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Commentary

The great subluxation debate: a centrist's perspective

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Abstract

Objective: This commentary describes the debate and some of the associated issues involving the subluxation construct.

Discussion: The long-standing debate regarding the chiropractic subluxation has created substantial controversy within the profession. Currently, this phenomenon can be compared with a country with a 2-party system that has a large silent majority sitting between the 2 factions. It is argued that the position held by those in the middle (the centrists) may be the most rational view when considering all of the available evidence. It is also suggested that the subluxation construct is similar to the Santa Claus construct in that both have a factual basis as well as social utility. Ultimately, the centrists must become proactive if they want to protect the profession and further advance the evidence in regard to the subluxation. They must not only engage in the debate, but fund the research that will investigate various aspects of the subluxation and then help disseminate this evidence to fellow doctors of chiropractic, other practitioners, health care policy makers, and society at large.

Conclusion: The role of subluxation in chiropractic practice, the progression of this debate, and the future of the profession will be directly determined by the role that centrists choose to play.
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Introduction

Why does the concept of the chiropractic subluxation cause otherwise sensible people to act in irrational ways? This is a question that those within

and outside of the chiropractic profession have been asking almost since its inception. The divergence of chiropractors' opinions regarding the nature of joint dysfunction/subluxation can be traced back to as early as 1903 when Langworthy, Smith, and Paxson founded their own college of chiropractic in Cedar Rapids, IA. In doing so, they competed directly with Daniel David Palmer in Davenport and by 1906, they had published the first chiropractic textbook, *Modernized Chiropractic*.¹ In this book, they describe their theory of the chiropractic subluxation as a loss of the normal field of motion. This was in contrast to

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Palmer's earlier and simpler bone out of place/nerve impingement concept.² Since then, an array of hypotheses has been offered in regard to the chiropractic subluxation including the argument by a few that there is no evidence that subluxations exist. This latter claim is particularly curious for those of us who have spent virtually our entire lives investigating and treating the target of our manipulative care.

My personal experience with chiropractic subluxation began after reading a description of chiropractic in an occupational handbook while studying as an undergraduate student. I was so fascinated that, after my prerequisites were completed, I entered Texas Chiropractic College to begin an investigation in earnest. I became exposed to a variety of new views about health and disease and, in particular, the intriguing idea that given the right neurologic circumstances, virtually anything could cause anything.³ After a year of study, I decided to continue my investigation of chiropractic at Palmer College of Chiropractic in Davenport, where the chiropractic profession first began. This exposed me to dramatically different views on subluxation theories as well as other components of the philosophy of chiropractic. Since that time, I have studied a variety of chiropractic techniques ranging from Palmer Upper Cervical Specific to Gonstead, Thompson, Pierce-Stillwagon, and diversified. I have taken a number of seminars on commonly used techniques, including courses on extremity adjusting, Applied Kinesiology, Sacro-Occipital Technique, instrument adjusting, flexion-distraction technique, and especially motion palpation and manipulative technique from the Motion Palpation Institute.

During the 27 years since my graduation, I have had the privilege of treating thousands of patients, teaching thousands of students at chiropractic colleges in both the United States and Europe, and lecturing to thousands of field practitioners. Subsequently, I believe it is fair to say that I have ended up squarely in the middle in regard to most of the profession's debates. In a word, I am a centrist. Indeed, if the surveys by McDonald⁴ and the World Federation of Chiropractic⁵ and writings in the recent book *Chiropractic Peace*⁶ are any indication, it appears that I sit with the moderate majority when it comes to the political, philosophical, and scope of practice issues that surround us and especially in regard to the subluxation construct (SC).

The purpose of this article is to discuss the current state of affairs regarding the SC and the role that those who occupy the middle ground, the centrists, have to play in relation to it.

Discussion

Why is the centrist position regarding the subluxation important? The answer may be in how a centrist perspective relates to the profession, which I believe will eventually determine our future. In a sense, the chiropractic profession is like a country with a 2-party system that also has a large, relatively silent third group of unaffiliated independent voters. Ultimately, it is the independent voters who determine the result of most elections, either actively through their vote or passively as they sit on the sidelines and watch.

Consider some of the issues facing the profession. It has been argued that increasing our cultural authority is critical to our survival and success.^{7,8} If this is true, then it would seem that the way forward must begin with a cultural change within the profession itself. According to Greiner,⁹ organizational change typically occurs in 2 distinct ways: through evolution or revolution. On the one hand, there can be slow, steady progression stemming from relatively small, seemingly insignificant events; or alternatively, there can be a conscious, deliberate moment of dramatic and decisive action. Both processes will result in organizational change, and this often occurs when those who sit at the ends of a debate spectrum convince enough in the middle to move in their particular direction. Alternatively, sometimes, those in the middle ignore the arguments from both sides and wait for a third option, especially when they are convinced that neither group is worthy of joining.

I feel that this is the same situation regarding the SC and as a profession, we are coming to a point in time where we must make a choice from a menu of 3 items. On one hand, we can cling to traditional notions about the SC and the suspect baggage associated with it. On the other hand, we can let the construct fade away along with other remnants of our past. Thirdly, we can continue to accept the SC as a core component of the profession and investigate and explain it in a transparent, honest, and evidenced-based fashion. I have witnessed similar transformations made with other elements of our professional culture, and I would offer the concept of vitalism as an example. Although undoubtedly there are at least a few members of the profession who privately embrace a vitalistic concept, it appears that there are fewer still who publicly use Universal and Innate Intelligence as an explanation for the results obtained under chiropractic care. A reasonable alternative to vitalism has been offered by Mootz whereby these concepts are coined the *Chiropractic Metaphor* and are recast as

homeostasis. The supernatural component is left as a historical anachronism that no longer needs to play a role in contemporary practice.¹⁰ Building on this, I propose that vitalism and its godly implications can be set aside and replaced by the concept of *vitality*. Essentially, this is defined as the natural capacity a living thing has to live and thrive. The discussion then becomes focused on which clinical interventions we as practitioners can offer that help patients regain their health and achieve their optimal potential given their level of vitality.

Similarly, there are forces at work trying to affect a paradigm shift regarding the SC that I believe will result in a referendum that will be determined by the 3 groups of voters. On one end of the ballot is the petition for the eradication of the word *subluxation* from the profession's lexicon (but not necessarily the concept)¹¹ and/or against its very existence.¹² I would characterize this view as being fomented by a small group that might best be referred to as *hypercritical evidentialistas*. This group demands scientific proof, offering their version of the truth in various types of nonexperimental publications. Upon closer inspection, this can be exposed as a selective interpretation of some of the available evidence.¹³ Invariably, this faction crosses swords with a small group of those at the other end of the spectrum, the loyal adversaries who might be referred to as *uncritical observationalists*. This group holds the SC as a sacred cow, often giving it quasi-religious attributes.¹⁴ Within this camp, chiropractors play a priestly role demonizing subluxation as the scourge of health that must be exorcised at every available opportunity through the adjustment. I suggest that these 2 groups sit at the extremes of our profession and may be blinded by their own agendas, beliefs, and intense dislike for each other. In particular, they are unable to perform a dispassionate review of the available evidence regarding the SC. In my opinion, it is the centrists, playing the role of the *rational empiricists*, who occupy the middle ground and who have the best perspective in regard to interpreting the evidence of the subluxation's existence and the extent to which it may create "nerve interference."

It is also my observation that the centrist group is composed of more than just those known as *middle scope* chiropractors,⁴ but also includes a large number of those previously identified as *narrow scope* and *broad scope*. In the introduction to *Chiropractic Peace*, this concept is discussed at length by McDonald and Strang who point out that, despite classifying DCs into 3 camps, when it comes to the subluxation and the breadth of conditions treated with manipulative care,

the vast majority of chiropractors share the beliefs that the SC exists, they do not want to discontinue using the term, and they will treat some nonmusculoskeletal conditions with adjustments.⁶ Later in this same book, Ashley E. Cleveland's essay "Walking a Middle Path to Peace" further describes the centrist's perspective when she offers a balanced view of some of the traditional principles of chiropractic. This includes regarding patients as self-regulating organisms capable of adaptation, understanding the substantial impact that dysfunction of the musculoskeletal system has on health, and the commitment that we have to care for the whole person and not simply his or her parts.

The centrist perspective and the SC

In terms of the SC, centrists have as their cornerstone the clinical reality of the "painful sticky joint" that, in essence, may be our layperson's description of a mild facet joint syndrome. This concept is well described within our contemporary texts,¹⁵⁻¹⁸ but the reality of its existence is essentially based upon the published evidence combined with the personal clinical experiences chiropractors have had as both a patient and a doctor. The centrist perspective of the construct is broader than this though and extends to many possibilities of motion segment dysfunction, from the clinically unstable "orthopedic subluxation" to the completely fixated motion segment as a result of bony ankylosis or congenital fusion. This model encompasses the functional, structural, and pathoanatomical changes to the various components of a spinal motion segment as well as the other pelvic and peripheral motion segments. Therefore, in terms of a working definition of the SC, centrists are comfortable with the Association of Chiropractic Colleges presidents' definition of subluxation¹⁹ and may be equally as comfortable with the consensus definition proposed by Gatterman and Hansen²⁰ because, essentially, they say the same thing: a subluxation is a change in joint motion that affects the nervous system. Centrists are comfortable with the ambiguity of these definitions because they recognize the strength of words that are broad and inclusive. They recognize that even though the definitions are unsuitable as the basis for a research endeavor, they are a work in an evolutionary process that leaves the clinical door open for patients with any manner of articular problem to enter their offices and be cared for. In regard to subluxation causing *nerve interference*, centrists recognize that it is an antiquated

term that is more appropriately recast as *neural reactivity*. Essentially it is the appreciation that many of the signs and symptoms associated with motion segment dysfunction are likely the result of reactions to mechanical or chemical insults to neural tissue or, more commonly, through reflexes generated within the nervous system as a result of nociceptor or proprioceptor activity initiated in the tissues comprising the motion segment.

As for evidence-based health care, certainly, the peer-reviewed journals stand at the top of the list as sources of important information; but centrists read these understanding that they only provide a narrowly focused glimpse of the subject at hand and that each research study has its own strengths and limitations. Even a well-written systematic review or meta-analysis is a selective interpretation of the accessed literature, and these will be written based on the criteria and biases the authors bring to the study. Therefore, in addition to the peer-reviewed journals, centrists recognize that the other critically important source of literature would include the profession's most recent textbooks. In this case, it is within our textbooks that the depth and breadth of a well-evidenced contemporary perspective of the SC are available. Indeed, the current chiropractic textbooks are of excellent quality and are founded on the best available evidence that existed just before the point of publication. Of course, journal articles help fill the void regarding more recent advances; but a true contemporary understanding of the SC includes both textbooks and journal publications.

In addition to the published literature, centrists are pragmatic and recognize the importance of clinical observation and patient values, which completes the evidence-based practice triad. Centrists essentially are open-minded yet skeptical practitioners attempting to do what is best for their patients. They have an interest in reading about the newest research findings in regard to the SC, however, they are struck by how little we have evidenced than by the meager evidence itself. This is primarily because as they earnestly treat the human condition, they recognize that only a sliver of what they have observed in clinical practice has yet to be studied in any detailed fashion and this is primarily because of the limitations of most of the clinical studies that chiropractors have been involved in. Certainly, a growing number of randomized clinical trials exist evidencing the benefits of manipulation for various types of spinal pain.²¹ But a shortcoming of most of these is that they failed to report on the changes in subluxation/joint dysfunction pre- and posttreatment while other outcomes were being measured. This is not

to say that the clinicians did not analyze the motion segments first to determine the target area of their treatment, it is that the subluxation data were not analyzed and published, and this is particularly lamentable. Therefore, regarding investigating the subluxation clinically, most of this has occurred in conditions not involving low back pain, neck pain, or headaches, and has typically appeared as part of a case study publication.

Given the hierarchy of evidence, case studies sit near the bottom and are seldom included when considering the evidence regarding the SC.²² Yet centrists will not dismiss case reports as having absolutely no value especially because they have witnessed many positive clinical responses that are not satisfactorily explained by the competing hypotheses. Hartman²³ has ruefully pointed out that a number of alternative mechanisms could be at work when patients appear to improve under care, and these have nothing to do with the effectiveness of the treatment itself. Included in this list are the placebo effect, the self-limiting nature of the disease, regression toward the mean, the effect of known or unknown cotreatments, and/or reporting biases of the patient or the doctor. Centrists accept that these phenomena could be at work, but they also realize that one important possibility is that there truly was a treatment effect from their adjustment of the patient's subluxation. In terms of the SC, possibility rises to the level of probability as the presenting complaint mirrors the signs and symptoms associated with the painful sticky joint or even one of the more complex musculoskeletal subluxation syndromes identified by Gatterman¹⁷ and patients respond to treatment with dramatic and immediate responses.

One might ask why it is that these musculoskeletal clinical conditions actually form the basis for the centrist perspective in regard to the SC instead of broadening this to include nonmusculoskeletal conditions. Firstly, chiropractors treat patients with musculoskeletal pain approximately 90% of the time^{24,25}; and painful subluxations are simply encountered in their offices as one of the most common causes of musculoskeletal pain. This has been documented by Smith and Carber²⁶ when DCs were surveyed about their perspectives on subluxation. They found that more than 75% of chiropractors' clinical approach to addressing musculoskeletal or biomechanical disorders such as back pain was "subluxation based."

Secondly, I suggest that there is another important criterion related to the causation of disease: temporality.^{27,28} The clinical observations that chiropractors make either as patients themselves or as

doctors rendering care and the dramatic results obtained immediately after analysis and adjustment at the site of the lesion tip the scales of belief. Positive clinical responses in acute, subacute, and even chronic cases are occurring within seconds and minutes, not hours, days, weeks, or months; and it is this evidence that causes centrists to shake their heads when the existence of subluxation is questioned. These repeated observations have convinced the doctors beyond all reasonable doubt that segmental dysfunction exists and that they have the means for treating it. To centrists, the SC is simply the most rational model used to explain the clinical observations that occur daily and thousands of times per year in their patients.

Essentially, centrists recognize that clinical anecdote, expert opinion, and the case reports, which eventually flow from these observations, are acceptable forms of evidence that must be considered along with all other evidence if one is truly going to consider the best available evidence. Naturally, one must be ever mindful of the shortcomings of clinical observations and continue to look for evidence that falsifies these hypotheses if one is truly a practitioner-scientist. But this is one of the strengths of the centrist position: to date, there has been no compelling falsification of the joint dysfunction hypothesis. It is granted that some of the earlier hypotheses regarding nerve impingement have been debunked. But even the claims that the reliability studies investigating the diagnostic tools used to identify the manipulative lesion are wanting or that the validity studies are too sparse do not falsify the SC. They only inform the debate and help create the demand for better research. For the time being, the chiropractic subluxation is the most credible reason to explain the clinical results obtained in these patients, which is primarily why centrists will not abandon the SC, much to the chagrin of the evidentialistas.

In a similar sense, the same can be said for some nonmusculoskeletal cases. Centrists are particularly skeptical of visceral conditions being caused by subluxation, which is particularly irksome to the uncritical observationalists in the profession who view subluxations as being far more involved in these. In this case, Smith and Carber²⁶ found that most chiropractors reported that less than 20% of their clinical approach was “subluxation based” for patient complaints deemed to be principally problems with circulation, digestion, or similarly “visceral” in nature. Centrists recognize that subluxation could often present as a condition that mimics a visceral condition and in fact no true visceral disease exists,¹⁸ such as in the case of pseudoangina.²⁹ Centrists however also view

treatment of some selected nonmusculoskeletal conditions as simply a therapeutic trial that patients have a right to choose to participate in. Given that proper clinical procedures (including informed consent) have been followed and given consideration for the current state of the evidence, there truly is no compelling reason to refuse chiropractic management (including manipulative care) for these conditions if patients decide they want it. Ultimately, though, I would suggest that beyond the clinical reality of subluxation, it is the social utility of the construct that has caused it to remain as a cornerstone of the profession. In this sense, it is reminiscent of a similar cultural phenomenon, namely, the Santa Claus construct (SCC).

The SC and the SCC

How can the SC be compared with Santa Claus? In both cases, a contemporary perspective that combines the best available evidence with critical analysis leads one to conclude that there are elements of truth, fiction, and cultural utility that ultimately make both constructs important and useful. In the case of the SCC, it is very likely that a person known as Saint Nicholas actually existed. According to historical accounts he was Greek by birth; became bishop of Myra; and died on or about December 6, 346 AD. He also gained a reputation for secretive gift giving and became the model for the modern-day mythical figure of Santa Claus.^{30,31} The modern permutation of the SCC involves all sorts of fictional additions. Depending on which story one encounters this may include Santa and the elves living at the North Pole building toys each year for well-deserving children. Santa Claus then travels around the world in a single night on a flying sleigh led by a brightly nosed reindeer named *Rudolph* to deliver these gifts. “Evidence” of his existence abounds, as he can be seen in countless parades and malls in person and on television. Of course, as children grow up, they realize the impossibility of such feats and observe the lack of consistency between the imposters who claim to be Santa. Yet, nonetheless, the joyful results of gift giving, the sharing of traditions, and the creation of lifelong memories are positive reinforcements that maintain the SCC as a core feature of modern Western civilization.

Similarly, the SC begins with an element of truth: that abnormal motion of joints exists and this may cause pain and other reactions in the nervous system. Historically, an early observation of this can be traced back 2500 years ago in Greece with writings attributed

to Hippocrates that noted the localized physical findings associated with joint pain and described the manipulation of them.¹⁶ In 1746, Hieronymus defined the modern term and described it as having “lessened motion, slight changes of position of articulating bones and pain...”¹⁷ The advent of technology in the form of diagnostic imaging has allowed the visualization of severe misalignments associated with motion segment dysfunction to be observed, and these range from traumatically induced subluxations (ie, the orthopedic subluxation or partial dislocation) to regional distortions associated with scoliosis or acquired postural changes and to smaller amounts of misalignment as indications of spinal instability or facet syndromes. Other types of joint dysfunction may be evaluated with video fluoroscopy studies and on stress film analysis.^{15,17} More recently, there have even been magnetic resonance imaging studies establishing changes in spinal motion as assessed with motion palpation or patient movements.³² Studies focusing on static palpation and motion palpation have reported varying degrees of reliability and validity, and a compendium of these can be found in Bergmann and Peterson’s text *Chiropractic Technique*.¹⁵ It is important to remember however that one of the important observations about these studies is the consistent lack of methodological rigor. Nevertheless, evidentialists do not seem to recognize the weakness of their arguments when opining about the lack of reliable and/or valid subluxation detection tools in that it is not possible to make any strong conclusions about studies with such limitations. What one can say about these studies is that a large number of investigations have occurred, many with poor methodology; and overall, there are very mixed results.

Ultimately the published evidence regarding the SC remains a work in progress. More so given the current state of technology, how can one truly establish the very small reductions of motion associated with muscular or ligamentous restrictions as proposed by Gillet and Liekens³³ or the loss of “endfeel” and “joint play” as proposed by Mennel?³⁴ This is where centrists ask themselves the ultimate pragmatic question: are the limitations of the current published evidence enough to justify dismissing the SC from clinical practice? Would this truly benefit patients and society? I would offer that the answer to this question is a resounding “no.” This is not because of the inability to let go of a cherished dogmatic belief or because of a financial stake in private practice. It is because centrists are willing to wager their professional reputations (and indeed the future of chiropractic) on an entity that they are

convinced will become well evidenced as the technologies and the scientific rigor of the investigations improve, no matter who does the research. It is not the existence of Santa Claus they are betting on; it is the existence of Saint Nicholas and the impact he has had on society that they are convinced of. They are willing to wager that, at the very least, painful sticky joints exist essentially because the weight of all the evidence convinces them. This includes the published evidence to date plus the immediate responses to thousands of people over years of practice. And most persuasively, they have had a painful subluxation adjusted and felt the immediate dramatic result in themselves. Centrists are very comfortable waiting for science to add more to the growing pile of evidence while they go about the business of successfully changing lives one patient at a time.

However, I suggest that simply waiting for someone to create the evidence will not change the current difficult situation and centrists need to understand this and take action themselves. In my view, if the chiropractic profession is truly going to move forward in regard to the SC, only a proactive role by the centrists will accomplish this. We must become vocal about directing our research initiatives to include a focus on various aspects of the SC. And we must also fund this. Then as the evidence accumulates, we must share this with ourselves, other practitioners, health policy makers, and society at large. To sit by idly and hope that this is accomplished without the centrists will only allow those at the fringes to continue their destructive ways and continue to allow the profession to evolve into an entity that does not represent the majority.

Conclusion

It is suggested that centrists comprise the moderate majority of chiropractors who are convinced by the available evidence that the contemporary model of the SC is legitimate and useful, especially in regard to painful articular conditions and their sequela. They also view treatment of subluxation for some selected nonmusculoskeletal conditions simply as a therapeutic trial that patients have a right to choose to participate in. Despite the opinions of small vocal minorities to either side, it is this broad middle group that sustains the profession and gives it the greatest opportunity for continued success. Ultimately, to have a profession that is highly skilled at identifying and treating localized

motion segment dysfunctions with manual therapy and other conservative care interventions serves the best interests of society, especially those whose lives are affected by symptomatic lesions in need of this type of care. If the chiropractic profession is to survive and flourish, the centrists should rise up and lead this profession before the extremist groups at its fringes catalyze its destruction.

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