical subluxations.⁸² Another study concluded that use of a thermocouple temperature differential measuring device correlated well with scanning palpation findings and x-rays listings.⁸³ The authors also concluded that these procedures are valuable tools for the detection of a vertebral subluxation complex. The reliability of determining the side of laterality of the atlas was found to be high in one study (agreement in 120 of 120 cases),⁸⁴ and another study concluded that patient radiographic placement error was not significant provided there was minimum rotation of the patient's skull with respect to the central ray.⁸⁵

Six clinical trials were found involving patients receiving upper cervical care^{86–93} (Articles 87–89 discussed the same study). One study sought to assess the relationship between symptomatic improvement and spinal stability.⁸⁶ Upon review of 459 patient files from a single practitioner, the authors reported that better outcomes (defined as better clinical signs and reduced need for follow-up care) were achieved when the occipito-atlantoaxial subluxation complex was reduced by at least 50% after the first treatment.

A large practice-based study sought to measure any changes in health status among patients receiving upper cervical care.^{87–89} Using the Rand SF-36 and Global Well-Being Scale, the investigators reported statistically significant improvements in all measured health domains were achieved in this group of patients, along with measurable improvements in atlas laterality. As the authors mentioned, a major difficulty with this study was its high patient attrition rate (from 311 patients to 85 patients).

Another clinical trial reported an improvement in complex task reaction-time (14.9% as compared to a control group improvement of only 8.0%) among patients receiving toggle recoil adjustments.⁹⁰ In another study, researchers compared changes in hip ranges of motion in patients receiving either upper cervical adjustments or spinal manipulative therapy. Only the group under upper cervical care demonstrated statistically significant improvement in hip flexion.⁹¹

Changes in athletic performance (vertical jump, broad jump specified, standing broad jump, and muscle strength) and physiological measures (blood pressure, pulse rate, microcirculation and treadmill stress testing) were as-

sessed before, during and after the delivery of upper cervical adjustments in another study.⁹² Twenty-one basketball players were randomly assigned to either treatment group or a control group (no treatment). After 14 weeks, patients in the treatment group demonstrated significant improvement in muscle strength and long jump distance, as well as an increase in capillary count. The researchers also reported decreases in both resting blood pressure and pulse rate only in the treatment group.

A clinical trial of 26 patients with chronic headaches (at least three months duration) who received four upper cervical toggle recoil adjustments over a two week period reported statistically significant improvement in headache frequency, duration and severity using standardized headache history and questionnaires.⁹³

Sacro-Occipital Technique (SOT)

Eleven articles were found on SOT. Six were descriptions of the technique.^{94–99} Four case studies reported the successful management of patients by SOT with tinnitus and concomitant vertebral, cranial, temporomandibular joint (TMJ) subluxations secondary to trauma,¹⁰⁰ lumbopelvic pain with neck involvement and dysfunction of the TMJ co-managed with a dentist,¹⁰¹ another case of TMJ and sacroiliac sprain co-managed with dental work¹⁰² and arthrogryposis multiplex congenita in a 6-year-old child, who reportedly experienced increased locomotor abilities.¹⁰³

A case series was found that reported on a group of children under SOT care.¹⁰⁴ A non-randomized retrospective study of 46 children aged 5 years and under with a history of ear infections were treated using SOT blocking techniques, modified applied kinesiology and adjustments of the atlas and occiput. Based on parental opinion, doctor opinion and the judgement of the child's pediatrician, 93% of children were reported to have demonstrated improvement. Seventy-five percent of the children who displayed improvement did so within 10 days or less of the commencement of treatment, and 43% of those children who demonstrated improvement did so after receiving only one or two SOT treatments.

Thompson

Only one article was found on Thompson Terminal Point, and it was a description of the technique.¹⁰⁵

Toftness

The search found four articles on Toftness technique. One article was a description of the technique.¹⁰⁶ One study sought to compare palpation with Toftness instrumentation to determine which segments should be adjusted in 41 randomly assigned patients with acute, nonspecific low back pain.¹⁰⁷ Using either treatment method, pre and post pain visual analog scales indicated patients reported a decrease in pain perception (no statistical difference between two groups).

One clinical trial obtained data on 30 patients (10 asymptomatic, 10 sham treatment and 10 receiving Toftness treatment) using a Agema thermography unit.¹⁰⁸ Based on pre and post-adjustment data, significant thermal changes occurred only in the group receiving Toftness treatments.

Another study sought to determine the clinical benefits of patients receiving Toftness treatment.¹⁰⁹ Twenty-four patients with chronic low back pain, 19 patients with chronic tension headaches and 26 patients with dysmenorrhea underwent either Toftness adjustments or sham interventions. The authors reported that only those patients receiving Toftness adjustments had significant clinical improvements.

Mixed Studies

Five studies found in this search were classified as “mixed”, meaning they discussed more than one technique, often comparing one Name technique to another. One article provided an algebraic formula to measure the speed and amplitude of thrust generated by Gonstead or Toggle recoil adjustments.¹¹⁰ A more recent article reviewed the literature on the reliability and validity of chiropractic tests of the lumbo-pelvic region.¹¹¹ The authors of that study concluded that, of static and motion palpation, leg length inequality tests, applied kinesiology tests and SOT tests, only tests for palpation for pain had consistently acceptable results, although some evidence also favored the arm-fossa test of SOT.

A clinical trial of 40 patients between the ages of 9 and 15 with idiopathic scoliotic curves measured between 6–20 degrees were treated by either Gonstead or Diversified technique methods.¹¹² The preliminary data suggested that those patients with milder curves responded more favorably.

A study was designed to compare the results obtained in

46 children with primary nocturnal enuresis treated by were received either HVLA adjustments or no treatment.¹¹³ This study had a controlled 10 week trial with a two week non-treatment period. Thirty-one patients in the treatment group received HVLA adjustments from the “Palmer Package Techniques” (comprised of Thompson, Gonstead, Activator, Palmer HIO and Diversified). This group was compared to a group of 15 control patients (Activator set to zero). Children in the treatment group were measured to have improvements of 25% to 50% in their nocturnal enuresis, but this was found not to be statistically significant.

Two chiropractic treatments were compared in terms of pain and lateral flexion among patients with neck pain.¹¹⁴ Fourteen patients were randomly divided into two groups and treated by either Activator or spinal manipulative therapy. No statistically significant differences were reported between the two groups before or after treatment.

Discussion

Summary of findings

The review of the literature on “Name Techniques” presented here does allow for some preliminary conclusions to be reached. There is evidence to suggest that prone leg length diagnostic testing and some x-ray analytic mensurations may have acceptable levels of inter and intra rater reliability. The literature also indicates that individual patients have reported significant clinical benefits derived from Activator, Alexander, and Upper Cervical techniques for a wide variety of clinical conditions. The literature also suggests that patients report high levels of satisfaction and improvements in quality of life while under either Upper Cervical or Network Spinal Analysis care.

Limitations of this study

The primary limitation of this study was that some articles on “Name Techniques” were not found within the search strategy parameters. For example, two articles by Kessinger investigating changes in pulmonary function¹¹⁵ and visual acuity¹¹⁶ in patients receiving upper cervical specific adjustment were not found in the search, nor was an article reviewing the clinical outcomes of 1,000 patients receiving flexion-distraction manipulations.¹¹⁷

“Name Techniques”, Evidence-Based Medicine (EBM) and a “Best Practice” approach

Evidence-based medicine (EBM) has often been erroneously interpreted to mean that only those positive results obtained from randomized clinical trials (RCTs) should be used to develop “best practice” clinical guidelines for field practitioners. However, Sackett has emphasized this should not be the case, and has stated that “evidence-based medicine means integrating individual clinical expertise with the best available external clinical evidence from systematic research ... especially from patient-centered clinical research”.¹¹⁸ Thus, a slavish devotion by some practitioners to the utilization of only those procedures for patients that have withstood the vigor of scientific scrutiny¹¹⁹ is as equally ill-conceived as a slavish devotion to those procedures that are only based on principles of chiropractic metaphysics, and whose proponents believe in the notion of a single cause of all disease.¹²⁰ As Perle has opined,¹²¹ the former group of doctors have forgotten the dictum that “lack of evidence is not evidence of lack”,¹²² whereas the later group have forgotten that extraordinary claims require extraordinary evidence.

Advocates of particular “Name Techniques” often assert that there is an abundance of evidence to substantiate their claims of a technique’s clinical efficacy. Sadly, upon further exploration, this abundance of articles is often nowhere to be found, at least within the search parameters utilized in this study. This propagates the accusations often made against “Name Technique” advocates that they are more entrepreneurial and less scientific. However, it has been the author’s experience that those practitioners who consider themselves to be innate/vitalists are not opposed to rational thinking. In other words, being a so-called subluxation-based practitioner does not preclude the simultaneous ability of being scientifically-minded.

That said, however, it has not escaped the author’s attention that of the one hundred and eleven articles found within the search parameters of this study, 39 were technique descriptions (35%), 29 were case studies or case series (26%), 25 were experimental studies (23%), and only 17 were clinical trials (15%). Of these clinical trials, only five were designed with a treatment group/control group,^{32,90,91,92,113} and only one study was designed with treatment group/sham group.¹⁰⁸ None of these clinical trials were designed with a treatment/ “sham” treatment/control group protocol. It is equally problematic that those

studies investigating the intra and inter rater reliability of such diagnostic tests as prone leg check or x-ray mensurations have not linked these tests with any clinical applicability or relevance. Thus, it is apparent, at least from this study, that most of the literature on “Name Techniques” to date has favored technique descriptions and anecdotal observations, while shying away from rigorous clinical investigations. It is equally perplexing that there are as many (or more) studies on relatively obscure techniques such as Toftness as there are on more commonly used techniques such as Gonstead or Thompson Terminal Point.

The call for Technology Assessment

This avoidance of what has been called *technology assessment* (TA) cannot continue indefinitely. Technology assessment is a form of policy research that attempts to evaluate technology for the purpose of providing decision makers with information on different policy options¹²³ and it is often at the center of many of the decisions made by managed care administrators.¹²⁴ TA is required by many different stakeholders, including insurance companies, government agencies, the public, and health care providers, in order to determine the impact of a particular technology on issues of safety, efficacy, effectiveness, cost-benefit, quality of life changes, and cost-effectiveness.¹²³ As Mootz has opined: “No one wants to pay for clinical procedures that are ineffective, overpriced or unnecessary ... The advent of better technologies to synthesize research, establish professional consensus, and determine appropriateness has offered a reasonable alternative to the arbitrary and proprietary methods of the past”.¹²⁵

Comments from the Technique Consortium of the Association of Chiropractic Colleges and the Council of Chiropractic Practice

Since 1982, the Technique Consortium (or its previous incarnation as the Council on Technique) has been looked upon as an advisory board to the Association of Chiropractic Colleges. The consortium is comprised of representatives from each of the chiropractic colleges, although the committee had been chronically hampered by poor representation from some member colleges. The author has been involved with this committee since 1998, and is its current chairperson. During the past meeting of the Con-

sortium convened at Logan College of Chiropractic in St. Louis, the consortium drafted the following position statements pertaining to chiropractic techniques in general:¹²⁶

- Colleges, in deciding which techniques should be taught, should devise and adhere closely to process, involving as many faculty as possible, and should not introduce arbitrary changes after the fact.
- As much as possible, decisions regarding the teaching of chiropractic technique should be evidence-based.
- As new information becomes available, and more studies are conducted, technique instruction should change in a commensurate fashion.
- At the same time, there must be respect for traditional chiropractic methods. Indeed, the highest measure of respect that can be shown lies in making them more contemporary by reflecting current scientific evidence.
- Discussion on chiropractic techniques should be method, not name, driven; therefore, the core procedures from the various system techniques should be identified and investigated as such.
- Specific technique procedures drawn from different technique systems may be used, but need not be used, in combination; depending on the needs and preferences of the individual patients and doctors. This is not intended to contradict the preference of some clinicians to wait and determine the result of a particular intervention prior to introducing further interventions.
- One thing with which each of us agree, as members of this committee, is that we can't any longer simply say "it works".
Colleges, in determining which chiropractic techniques should be taught, should rely on evidence as much as possible, and less on pure history and convention.

These statements are similar to the Clinical Practice Guidelines developed by the Council on Chiropractic Practice.¹²⁷ The Council was comprised of many of the developers of the different Name techniques, and recommended that:

"Adjusting procedures should be selected which are determined by the practitioner to be safe and effective for the individual patient. No mode of care should be used which has been demonstrated by critical scientific study and field experience to be unsafe or ineffective in the correction of

vertebral subluxations".

In this statement, there is an emphasis towards the clinical experience and judgement of the practitioner. However, it is noteworthy that the Council did indicate that many of the studies that have been conducted into the clinical efficacy of various adjustive procedures have not passed the scrutiny of peer and editorial reviews.¹²⁷

Conclusion

Chiropractic clinicians are currently faced with the unenviable dilemma of having to engage in clinical activities with a greater degree of uncertainty than most other health care providers. Paradoxically, this is not the result of having too few treatment options available to them, but rather because they have too many. This frustration is only compounded by the fact that this plethora of treatment options is coupled with a paucity of reports either supporting or refuting their clinical effectiveness.

Articles on "Name Techniques" within the search parameters of this study were predominately technique descriptions, cases studies, or experimental designs investigating particular features of a "Name Technique" (leg length tests, radiographic mensurations and so on). Only 15% of articles found in this study were clinical trials. Moreover, of the 111 articles found, almost half were either on Activator ($N = 21$) or Upper Cervical techniques ($N = 29$). Thus, it is fair to state that the current body of research into "Name Techniques" is still in its infancy. This only adds to the challenge of developing defensible clinical guidelines for field practitioners as to which "Name Technique" they should preferentially utilize. It is therefore incumbent upon advocates of "Name Techniques" to establish an evidentiary basis to support the utilization of their particular diagnostic or therapeutic procedures. This is necessitated by the fact that health care stakeholders, including patients, students, educators, academic administrators, and government agencies, are demanding a scientific basis for health care decisions.

Only when encased within a strong evidentiary carapace will the chiropractic profession be better able to defend itself to its critics, substantiate itself to its advocates, and be able to take its proper place in the health care delivery system.

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References

- Gleberzon BJ. Name techniques in Canada: current trends in utilization rates and recommendations for their inclusion at the Canadian Memorial Chiropractic College. *J Can Chiropr Assoc* 2000; 44(3):157–167.
- Cooperstein R. Activator Methods Chiropractic Technique. *Chiropractic Technique* 1997; 9(3):108–114.
- Hansen D, Fuhr A, Dressler L, Osterbauer P, Jansen R. Implementation of chiropractic guidelines: A prospective pilot study. *Transactions of the Consortium for Chiropractic Research*. 1993; 8:184–185.
- Richards D. The Activator story: Development of a New Concept in Chiropractic. *Chiropractic Journal of Australia* 1994; 24(1):28–32.
- Polkinghorn BS, Colloca CJ. Chiropractic treatment of coccygodynia via instrumental adjusting procedures using activator methods chiropractic technique. *J Manipulative Physiol Ther* 1999; 22(6):411–416.
- Polkinghorn BS, Colloca CJ. Treatment of symptomatic lumbar disc herniation using activator methods chiropractic technique. *J Manipulative Physiol Ther* 1998; 21(3):187–196.
- Polkinghorn BS. Treatment of cervical disc protrusions via instrumental chiropractic adjustment. *J Manipulative Physiol Ther* 1998; 21(2):114–121.
- Polkinghorn BS. Chiropractic treatment of frozen shoulder syndrome (adhesive capsulitis) utilizing mechanical force, manually assisted short lever adjusting procedures. *J Manipulative Physiol Ther* 1995; 18(2):105–115.
- Polkinghorn BS. Instrumental chiropractic treatment of frozen shoulder associated with mixed metastatic carcinoma. *Chiropractic Technique* 1995; 7(3):98–102.
- Polkinghorn BS. Conservative treatment of torn meniscus via mechanical force, manually assisted short lever chiropractic adjusting procedures. *J Manipulative Physiol Ther* 1994; 17(7):474–484.
- Osterbauer PJ, De Boer KF, Widmaier R, Petermann E, Fuhr AW. Treatment and biomechanical assessment of patients with chronic sacroiliac joint syndrome. *J Manipulative Physiol Ther* 1993; 16(2):82–90.
- Polkinghorn BS. Posterior calcaneal subluxation: An important consideration in chiropractic treatment of plantar fasciitis (Heel spur syndrome). *Chiropractic Sports Medicine* 1995; 9(2):44–51.
- De Witt DK, Osterbauer PJ, Stelmach GE, Fuhr AW. Optometric measurement of changes in leg length inequality resulting from isolation tests. *J Manipulative Physiol Ther* 1994; 17(8):530–538.
- Nguyen HT, Resnick DN, Caldwell SG, Elston EW, Bishop BB, Steinhouser JB, Gimillaro TJ, Keating JC. Interexaminer reliability of activator methods' relative leg-length evaluation in the prone position. *J Manipulative Physiol Ther* 1999; 22(9):565–569.
- Keller TS, Colloca CJ, Fuhr AW. Validation of the force and frequency characteristics of the activator adjusting instrument; effectiveness as a mechanical impedance measurement tool. *J Manipulative Physiol Ther* 1999; 22(2):75–86. Also see Drinkwater J *Manipulative Physiol Ther* 1999; 22(8):548–551.
- Keller T, Nathan M, Kaigle A. Measurement and analyses of interspinous kinematics. *Proceedings of the International Conference on Spinal Manipulation* 1993: 51.
- Nathan M, Keller T. Measurement and analysis of the in vivo posteroanterior impulse response of the human thoracolumbar spine: A feasibility study. *J Manipulative Physiol Ther* 1994; 17(7):431–441.
- Symons BP, Herzog W, Leonard T, Nguyen H. Reflex responses associated with activator treatment. *J Manipulative Physiol Ther* 2000; 23(3):155–159.
- Venkataraman S, Yamaguchi G, Osterbauer P, Fuhr A. Evaluating mechanical force manually assisted short lever adjusting using an anthropomorphic model. *Proceedings of the International Conference on Spinal Manipulation* 1993: 13.
- Hawk C, Azad A, Phongphua C, Long CR. Preliminary study of the effects of a placebo chiropractic treatment with sham adjustments. *J Manipulative Physiol Ther* 2000; 23(4):436–443.
- Gemmel HA, Jacobson BH. The immediate effect of activator vs. meric adjustment on acute low back pain: a randomized controlled trial. *J Manipulative Physiol Ther* 1995; 18(7):453–456.
- Yurkiw D, Mior S. Comparison of two chiropractic techniques on pain and lateral flexion in neck pain patients: A pilot study. *Chiropractic Technique* 1996; 8(4):155–162.
- Leahy P. Definition and mechanism of cumulative trauma disorder (CTD). *Conference Proceedings of the Chiropractic Centennial* 1995; July:363–364.
- Cranz G. The Alexander Technique in the world design: posture and the common chair. Part I: the chair as health hazard. *Journal of Bodywork & Movement Therapies* 2000; 4(2):90–98.
- Dean J. Alexander Technique teacher training. *Positive Health* 1999; 42:48–50.
- Dennis J. Alexander technique for chronic stress. *Cochrane Database of systematic reviews*, 2000.
- Machover I. Turn baby, turn! ... the Alexander Technique ... movements for women with a baby in the breech position. *Midwives* 1995; 108(1295):389–391.
- Wyman L. The Alexander Technique. *British Journal of Theatre Nursing*. 1998; 8(7):44–46, 48–49.

- 29 Cottingham JT, Maitland J. A three-paradigm treatment model using soft tissue mobilization and guided movement-awareness techniques of a patient with chronic low back pain. *Journal of Orthopedic and Sports Physical Therapy* 1997; 26(3):155–167.
- 30 Elkayam O, Ben Itzhak S, Avrahami E, Meiden Y, Doron N, Eldar I, Keider I, Liram N. Multidisciplinary approach to chronic back pain: prognostic elements of the outcome. *Clinical & Experimental Rheumatology* 1996; 14(3):281–288.
- 31 Stallibrass C. An evaluation of the Alexander Technique for the management of disability in Parkinson's disease – a preliminary study. *Clinical Rehabilitation* 1997; 11(1):8–12.
- 32 Dennis RJ. Functional reach improvement in normal older women after Alexander Technique instruction. *Journals of Gerontology. Series A, Biological Sciences and Medical Sciences*. 1999; 54(1):M8–11.
- 33 Gin RH, Green BN. George Goodheart, Jr, D.C., and a history of applied kinesiology. *J Manipulative Physiol Ther* 1997; 20(5):331–337.
- 34 Motyka TM, Yanuck SF. Expanding the neurological examination using functional neurologic assessment part I: methodological considerations. *Internal Journal of Neuroscience* 1999; 97(1–2):61–76.
- 35 Perle S. Applied Kinesiology (AK). *Chiropractic Technique* 1995; 7(3):103–107.
- 36 Schmitt WH, Yanuck SF. Expanding the neurological examination using functional neurologic assessment: Part II neurologic basis of applied kinesiology. *Internal Journal of Neuroscience* 1999; 97(1–2):77–108.
- 37 Schmitt W. Neurophysiological study supports Applied Kinesiology Procedures. *J of the American Chiropractic Association* 1995; 32(3):47–48.
- 38 Lawson A, Calderon L. Interexaminer agreement for applied kinesiology manual muscle testing. *Perceptual & Motor Skills* 1997; 84(2):539–546.
- 39 Schmitt WH, Leisman G. Correlation of applied kinesiology muscle testing findings with serum immunoglobulin levels for food allergies. *International Journal of Neuroscience* 1998; 96(3–4):237–244.
- 40 Haas M, Peterson D, Hoyer D, Ross G. Muscle testing response to provocative vertebral challenge and spinal manipulation: A randomized controlled trial of construct validity. *J Manipulative Physiol Ther* 1994; 17(3):141–148.
- 41 Blanks RHI, Dobson M. A study regarding measures of general health status in patients using the BioEnergetic Synchronization Technique: A Follow up study. *J of Vertebral Subluxation Research* 1999; 3(2):78–85.
- 42 Morter T, Jr. The theoretical basis and rationale for the clinical application of BioEnergetic Synchronization Technique. *J of Vertebral Subluxation Research* 1998; 2(1):23–34.
- 43 Colloca CJ. Chiropractic Biophysics (CBP) group. *J Manipulative Physiol Ther* 1998; 21(3):184–191.
- 44 Cooperstein R. Chiropractic Biophysics (CBP). *Chiropractic Technique* 1995; 7(4):141–146.
- 45 Harrison DD, Janik TJ, Harrison GR, Troyanovich S, Harrison DE, Harrison SO. Chiropractic biophysics technique: a linear algebra approach to posture in chiropractic. *J Manipulative Physiol Ther* 1996; 19(8):525–535.
- 46 Troyanovich SJ, Harrison DD, Harrison DE. Low back pain and the lumbar intervertebral disc; clinical considerations for the doctor of chiropractic. *J Manipulative Physiol Ther* 1999; 22(2):96–104.
- 47 Troyanovich S, Harrison DD. Chiropractic Biophysics technique (CBP). *Chiropractic Technique* 1996; 8(1):30–35.
- 48 Peet JB. Case study: Chiropractic results with a child with reoccurring otitis media accompanied by effusion. *Chiropractic Pediatrics* 1996; 2(2):8–12.
- 49 Jackson BL, Harrison DD, Roberson GA, Barker WF. Chiropractic biophysics lateral cervical film analysis reliability. *J Manipulative Physiol Ther* 1993; 16(6):384–391.
- 50 Troyanovich SJ, Harrison SO, Harrison DD, Harrison DE, Payne MR, Janik TJ, Holland B. Chiropractic biophysics digitized radiographic mensuration analysis of the anteroposterior lumbopelvic view: a reliability study. *J Manipulative Physiol Ther* 1999; 22(5):309–315.
- 51 Troyanovich SJ, Robertson GA, Harrison DD, Holland B. Intra- and interexaminer reliability of the chiropractic biophysics lateral lumbar radiographic mensuration procedure. *J Manipulative Physiol Ther* 1995; 18(8):519–524.
- 52 Hawk C, Phongphua C, Bleecker J, Swank L, Lopez D, Rubley T. Preliminary study of the reliability of assessment procedures for indications for chiropractic adjustments of the lumbar spine. *J Manipulative Physiol Ther* 1999; 22(6):382–389.
- 53 Alcantara J, Hescong R, Plaughter G, Alcantara J. Chiropractic management of a patient with subluxations, low back pain and epileptic seizures. *J Manipulative Physiol Ther* 1998; 21(6):410–418.
- 54 Dulhunty JA. A mechanical and graphical evaluation of the Gonstead pelvic radiographic analysis. *Chiropractic Journal of Australia* 1997; 27(3):98–110.
- 55 Wiegand R. Graphical analysis and frequency distribution of dysfunctional motion segments in the cervical spine using digital X-ray transfer and database technologies. *Chiropractic Research Journal* 1997; IV(1):28.
- 56 Mawhinney RB. Accelerated treatment protocols of the International Scoliosis Research Center on Three cases of scoliosis under chiropractic care. *Chiropractic Technique* 1999; 11(3):125–132.

- 57 Mannello D. Inter-rater agreement of Basic Technique radiographic analysis. *Transactions of the Consortium for Chiropractic Research* 1993; 8:158–159.
- 58 Bohacek S, Jonckheere E. Chaotic modeling in network spinal analysis; nonlinear canonical correlation with alternating conditional expectation (ACE): a preliminary report. *J of Vertebral Subluxation Research* 1998; 2(4):188–195.
- 59 Epstein D. Network Spinal Analysis: A system of health care delivery within the subluxation-based chiropractic model. *J of Vertebral Subluxation Research* 1996; 1(1):51–59.
- 60 Behrendt M. Reduction of psoriasis in a patient under network spinal analysis care: a case report. *J of Vertebral Subluxation Research* 1998; 2(4):196–200.
- 61 Miller EB, Redmond PD. Changes in digital skin temperature, surface electromyography, and electrodermal activity in subjects receiving Network Spinal Analysis care. *J of Vertebral Subluxation Research* 1998; 2(2):87–95.
- 62 Blanks RHI, Schuster TL, Dobson M. A retrospective assessment of Network Care using survey of self-rated health, wellness and quality of life. *J of Vertebral Subluxation Research* 1997; 1(4):15–31.
- 63 Crowe H, Lindberg B. Radiographic analysis considerations with interfacing of ponticulus posticus on nasium and frontal views. *Chiropractic Research Journal* 1997; IV(1):30.
- 64 Laney C. The Torque factor in hand and instrument adjusting. *Chiropractic Research Journal* 1997; IV(1):29–30.
- 65 Licata F, Miller M. The treatment of herniated nucleus pulposus in the cervical spine using atlas orthogonal chiropractic technique. *Conference proceedings of the Chiropractic Centennial* 1995; 365.
- 66 Nash J, Jordan CD, Green BN. Hole in One: A history of its founding. *Chiropractic History* 1996; 16(2):76–80.
- 67 Saks B. A clinical study of the effectiveness of upper cervical chiropractic adjustments in radicular and non-radicular cervicalgia: A pilot study. *Conference Proceedings of the Chiropractic Centennial* 1995; July:368–369.
- 68 Sweat RW, Sweat MH, Nygaard D, Ellwood J. An atlas orthogonal technique method of transforming between inches and degrees for practitioners applying the Grostic method analysis and vertebral listings. *J of Vertebral Subluxation Research* 1998; 2(4):182–187.
- 69 Erikson K. Management of cervical disc herniation with upper cervical chiropractic care. *J Manipulative Physiol Ther* 1998; 21(1):51–56.
- 70 Reynolds C. Reduction of hypolordosis of the cervical spine and forward head posture with specific adjustment and the use of a home therapy cushion. *Chiropractic Research Journal* 1998; 1:23–27.
- 71 Erikson K. Correction of juvenile idiopathic scoliosis after primary upper cervical chiropractic care: A case study. *Chiropractic Research Journal* 1996; 3(3):25–33.
- 72 Kessinger RC, Boneva DV. Vertigo, tinnitus, and hearing loss in the geriatric patient. *J Manipulative Physiol Ther* 2000; 23(5):352–362.
- 73 Kessinger RC, Boneva DV. Case study: acceleration/ deceleration injury with angular kyphosis. *J Manipulative Physiol Ther* 2000; 23(4):279–287.
- 74 Knutson GA. Thermal asymmetry of the upper extremity in scalenus anticus syndrome, leg-length inequality an response to chiropractic adjustment. *J Manipulative Physiol Ther* 1997; 20(7):476–481.
- 75 Knutson GA. Chiropractic correction of atlanoaxial rotatory fixations. *J Manipulative Physiol Ther* 1996; 19(4):268–272.
- 76 Lee G, Jensen CD. Remission of Hepatocellular carcinoma in a patient under chiropractic care. *J of Vertebral Subluxation* 1998; 2(3):125–130.
- 77 Smith JL. Effects of upper cervical subluxation concomitant with mild Arnold–Chiari malformation: a case study. *Chiropractic Research Journal* 1997; 4(2):77–81.
- 78 Sweat R. Correction of multiple herniated lumbar disc by chiropractic intervention. *Journal of chiropractic case reports* 1993; 1(1):14–17.
- 79 Kessinger R, Boneva D. Bell's palsy and the upper cervical spine. *Chiropractic Research Journal* 1999; 6(2):47–56.
- 80 Knutson GA. Case studies of upper cervical adjusting errors: the possibility of chiropractic iatrogenesis. *Chiropractic Research Journal* 1996; 3(3):20–24.
- 81 Hinson R, Brown SH. Supine leg length differential estimation: An inter- and intra-examiner reliability study. *Chiropractic Research Journal* 1998; 5(1):17–22.
- 82 Erikson K. Comparison between upper cervical x-ray listings and technique analyses utilizing a computerized database. *Chiropractic Research Journal* 1996; 3(2):13–24.
- 83 James KA. Correlation of scanning palpation and Grostic cervical X-rays with a thermocouple temperature measuring device. *Chiropractic Research Journal* 1997; IV(1):28.
- 84 Rochester R. Inter and intra-examiner reliability of the upper cervical X-ray marking system: A third and expanded look. *Chiropractic Research Journal* 1994; 3(1):23–31.
- 85 Rochester R, Owens E. Patient placement error in rotation and its affect on the upper cervical measuring system. *Chiropractic Research Journal* 1996; 3(2):40–53.
- 86 Erikson K, Owens EF. Upper cervical post X-ray reduction and its relationship to symptomatic improvement and spinal stability. *Chiropractic Research Journal* 1997; IV(1):10–17.

- 87 Hoiriis KT, Burd D, Owens EF Jr. Changes in general health status during upper cervical chiropractic care: A practice-based research project update. *Chiropractic Research Journal* 1999; 6(2):65–70.
- 88 Hoiriis KT, Owens EF Jr., Pflieger B. Changes in general health status during upper cervical chiropractic care: A practice-based research project. *Chiropractic Research Journal* 1997; 4(1):18–26.
- 89 Owens EF Jr., Hoiriis KT, Burd D. Changes in general health status during upper cervical chiropractic care: PBR progress report. *Chiropractic Research Journal* 1998; 5(1):9–16.
- 90 Kelly DD, Murphy BA, Backhouse DP. Use of a mental rotation reaction-time paradigm to measure the effects of upper cervical adjustments on cortical processing: a pilot study. *J Manipulative Physiol Ther* 2000; 23(4):246–251.
- 91 Pollard H, Ward G. The effects of upper cervical or sacroiliac manipulation on hip flexion range of motion. *J Manipulative Physiol Ther* 1998; 21(9):611–616.
- 92 Schwartzbauer J, Kolber J, Schwarzbauer M, Hart J, Zhang J. Athletic performance and physiological measures in baseball players following upper cervical chiropractic care: A pilot study. *J of Vertebral Subluxation Research* 1997; 1(4):33–39.
- 93 Whittingham W, Ellis WB, Molyneux TP. The effect of manipulation (toggle recoil technique) for headaches with upper cervical joint dysfunction: a pilot study. *J Manipulative Physiol Ther* 1994; 17(6):369–375.
- 94 Blum CL. Chiropractic and sacro-occipital technique and asthma treatment. *Chiropractic Technique* 1999; 11(4):174–180.
- 95 Blum CL, Curl DD. The relationship between sacro-occipital technique and sphenobasilar balance. Part one: the key continuities. *Chiropractic Technique* 1998; 10(3):95–100.
- 96 Blum CL, Curl DD. The relationship between sacro-occipital technique and sphenobasilar balance. Part II: Sphenobasilar strain stacking. *Chiropractic Technique* 1998; 10(3):101–109.
- 97 Getzoff H. Sacro-occipital technique categories: A systems method of chiropractic. *Chiropractic technique* 1999; 11(2):62–65.
- 98 Getzoff H. The step out-toe out procedure: A therapeutic and diagnostic procedure. *Chiropractic Technique* 1998; 10(3):118–120.
- 99 Getzoff H. Cranial Mandibular motion technique. *Chiropractic Technique* 1996; 8(4):182–185.
- 100 Blum CL. Spinal/ cranial manipulative therapy and tinnitus: a case history. *Chiropractic Technique* 1998; 10(4):163–168.
- 101 Chinappi AS, Getzoff H. Chiropractic/ dental cotreatment of lumbosacral pain with temporomandibular joint involvement. *J Manipulative Physiol Ther* 1996; 19(9):607–612.
- 102 Gregory TM. Temporomandibular disorder associated with sacroiliac sprain. *J Manipulative Physiol Ther* 1993; 16(4):256–265.
- 103 Getzoff H, Gregory TM. Chiropractic sacro-occipital technique treatment of arthrogryposis multiplex congenita. *Chiropractic Technique* 1996; 8(2):83–87.
- 104 Froehle RM. Ear infection: a retrospective study examining improvement from chiropractic care and analyzing for influencing factors. *J Manipulative Physiol Ther* 1996; 19(3):169–177.
- 105 Cooperstein R. Thompson Technique. *Chiropractic Technique* 1995; 7(2):60–63.
- 106 Troyanovich S, Snyder B. Thermographic evaluation for the role of the sensometer: evidence in the Toftness System for Chiropractic Adjusting ... evaluation of the Toftness system of chiropractic adjusting for subjects with chronic back pain, chronic tension headaches, or primary dysmenorrhea. *Chiropractic Technique* 1999; 11(4):186–200.
- 107 Gemmel HA, Jacobson BH. Comparison of two adjustive indicators in patients with acute low back pain. *Chiropractic Technique* 1998; 10(1):8–10.
- 108 Snyder BJ. Thermographic evaluation for the role of the sensometer: evidence in the Toftness system of chiropractic adjusting. *Chiropractic Technique* 1999; 11(2):57–61.
- 109 Snyder BJ, Sanders GE. Evaluation of the Toftness System of Chiropractic Adjusting for subjects with chronic low back pain, chronic tension headaches, or primary dysmenorrhea. *Chiropractic Technique* 1996; 8(1):3–9.
- 110 Solinger AB, Lantz CA. The role of speed and technique in determining amplitude of vertebral response. *Chiropractic Research Journal* 1997; IV(1):31.
- 111 Hestoeck L, Leboeuf-Yde C. Are chiropractic tests for lumbo-pelvic spine reliable and valid? A systematic critical literature review. *J Manipulative Physiol Ther* 2000; 23(4):258–275.
- 112 Lantz C, Chen J, Bachman T. Chiropractic management of adolescent idiopathic scoliosis. *Conference of the Chiropractic Centennial* 1995; July:288.
- 113 Reed W, Beavers S, Reddy S, Kern G. Chiropractic Management of Primary Nocturnal enuresis. *J Manipulative Physiol Ther* 1994; 17(9):596–600.
- 114 Yurkiw D, Mior S. Comparison of Two Chiropractic Treatments on Pain and Lateral Flexion in Neck Pain Patients: A Pilot Study. *Chiropractic Technique* 1996; 8(4):155–162.
- 115 Kessinger R. Changes in pulmonary function associated with upper cervical specific chiropractic care. *J Vertebral Subluxation Res* 1997; 1:43–49.
- 116 Kessinger R, Boneva D. Changes in visual acuity in patients receiving upper cervical specific chiropractic care. *J. Vertebral Subluxation Res* 1998; 2:43–49

- 117 Cox JM, Feller J, Cox-Cid, J. Distraction chiropractic adjusting: Clinical application and outcomes of 1,000 cases. *Top Clin Chiro* 1996; 3(3):45–59.
- 118 Sackett DL. Evidence-Based Medicine (editorial). *Spine* 1999; 23(10):1085–1086.
- 119 Slaughter R. National Association for Chiropractic Medicine website. Available at <http://www.chiromed.org/>.
- 120 Keating J. Chiropractic: science and antiscience and pseudoscience, side by side. *Skeptical Inquirer* 1997; 21:37–43.
- 121 Perle S. Concept paper on chiropractic care. In press.
- 122 Altman DG, Bland JM. Absence of evidence is not evidence of absence. *BMJ* 1995; 311:485.
- 123 Hanson DT, Mootz RD. Formal processes in technology assessment: a primer for the chiropractic profession. *Topics in Clinical Chiropractic* 1996; 3(1):71–83.
- 124 Cooperstein R, Schneider MS. Assessment of chiropractic techniques and procedures. *Topics in Clinical Chiropractic* 1996; 3(1):44–51.
- 125 Mootz RD, Shekelle PG, Hansen DT. The politics of policy and research. *Topics in Clinical Chiropractic* 1995; 2(2):56–70.
- 126 Position paper. Technique Consortium, Association of Chiropractic Colleges. Developed during meeting at Logan College of Chiropractic College, St. Louis, Mo., Sept 12–14, 2000.
- 127 Council of Chiropractic Practice Clinical Practice Guidelines (Number 1). Vertebral subluxation in chiropractic practice. Abbreviated version. *J of Vertebral Subluxation Research* 1998; 2(3):141–157.

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