
# 2025

## Proceedings of the 16th Sacro Occipital Technique Research Conference

*Nashville, Tennessee*

***April 25, 2025***

# Sacro Occipital Technique Research Conference

**Nashville, Tennessee**
**April 25, 2025**

***Hosted by:***

**Sacro Occipital Technique Organization – USA**

# CONFERENCE PROCEEDINGS


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**2025 SOT RESEARCH CONFERENCE**

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**2025 SOT RESEARCH CONFERENCE**

# Proceedings of the Sacro Occipital Technique Research Conference

Nashville, Tennessee - April 25, 2025

Charles L Blum and Phillip Ebrall

The following is introductory information valuable to those attending the annual Sacro Occipital Technique (SOT) Research Conference held yearly at the Sacro Occipital Techinque Organization – USA's Clinical Symposium. These brief notes accompany the conference's proceeding and help address the importance of chiropractors and other healthcare providers documenting their clinical practice in the form of case reports.

The founder of SOT, Major Bertrand DeJarnette, presented his initial research findings in 1935. Since then the specialty field of SOT has grown and now presents an annual conference in North America.

The core theme of these conferences focuses often on doctors in clinical practice sharing their findings of patient presentations, treatment rendered, outcomes, and implications – all documented within the format of a case report to inform further research and scholarly inquiry.

## Introduction

For Major Bertrand DeJarnette DO, DC, research was an essential part of being a chiropractor and essential to the future of the chiropractic profession. As early as July 1935 Major Bertrand DeJarnette was a featured speaker at the 40th Anniversary Convention 1895-1935 of the *National Chiropractic Association*, presenting clinical research. Always research was his passion and in an interview in 1982 DeJarnette reiterated '*as far back as chiropractic college, I saw the need for a more scientific basis for chiropractic theory. My own personal physical problems had not been solved by medicine, osteopathy, or chiropractic; so I began experimenting on myself. I'm still at it, and I can see no end of the need for continuous research in chiropractic*'. (1)

> *... we call on all chiropractors to document their clinical approach in the form of a Case Report at least once every 2 years ...'*

DeJarnette saw the importance of sharing clinical experience through case report and self- analysis. This started as he first began to find that things he instinctively did for a patient would disappear from his memory if he did not outline them carefully. So before our day and age of computers he recommended that to begin the first step in research, you would need to buy a notebook, an eraser and a long pencil.

He emphasised that '*those would be your first three pieces of research equipment. You use your notebook because it is not expensive. You use a pencil because it can be erased, and of course mistakes*

*will be made so you must own an eraser*'. (2) With those three pieces of equipment he sat down one evening and wrote his first case report of an unusual patient presentation and his treatment rendered. He recollected that he did not sit down to write until perhaps three months after that patient's presentation. He could not believe how much he had forgotten about the details. The lesson he learned was '*write the unusual down now*'. (2)

When DeJarnette began to study the treatment he had rendered he realised that if any meaningful information were to evolve from his experience, he would have to resolve it himself. He suggested that research has to be a free agency. Basically he saw a need and worked to fulfil that need. He realised that explaining how his discoveries evolved was more difficult than the process of developing new diagnostic and therapeutic interventions. (2)

Chiropractic techniques, innovative integrative collaborations, and methods such as sacro occipital technique, temporomandibular disorder co-management, chiropractic manipulative reflex technique, and cranial techniques need an arena to share clinical and other forms of research. Critical study of techniques and innovative methods are what will help propel healthcare forward in this era of evidence informed practice and best practice research.

The annual *SOT Research Conference* looks to offer a venue for research papers; specifically those which investigate sacro occipital technique, dental chiropractic co-treatment, cranial techniques, viscerosomatic/somatovisceral reflex techniques, and new ground-breaking creative ways of helping humanity without necessarily the use of drugs or surgical intervention. This year's proceedings, like all prior conferences, will be shared with the chiropractic profession, for review, dissemination, and in-depth study.

'*Research is a study of what you have and what you need to make it better; how to make it better is the final research step. SOT never wants to be just good. It always wants to be better and best and greatest and most dependable*'. (3)

> 'Research in Chiropractic must go on forever. Someone must do this type work, for it simply will not take care of itself. A profession cannot stand still. Momentum must constantly be generated. Chiropractic research needs many things it does not now have. (4) Sacro Occipital Technic, like all Chiropractic Technics, needs further study. We certainly do not have all the answers to all of man's problems, and neither does any other group of people'. (4)

As a parting comment for his chiropractic colleagues Dr. DeJarnette said '*We must respect each other's beliefs. We must support our colleges and associations. We must work together and unite as a profession. And we must at all times be proud of chiropractic and proud of our calling as chiropractors*'. (1)

## Evidence-based practice

Evidence-based practice (EBP) refers to a decision-making process which integrates the best available research, clinician expertise, and client characteristics. EBP is an approach to treatment rather than a specific treatment.

EBP involves complex and conscientious decision-making which is based not only on the available evidence but also on patient characteristics, situations, and preferences. It recognises that care is individualised and ever changing and involves uncertainties and probabilities. (5)

EBP develops individualised guidelines of best practices to inform the improvement of whatever professional task is at hand. It is a philosophical approach that is in opposition to rules of thumb, folklore, and tradition. Examples of a reliance on '*the way it was always done*' can be found in almost every profession, even when those practices are contradicted by new and better information. (5)

> 'It's about integrating individual clinical expertise and the best external evidence' (6)

However in spite of the enthusiasm for EBP evinced over the last decade or two some authors have redefined EBP in ways that add other factors to the original emphasis on empirical research foundations. For example EBP may be defined as treatment choices based not only on outcome



research but also on practice wisdom (the experience of the clinician) and on family values (the preferences and assumptions of a client and his or her family or subculture). (5)

## Evidence informed practice

The term evidence based medicine (EBM) has traditionally been used to describe a means of treating patients based on research published in biomedical journals. Even though EBM also incorporated expert opinions and a doctor's clinical experience, it was common that insurance companies and other agencies, presumably seeking to protect patients or save money, would focus solely on the randomised controlled trial as the backbone of EBM.

When EBM appeared to be too restrictive or just clearly misinterpreted new terms such as *Evidence Based Practice* and now *Evidence Informed Practice* (EIP) have appeared. The value of EIP is that it takes research into account when making a clinical decision but also utilises patient values and preferences, risk benefit ratio of related or chosen therapy, and the doctor's clinical experience. Because this represents a clearer depiction of an actual clinical experience and at the same time seeks to offer the patient the highest level of care, the belief is that EIP is the best of what EBM has to offer.

It is important that a practitioner is aware of the current research on the effectiveness of their care so that they do not inadvertently make false or exaggerated claims regarding the potential benefits of the treatment rendered. Therefore keeping up to date on the research and literature, while time consuming, is an ethical obligation of doctors in practice.

Ideally doctors practicing EIP would best be able to predict and provide outcome expectations against which progress could be measured. In essence we all, as patients or doctors, should receive or offer treatment based on research and clinical experience. New research can uncover therapeutic interventions or benefits of certain types of care that were never before discovered. Also this research may determine that prior care that was customarily rendered is now inappropriate.

The challenge with chiropractic and its various techniques is that we are functioning from a situation where we have limited funds and limited methods to adequately study our innovative therapeutic applications. The annual conference delivered by SOT attempts to offer a tempered and reasonable voice for practitioners on the forefront of care, such as has been the case with Sacro Occipital Technique for years. Incorporating current research performed in the patient's best interest with one's own clinical experience is the hallmark of a responsible and ethical physician. Allied healthcare practitioners, chiropractors, and particularly SOT doctors have a responsibility to lead the way with EIP and focus first and foremost on patient based care.

Major Bertrand DeJarnette DO, DC developed SOT with outcome based assessment protocols and with research accountability as its backbone. The onus is upon us, those who learn and utilise his methods, to be informed of the evidence and evolving research and utilise this in the clinical application of SOT and its related methods.

## The Case Report

### *How the Doctor in practice communicates to the Research Community*

While low on the usual evidence-based practice hierarchy of evidence the case report is an extremely valuable manner for doctors in clinical practice or '*in the trenches*' to communicate what is taking place in their practices. Until the doctors in clinical practice publish their case reports, researchers in a college setting can only attempt to guess what is taking place out there in the field.

There are significant limitations to case reports, such as no control subjects, the doctor and subjects are not blinded to the study, and the doctor's bias may cloud the study. So while the case report is an important tool for communication, the doctor authoring these studies needs to exercise caution to not over-interpret his or her findings. Robert Ward of *Southern University of Health Sciences* and past editor of the *Journal of Chiropractic Education* answers the question '*Why it is important to write a case report*?'

He wrote '*Most persons believe that the case report is used to describe unique, or at least highly rare, clinical presentations or diagnostic entities (e.g., "prostatic hypertrophy mimicking as ingrown toenail"). This is the most common use of the case report. However, equally important is the use of the case report to describe novel management approaches to more ordinary conditions.*

*'Another aspect of why case reports are written involves the audience. Case reports are generally considered as a communication from clinicians to scientists. The pointy-headed ivory tower population doesn't get to see the interesting things that happen in clinical practice. They often rely on case reports from the field in deciding what sorts of pilot studies to run, and those often lead to real full-scale clinical trials (the sort of research that field clinicians generally don't have the time, resource or interest to undertake)*.

'*Case reports are a vital aspect of our literature base, and more of our practitioners need to write them. Until you write up that wonderful method that works in your office, the rest of the world cannot share in its benefits. Without publication, when you die or retire, your discoveries die with you*'. (7)

There are *now ample papers* in the Chiropractic literature promoting *the value of the case report* with suggestions on *how best to prepare them*. We call for every chiropractor to prepare a case report of something unique to their practice at least once over the next 2 years. When this occurs, the indexed case reports in Chiropractic will increase ten-fold, from about 5,000 to about 50,000.

This *Journal* welcomes and promotes Case Reports and in association with the *Australian Spinal Research Foundation* and their *Case Report Project* are making a significant contribution to the Chiropractic case report literature. Each of us are more than happy to guide and support to as you write for first case report, and the ASRF can assign you a writing team to produce your paper.

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3. DeJarnette MB. The Sacro Occipital Technique Bulletin. Mar 1978: 2-3.
4. DeJarnette MB. The History of Sacro Occipital Technic. Private Practice: Nebraska City, NB. 1958:27.
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6. Sackett DL, Rosenberg WMC, Muir Gray JA, Haynes RB, Richardson WS. Evidence based medicine: what it is and what it isn't. BMJ. 1996;312:71-72.
7. Ward RW. Why it is Important to Write a Case Report. Dural Connection Internet Edition. 2006;3(3). http://soto-usa.com/writing-a-case-report/ Last accessed April 30, 2018.

## Resources to assist you yo prepare your Case Report

We provide two resources to assist you prepare your case report:

- Patient Consent for Publication and Presentation
- Case Report Check List

Consent is a requirement only when there is a reasonable probability that the patient can be identified. They may be prominent in the entertainment industry, (1) or politics, (2) or, as is increasingly common, sports. (3) There may be other cases where its characteristics could result in identification of the patient, especially in small communities. This is not to say that the public in such a community could read the report, but more to suggest that privacy must be maintained if the practitioner chose to reproduce the report and distribute in their waiting room to demonstrate the types of patients they are helping. Given that most chiropractic conferences require case report consent forms and some journals also, it is best to always get a consent form signed.

The requirements of some journals may mandate that patient consent is required for any use of patient data. There are two clear matters to consider in this case:

- all patient-intake forms should carry a generic clause to the effect the patient consents to their anonymised data being used in a way which does not identify them for the purposes of education and research;
- some journals, and this masthead is one, do not require specific, overt consent for the use of anonymised data in a case report.

One of us (PSE) has elsewhere (4) addressed more completely the ethics of publication.

Some research meetings may require evidence of patient consent and to assist you with this we provide a form appropriate for recording *Patient Consent for Publication and Presentation*. (5)

One of us (CLB) has also created a handy '*check list*' to guide you through the process of preparing your first draft. (6)

Over the past decade medicine has tried to impose a format called the CARE guidelines for case reports. (7) The application of this format to chiropractic has been considered for this journal (8) however it is reasonable to now propose that the CARE approach could be seen as paradoxically both overly prescriptive and incomplete for optimally informed the advanced of chiropractic approaches to patient care.

Whilst there are papers specifically outlining what a Case Report should contain (9, 10) we both feel the attached guidance from Blum is both practical and complete. We recommend its use.


1. Rome PL. Chiropractic patients prominent in the entertainment industry. Chiropr Hist. 2020;39(1):7-11.
2. Rome PL. Prominent Chiropractic patients in Royalty, Politics, Medicine and Industry. 1997;36(1):87-98.
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10. Ebrall PS, Murakami Y. Constructing a credible case report: Assembling your evidence. J Contemp Chiropr 2018;1:40-53 https://journal.parker.edu/index.php/jcc/article/download/29/11.

## Patient Consent for Publication and Presentation

Title of case study/series:

Author(s) names:

As the patient in this case study/series, I hereby give my consent for clinical information relating to my case to be reported at a scientific conference, in a conference proceedings, and/or published in a scientific journal.

I understand that my name, initials, or any protected health information such as my identification number, billing information, address, etc. will not be published and that efforts will be made to conceal my identity, but that anonymity cannot be guaranteed.

I understand that the material may be published in a journal, a website of a journal and in products derived from the journal. As a result, I understand that the material may be seen by the general public.

Name of patient (print) _____

Date_____

Signature of patient (or signature of the person giving consent on behalf of the patient, if the patient is a minor or deceased)

_____

If you are not the patient, what is your relationship to him or her? (The person giving consent should be a substitute decision maker or legal guardian or should hold power of attorney for the patient.)

Why is the patient not able to give consent? (e.g., is the patient a minor, incapacitated, or deceased?)

If images of the patient's face or distinctive body markings are to be published, the following section should be signed in addition to the first section:

As the patient stated above, I give permission for images of my face or distinctive body markings to be published where they are relevant to the case and recognize that I might therefore be identifiable even though my name and initials will not be published.

Sign and date: _____ _____

Please keep a copy of this completed form for your records.

# Case Report Check List

Charles L. Blum, DC

Based on the article by Green BN, Johnson CD. Writing A Better Case Report, J Sports Chiropr & Rehabil. 2000 Jun;14(2):46-47. (Was adapted from: Keating JC. Towards a Philosophy of the Science of Chiropractic: A Primer for Clinicians. Stockton, CA: Stockton Foundation for Chiropractic Research; 1992:419-20.) Permission was given to Dr. Blum by Drs. Green and Johnson to share their information in this format.

See case report patient consent form (after check list) and have patient sign consent form before submitting this case report for publication.

## INTRODUCTION

1. What specific health problem is associated with this case report and its significance (e.g., prevalence, incidence, morbidity, financial and social costs)?

2. What literature has been reviewed on this problem in relation to any diagnosis and treatment? We recommend you cite only the Top Five most recent papers on the topic, and any seminal paper.

3. How is this case report important and contribute to further understanding in health care?

4. Please state your paper's purpose or thesis clearly.

## CASE REPORT

### The Assessment:

1. Describe the patient's characteristics.

2. Define and describe the patient's health history clearly.

3. Clearly describe the patient's examination in terms of positive results and significant negative results.

4. What outcome assessment measures were utilized for clinical measurements?

5. Fully describe any novel diagnostic or assessment strategies that were utilized.

6. What does the literature say about the validity or reliability of the procedure used?

7. What is the patient's diagnosis?

Treatment/Intervention:

1. In a clear manner describe the treatment or intervention.

2. Clearly describe the treatment so it could be replicated by anyone reading this paper.

## RESULTS

1. Any outcome assessment measures mentioned in the case report should have its data reported here.

2. What may be any possible side effects or risks associated with the treatment rendered?

3. Attempt to distinguish between short versus long-term outcomes associated with the treatment rendered?

## DISCUSSION

1. Clearly describe your interpretation of the results.

2. Can you propose a mechanism for the observed changes?

3. What flaws might there be with your study and how could it be improved in the future?

4. Is there any differential diagnosis associated with this case report?

5. Why might some question your conclusion that the treatment was responsible for the observed changes?

6. What are the limitations associated with applying this study to other patients?

## CONCLUSION

1. Clearly address the purpose of this case report as presented in the introduction.

2. Suggest what future research could be performed based on the findings of this case report.

*Here, try to be specific and instead of a motherhood statement such as 'more research is needed', give your view on what specific questions should be answered based on the case you have presented.*

Asia-Pacific Chiropractic Journal

CASEREPORTS

# The contemporary role of the case report in evidence generation for the discipline of Chiropractic

Scott Cuthbert and Phillip Ebrall

Abstract: Regardless of argument to the contrary from academics ignorant of advances in evidence gathering, the *Journal* continues to place an emphasis on publishing case reports relevant to the discipline of Chiropractic.

Here we provide both our rationale and our updated guidelines which are drawn from the model of evidence-based healthcare developed by the *Joanna Briggs Institute* (JBI) of *The University of Adelaide*.

We explain the philosophical principles of 'aboutness' and 'consilience' which significantly increase the value of a case report to allow agglomeration to better inform the clinical practice of Chiropractic.

We celebrate that case reports are the fertiliser of research proposals and as such are critical to the informed development of Chiropractic as a science-based discipline.

Indexing Terms: Chiropractic; subluxation; case report; writing guide.

## Introduction

Case reports are no longer considered as low-value anecdotal reports contributing little to evidence for healthcare practice. This *Journal,* along with other mature health professions, places an emphasis on this form of discourse within the Chiropractic discipline and is aligned with the *Case Report Project* of the *Australian Spinal Research Foundation* (ASRF).

> *… case reports are the fertiliser of research proposals and as such are critical to the informed development of Chiropractic as a science-based discipline …'*

In our first four years this masthead has published nearly 80 case reports, each of which has been duly indexed by the *Chiropractic Library Collaboration* (ICL). Now, through our relationship with EBSCO these reports are available in full-text format through all universities globally to inform the planning of research into clinical aspects of the Chiropractic discipline.

Both of us are experienced with the writing and publication of case reports (1,

1. Cuthbert S. The Long and Winding Road of Whiplash Associated Disorders: An Applied Kinesiology Chiropractic Case-Report. Asia-Pac Chiropr J. 2022;2.4. URL apcj.net/papers-issue-2-5/#CuthbertWADAK

2, 3, 4, 5, 6) and one of us has contributed to discussion on the value and importance of case reports in the healthcare literature. (7, 8, 9)

The collective understanding of how evidence is reported, synthesised, and applied, continues to evolve and JBI (initially the *Joanna Briggs Institute*, *The University of Adelaide*) has emerged as a leading global organisation promoting and supporting evidence-based decisions that improve health and health service delivery. (10) Previous guidelines in Chiropractic referenced the generic medical *CARE Guidelines* (11) however this *Journal* now formally recognises and adopts the JBI circular model of evidence-based healthcare and the checklist published by them for writing case reports for inclusion as evidence in the form of expert discourse. We encourage readers to also adopt the format which we will now discuss.

## The circular model of evidence-based healthcare

JBI have replaced the concept of an pyramidal evidence hierarchy with a more inclusive wheel, (12) representing a cycle of continuous quality improvement in healthcare delivery through continuous integration of evidence as it is generated. Thus the *JBI Model of Evidence-Based Healthcare* is a cycle which fosters the synthesis of evidence and then its transfer to where it is needed, and its subsequent implementation. Each of these actions is developed as a science.


**Fig 1:** The JBI model of evidence-based healthcare. (10) From https://jbi.global/jbi-model-of-EBHC



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12. The JBI model of evidence-based healthcare. https://jbi.global/jbi-model-of-EBHC

The *evidence generation wedge* of the JBI Model identifies discourse (or narrative), expertise, and research as legitimate means of knowledge generation. It recognises that the results of well-designed research studies grounded in any methodological position, anecdotes or personal opinion and expertise are all deemed valid methods of generating evidence to inform policy and practice. (12) It is at this point that well-structured case reports appear as pieces of evidence to be considered, and for this reason, JBI have provided a *Critical Appraisal Checklist for Case Reports*, on which this paper is based.

### *Understanding evidence*

In philosophical terms 'science' is only 'science' because, after Popper, the knowledge found is falsifiable. Knowledge is falsifiable if it can be logically contradicted by an empirical test. In order to know if the knowledge in a case report could be true there must be a way to prove it to be false, the empirical contradiction.

For this reason all mature inquiry starts with a null hypothesis which in effect says that the finding sought to be replicated is not true and that nothing happened. In other words, for any critic of chiropractic to ignore a case report can only mean they have a way to show it is false. They then usually resort to demeaning diminutive language but as the *JBI Evidence Wedge* shows this has no value in restricting admission as discourse.

Herein lies the strength of the case report, it presents claims which are difficult to prove wrong. This point is where the small group of post-realists (13) within Chiropractic fail to understand that it is not the author of a case report who has to prove their report is true, it is they, the post-realists, who must prove it wrong. In other words, they are bound to falsify it or else accept it. Their trite arguments are that a case report is only '*n of 1*' and is '*not controlled*'. They miss the point that one case of one thing is interesting, a second needs noticing, and a third establishes a clinical effect which deserves to be more fully investigated. It is here where '*consilience*' has high evidential power. (14)

The book '*Consilience*', published in 1998 by Harvard scientist Edward O Wilson, argues that the grand quest to unite all human thought began during the post-Renaissance Enlightenment era. He argues it should continue today, being centred on the intellectual power of the scientific method. Wilson is one of the greatest naturalists of the 20th Century and says that the goal of consilience is to achieve progressive unification of all strands of knowledge in service to the indefinite betterment of the human condition. This corresponds to the JBI Model's '*Global Health outer wedge*' rationale.

As a disclaimer, a case report may most certainly be proven wrong if the exact conditions from patient to presentation, to suspected causation, to the mode of treatment, and so on, are able to be replicated which is most unlikely. Human variance in clinical practice makes replication very difficult. Within pharmaceutical studies the reality of individual patient variance is statistically lost within the large size of any cohort. These cohorts form the studies where results flow from the group to the individual, removing individual variance in their response. Chiropractic is the reverse, which is true patient-focussed care, where information from one individual case report can be applied across or upwards to another patient who is 'about' the same.

For these reasons we consider case reports are most unlikely to be proven wrong, and must therefore be accepted as a true report of a certain set of clinical circumstances. In turn this raises the responsibility of the author to present the case in a manner which allows not so much a direct replication, but more of an '*aboutness*'. One of us (PE) with a colleague (YM) has previously addressed this in detail; (15) in brief the concept of *aboutness* means a case report must have sufficient detail to allow another clinician to '*match*' it to a patient '*about*' the same. This means a report of the care of a 70 year old male is not applicable to a 5 year old female, but may have value when considering

13. Ebrall P. Changing chiropractic's subluxation rhetoric: Moving on from deniers and vitalists to realists, post-realists, and absurdists. URL Asia-Pac Chiropr J. 2022;3.3. URL apcj.net/Papers-Issue-3-3/#EbrallRhetoric

14 . EO Wilson. Consilience: The Unity of Knowledge. New York. Random House as Vintage (reprint). 1999.

15. Ebrall PS, Murakami Y. Constructing a credible case report: Assembling your evidence. J Contemp Chiropr 2018;1:40-53 https://journal.parker.edu/index.php/jcc/article/download/29/11

options for the care of a 68 year old male with a presentation about the same as that of the 70 year old.

*Multiple case reports allow consilience*

Many journals serving the Chiropractic Discipline no longer accept case reports except where a case is considered unique. The Editorial Board of this *Journal* considers this position is flawed as non-publication of case reports similar to those currently indexed is wilful interference with the agglomeration of evidence. Both positive and negative outcomes should be reported as case reports because both are equally important. To ignore or discredit a case report is to say one is not interested in any negative outcomes which may serve as a caution in other patients.

The philosophical principle at play here in addition to '*aboutness*' is '*consilience*' which allows for information to be extracted from more than 1 case report of a similar presentation. An application of the philosophical tools of aboutness and consilience is shown to allow '*agglomeration*' of multiple reports and for interpretation with hermeneutics. The ultimate expression of agglomeration is a case series.

Within the JBI model, this represents the collection of published strands of '*anecdotes, personal opinion and expertise*' which are accepted as valid methods of generating evidence to inform policy and practice.

With this in mind we now give our interpretation of the JBI Checklist for the critical appraisal of case reports with some contextual comments. JBI allows for any of these to be checked as '*Not Applicable*'; the *Journal*'s position is that each should be addressed.

## Checklist for a Case Report

*1: Are the patient's demographics clearly described?*

Demographics are naturally the patient's gender, age, and occupation. For JBI demographics also describe the patient's race, medical history, diagnosis, prognosis, previous treatments, past medical conditions, and current diagnostic test results, and medications. They suggest the setting and context may also be described.

For Chiropractors these points are equally relevant including 'gender' and apart from one paper suggesting we can work well with transgender patients, (16) we see some evidence of differences in response to Chiropractic care based on a patient's gender. We accept, of course, clinical conditions specific to a gender, such as endometriosis for females and testicular torsion for males. We also acknowledge hormone considerations and their effects on ligaments, and differences in bony shapes most notably the pelvis, which are important clinical considerations. What we are saying is that through aboutness and consilience, Chiropractors are wise to match case reports by gender, such as a report of a 65 year old female with a patient who is a 68 year old female, but perhaps not with a patient who is a 68 year old male.

We do ask for a deeper notation of past functional and pathological conditions and whether or not the patient is a *novice to Chiropractic Care* or has a history of care. If there is a history it may be useful to note the form of that care, most importantly for determining whether the patient preference was for mechanically-assisted or manual adjusting and whether or not the prior approach had achieved outcomes the patient found satisfactory or not.

Most commonly, the Chiropractic setting will be the '*clinic of the author*' which is usually '*private practice*' although we must make provision for patients who may be co-managed, for example in a hospital setting. A valuable source of cases yet to be responsibly reported are from outreach activities in a field or '*outreach*' clinic, notwithstanding that such activities quickly turn into social media posts to promote the ego of a practitioner. (17) The literature has little reporting of the impact on the

16. Maiers MJ, Foshee WK, Henson Dunlap H. Culturally Sensitive Chiropractic Care of the Transgender Community: A Narrative Review of the Literature. J Chiropr Humanit. 2017 Aug 4;24(1):24-30. DOI 10.1016/j.echu.2017.05.001.
17. Post: Doc Martin Camara is in Quezon City, Philippines. Facebook. 12 March 2024. https://www.facebook.com/docmartincamara

health of a community made by the provision of such services. Sometimes outreach projects are subject to critical appraisal (18, 19) but mostly the academics and students involved are lax in reporting cases arising from these learning activities and we would like both academics and students to do better as it is known that outreach clinics include a wide variety of clinical presentations. (20, 21, 22)

*2: Was the patient's history clearly described and presented as a timeline?*

Here JBI state '*A good case report will clearly describe the history of the patient, their medical, family and psychosocial history including relevant genetic information, as well as relevant past interventions and their outcome*'. They make reference to the CARE guidelines which we now minimise in light of our revised position.

We agree with the suggestions of JBI which can only enhance the reader's ability to achieve consilience through aboutness by gathering more than one case report. This information also presents a justification for reporting historical Chiropractic intervention.

*3: Was the current clinical condition of the patient on presentation clearly described?*

Here JBI suggest '*The current clinical condition of the patient should be described in detail including the uniqueness of the condition/disease, symptoms, frequency and severity. The case report should also be able to present whether differential diagnoses were considered*'.

The *Journal* prefers the clinical condition to be named in the report title and given as an indexing term. We also expect the report to open with a paragraph informed by the literature which means the writing needs to be targeted and concise. We do not want a 'literature review', we prefer the top 3 to 5 papers, current and/or seminal, on the topic. See more below.

*Clinical signs are valuable information*

With regard to noting symptoms, we go further to request the notation of '*clinical signs*'. Our preference is for only a summative statement of prior medical attention with a more expansive, if possible, statement of prior Chiropractic management, especially noting the technique/s used and the patient's response.

For a case report to have meaning it must be anchored in current practice, and show either why and how current practice is a good idea, or not. Thus we also welcome case reports of failed care by a Chiropractor.

*Replacing the literature review*

Earlier case reports in the discipline of Chiropractic have included almost a thesis length review of relevant literature and we consider this now to be inappropriate. For a literature review to have value it must be undertaken with specific methodology, and this methodology is not something we reasonably expect of an active Chiropractic clinician.

Thus while not asking for a literature review, we do expect a case report to be submitted with reference to the top 3 or 5 papers that are current in the literature, and here we mean the broader medical literature and not just that of our discipline.

The top papers should include any previous occurrence in the Chiropractic literature. Here you may need to go back in time in the *Index to Chiropractic Literature* to find a paper or two which have

18. Amorin-Woods LG. Student perceptions of a clinical placement within a therapeutic community.Chiropr J Aust. 2017 ;45(4):Online access only p 269-87.
19. Amorin-Woods LG, Losco BE, Leach M. A mixed-method study of chiropractic student clinical immersion placements in nonmetropolitan Western Australia: Influence on student experience, professional attributes, and practice destination, J Chiropr Educ. 2019;33(1):30-9. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6417866/
20. Morschhauser E, Long CR, Hawk C, et al. Do chiropractic colleges' off-campus clinical sites offer diverse opportunities for learning? A preliminary study. J Manipulative Physiol Ther. 2003;26(2):70-6. DOI 10.1067/mmt.2003.21.
21. Todd AJ, Carroll MT, Russell DG, et al. A prospective survey of chiropractic student experiences with pediatric care and variability of case mix while on clinical placement in Rarotonga. J Chiropr Educ. 2017;31(1):14-19. DOI: 10.7899/JCE-16-4.
22. Tavares P. Overview of conditions seen on a Canadian Memorial Chiropractic College outreach to the Dominican Republic. J Can Chiropr Assoc. 2021;65(2):164-73.



previously addressed the condition. The 'advanced' search screen can be used to allow for variants in name and spelling of the condition.

We expect the author of a case report to have some idea of what they are reporting and we do require a contextualisation of the case being reported within the contemporary literature of the discipline, and then contextualised into the broader field of health care. This means making a notation of the social burden of disease and the extent to which the condition being reported may contribute to that should it be one of the known 'burden' conditions.

*4: Were diagnostic tests or assessment methods and the results clearly described?*

A short summary is useful to capture findings from previous assessment; simply acknowledge previous medical tests and briefly summarising their findings. Chiropractors place a higher reliance on diagnostic imaging and here we welcome detailed reports of what imaging was performed, along with not only the findings, but especially the meaning of those findings and how they may have impacted the care that was chosen for that patient.

Diagnostic Imaging includes EMG scans along with a range of findings from other devices which are informative of the patient condition and suitable for inclusion and reproduction of the images.

*5: Was the intervention or treatment procedure clearly described?*

The intent is for the reported intervention to be more or less replicable by another Chiropractor. Thus you must report something more than '*subluxations were corrected at L5, T12, and C7 …*'. A subluxation occurs with a joint, so for a start it must be written as '*at L5/S1, T12/L1, and C7/T1*'.

Further, what type of subluxation was it in terms of chronicity and was it primary or compensatory? Specifically, how was it corrected? Here we want to see listings and technique, such as '*L5/S1 listed as L5 PRS corrected by Gonstead finger pull move with a side-lying position, right side down*'. This level of detail is required to allow replication by others, although we freely admit that every technique has a different 'style' which is unique to the individual practitioner and difficult to capture.

> Please remember we are fighting a battle to show clinical effectiveness of segment-specific Chiropractic over the bone-setter minority on the fringe of the discipline who consider broad-based regional spine manipulation to be a valid clinical skill representing all that a 'chiropractor' should be doing. This has been made abundantly clear by McCoy Press. (23)

Dr Matthew McCoy, publisher of four journals dedicated to research on the vertebral subluxation, noted the post-realist bone-setter sect is urging '*That spinal adjusting should be embraced as non-specific and that we need to "dial down" the "preoccupation with technique details" and any notion that specificity matters because its "of little clinical consequence"*. As ignorant as this statement may be, it is part of the agenda to remove subluxation from Chiropractic education AND practice. We must take heed of McCoy's warning and appreciate that the bone-setter group have no evidence for their claim that specificity has no clinical meaning.

It is also part of that groups's agenda to end Chiropractic being '*a vitalistic, salutogenic model focused on reducing and correcting subluxations*' by pretending it is not evidence based and is instead '*"dogma based" and that this dogma is rooted in the "art, science and philosophy" of chiropractic*'. (23)

23. This isn't some Chicken Little paranoia. Its reality. Matthew McCoy, Found and Editor, McCoy Press. April 2024. Subscriber email.

The sheer arrogance of this group is palpable in their claim that '*a case-report carries no real scientific weight*', a claim which demonstrates their ignorance of the current literature and of organisations such as JBI which have significantly advanced evidence-based health care and have done so in a manner completely compatible with *Chiropractic* science, which with this *Journal* along with McCoy's four journals align.

The least we as a Chiropractic Journal speaking '*Chiropractic*' to Chiropractors can do, is to use our language proudly to report how an experienced and successful practitioner approaches and corrects clinical problems in the hope it will serve as a mini-tutorial for others.

The more specific we can be in our clinical descriptions and our language, the better the evidence we leave for others to work with.

*6: Was the post-intervention clinical condition clearly described?*

For this requirement JBI state '*A good case report should clearly describe the clinical condition post-intervention in terms of the presence or lack thereof symptoms. The outcomes of management/treatment when presented as images or figures would help in conveying the information to the reader/clinician*'.

Quite clearly we require more than '*the patient felt better*', perhaps adding words like '*and was able to return to normal duties*' or whatever ADL is relevant to them. We also like to report the outcomes of quantitative tests, such as numerical or percentage changes on a pain scale, or a 'disability' index, or some other common measure used within the discipline.

However we appreciate that important outcomes within Chiropractic are so much more than just pain reduction and improved movement, and include cognitive dimensions and particularly subjective matters such as adaptability, stress response, and coping skills. The more clearly we can identify and report on these outcomes, the more useful the case report will be.

*7: Were adverse events (harms) or unanticipated events identified and described?*

JBI hold the view that '*It is important that adverse events are clearly documented and described, particularly when a new or unique condition is being treated or when a new drug or treatment is used. In addition, unanticipated events, if any that may yield new or useful information*'.

Chiropractors are fortunate in that our collective treatments are clinically well established and known to be extremely safe. However we ask authors to be aware of any response to care that did not show the expected response and to report it, even should it be only transitory and mild.

We would like these to be identified and clearly described along with not just the expectation held for that therapeutic intervention, but also a thoughtful comment on why a less than optimal outcome may have occurred. In particular, should there be any harm reported by the patient we would like this documented so it can be published in a 'no-blame' manner to serve as a lesson on things practitioners should be looking for and considering as early warning flags.

On course, should the outcome be an injury perceived to be related to the care, or indeed the withholding of care, we would like to report this as well and will work with the author to ensure the case is properly documented and carries sufficient information to help other Chiropractors improve their decision-making with similar patients while protecting author confidentiality.

This *Journal* will publish a case report under an alias and make note of doing so.

*8: Does the case report provide takeaway lessons?*

Here we agree with JBI that a meaningful case report is strengthened when there is a succinct take-away, regardless of what that take-away may be. Ideally it will be a new understanding of a common or even an infrequent presentation, with sufficient details to help others attempt to replicate the positive outcome and avoid the negative outcome should that be the case.

We do appreciate that most often there is no simple take-away other than this is what presented, this is what was done, and this is the outcome, which is perfectly acceptable documentation.



## Writing the Abstract

*Format*

A lot of nonsense has been proposed how an Abstract should be written which essentially reduce to it being either a '*structured*' format or a 'narrative' format. This Journal accepts either.

The 'Narrative' format is straightforward; you reduce your paper to 300 words or so, as a story telling who you saw, what they presented to you with, what you thought it was and how you treated it, and then your outcomes or results. You may write this in the first person, that is '*My patient …*', '*my clinic*', and '*I used* [techniques]'.

The structured format is journal dependant as there are different things that must be mentioned depending o the topic. For example, a structured abstract in a Chemistry journal will have very different headings to a structured abstract in a Journal of Emergency Medicine.

For this Journal we ask you to use 4 headings:

- Objective: State the compelling reason for you writing this report. It could read like this '*In this report I describe my care of a young adult presenting with groin pain which had been unresponsive to medical care. The patient is a 28 year old male hurdler …*' This heading covers Item 1 of the checklist.
- Clinical features: Here you give a summary of your findings and of other information brought to the encounter to inform you. You summarise points 2, 3, and 4 of the Checklist.
- Intervention and outcomes: Here you summarise points 5, 6, and 7 of the Checklist. Be succinct with what you did, why you did it, and what happened. It helps if you can say why you know the outcomes are as reported, especially if you quantified them or followed-up.
- Conclusion: Give the reader the take-away lesson. This is often the most powerful part of your report, as you will summarise why this is an important matter and how your intervention was beneficial.

*Indexing terms*

For the reason this Journal speaks Chiropractic to Chiropractors, and its papers are written in the Chiropractic language by Chiropractors, the first indexing term will always be 'Chiropractic'.

If your paper is addressing the identification and correction of subluxation, then the second indexing term will be 'subluxation'. These two terms are important to build the profile in the global literature of a Chiropractor's care of subluxation.

All papers published in this Journal are also published on *Publitas*, a globally indexed platform that cuts across all disciplines. Given our papers are also listed as full text in EBSCO they are 'findable' through your keywords by any academic in any university globally.

We tend to run 5 indexing terms, so your remaining 3 should include the proper terms for the clinical condition you have cared for, and a generic indexing term such as the name of your core technique, as '*Gonstead*', or '*SOT*', or '*AK*', and so on. Where you case as shown positive outcomes for vague matters then used terms such as '*adaptability*', *'well-being*', '*women's health*' for example.

## Summary

In summary, a case report is an entertaining and informative narrative from a Chiropractor's first-person perspective of a patient whose presentation is interesting and whose care may carry some ideas for the reader to consider.

The patient should be described in a way that allows demographic aboutness, and their history and presentation in a way that allows the deeper level of clinical aboutness and subsequent consilience.

Most important, the description of your therapeutic intervention is most useful when it is segment specific and technique specific. Details like frequency and duration of care are also valuable pieces of

information. A recent case report by Adam McBride (24) is noteworthy for is description of care and for achieving resolution in 2 patient-visits, due in no small reason for the thoroughness of diagnosis and appropriateness of the care provided and which is carefully documented.

Readers are very welcome to submit their own papers directly to us as editors who will assist you. Do not think that the horror stories you have heard about cruel and harsh peer-review will be your experience with us. We each have sufficient publications between us that we have both time and experience to give to you to help you achieve publication in your own name. We know what that would mean to you and your practice.

This *Journal* is also honoured to be in partnership with the *ASRF Case Report Project*, for which you only need submit clinical data, which is kept safe and confidential, and the ASRF writing team will turn your data into a wonderful paper on which you will be lead author. At any time you can go to our home page and review the *ASRF Case Reports* published to date and get some ideas. This is an outstanding contribution to the development of clinical evidence in our profession and we are grateful first to the Chiropractors who annually hold activities in their clinic to raise the funds to support this project, and second to the ASRF for providing capable writers who understand how to '*speak chiropractic*'.

All case reports are indexed for the profession and available in full text through EBSCO to the world's academic and research communities.

One final point to note is that you may elect to write in the first person, such as '*I found this .... I did that ...*' or in the third person. The choice is yours. Naturally the ASRF writers can only write in the third person.

## Conclusion

Case reports are the fertiliser of research proposals. Unless the academic community is made aware of the amazing outcomes experienced daily in Chiropractic offices they will continue devising irrelevant research proposals which nobody cares about and nobody reads. Worse, they will try to dumb down our clinical art so that our clinical results do not show their own weaknesses.

As JBI make clear, the well-written case report serves as an irrefutably valuable input to the evidence-forming discourse which advances the quality of patient care.

As an Appendix we provide a set of suggested headings to guide data collection and writing.

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24. McBride AS. Resolution of Adhesive Capsulitis (Frozen Shoulder) following Chiropractic Care and Applied Kinesiology (AK): A case report. [Proceedings]. Asia-Pac Chiropr J. 2024;4.4. apcj.net/ak-Proceedings-papers/#McBrideCapsulitis



## Appendix

*A flow of useful headings for case reports in this Journal*

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## Introduction

Here give the clinical condition addressed and contextualise that condition with reference to 3 to 5 current papers.

## Case details

*The patient*

Here give the full demographics and presentation details.

*History*

Give the patient's history and previous care. A timeline may be informative.

*Clinical findings*

Give your clinical findings including imaging and tests

## Management

*Management plan*

Give your management plan with expected progress points, reviews, and timelines for improvement

*Therapeutic intervention*

A clear description of what you did.

## Outcomes

What happened? What measures did you use? What were the patient's subjective reports?

Include and adverse events and how you managed them.

## Discussion

Show why this case is a useful contribution to Chiropractic's knowledge base.

## Conclusion

Comments to summarise and wrap up the learning in this case.

## Abstract

## Indexing terms

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# 2025 Sacro Occipital Technique Research Conference
## April 25, 2025

### Platform Presentation Schedule

2:30-2:35pm **Introduction to the research conference a review of recent publications**
Charles Blum, DC

2:35-2:43pm **Interdisciplinary care of a 15 year old male patient suffering from unresolving post-concussion syndrome symptoms secondary to high school American football trauma: a case report**
Thomas Bloink, DC, Charles Blum, DC

2:43-2:51pm **Chiropractic care of a 7-year-old male child presenting with resolving encopresis: A case report**
John Erickson, DC

2:51-2:59pm **Correction of dramatic cranial changes after traumatic impact on a 2-year-old: A case report**
Jesse Nichols, DC

2:59-3:07pm **Resolution of infantile brachycephaly, plagiocephaly, torticollis without the use of a cranial remodeling orthosis: A case report**
Keila Nichols, DC

3:07-3:15pm **Chiropractic care for a child presenting with autism, attention-deficit/hyperactivity disorder (ADHD), and retained primitive reflexes: A case report**
Diana Matson, DC

3:15-3:23pm **Muscle activity in the head, face, and neck measured with surface EMG before and after cranial therapy: A case report**
Jason Scoppa, DC, Rebecca Taylor, DDS

3:23-3:30pm ***Panel Discussion – Questions and Answers***

3:35-3:43pm **Chiropractic care for a patient preparing for a Norwegian Trek when she couldn't walk up stairs: A case report**
Michelle, Greene, DC

4:43-4:51pm **Focal nodular hyperplasia of the liver incidentally identified in a chiropractic patient with rib pain, a case report**
Ibis Melissa Roman Guzman, DC, Jake Halverson, DC

4:51-4:59pm **Chiropractic Manipulative Reflex Technique (CMRT): Considerations for uterine or prostate treatment application for patients' undergoing/undergone *gender-affirming surgery and* hormonal replacement therapy**
Jeffrey Moore, DC, Charles Blum, DC

4.59-4:07pm **Successful Sacro Occipital Technique care for an 11-year-old female presenting with scoliosis: A case report**
David Simmons, DC

4:07-4:15pm **Chiropractic treatment of a 33 year old female presenting with bilateral toe walking and mild scoliosis throughout entire spine: A case report**
Lisa Stowell, DC, Charles Blum, DC

4:15-4:23pm **The SOT diagnostic indicators system are a great guide for successful treatment protocols for severe physically compromised patients**
Esther Remeta, DC

4:23-4:30pm ***Panel Discussion – Questions and Answers***

## e-Poster Presentations

**Effects of sacro occipital technique (SOT) chiropractic and cranial therapy on dizziness in three patients 68, 72, and 75-years-old: A case series**
Christine Benner, DC, LAc, MS

**39-year-old male patient presenting with traumatic L4/5 and L5/S1 central disc herniation and stenosis conservatively treated with chiropractic care: A case report**
Thomas Bloink, DC, Charles Blum, DC

**Low back pain, genetics, and chiropractic preventative care: A longitudinal case study**
Charles Blum, DC

**Has the field of chiropractic discarded "healing touch" as part of its armamentarium? Reiki, a literature search, and its implications for the chiropractic profession**
Charles Blum, DC

**Forty-hertz light and sound, gamma waves, and increased glymphatic circulation: Implications for cranial therapeutic approaches: A commentary**
Charles Blum, DC

**Major B. De Jarnette, D.O., D.C. Founder and Developer of Sacro Occipital Technique**
Chad Hagen, DC

**Unexpected resolution of chronic sinus headaches following chiropractic care for cervicogenic headaches: A case report.**
Chad Hagen DC, Barbara Mansholt, DC
**Chiropractic care for a pediatric patient presenting with myoclonic seizures and delayed development: A case report**
Martin Rosen, DC, Charles Blum, DC

**Chiropractic treatment of a 47 year old female presenting with significant bilateral reduced shoulder ranges-of-motion since childhood: A case report**
Lisa Stowell, DC, Charles Blum, DC

**The importance of addressing the psoas muscle in sacro occipital technique's category two and three. A commentary**
Jacky Wong, DC

## Doctor Sharing Presentations

**Chiropractic treatment of a patient with chronic low-back pain followed over 20-years: A case report**
William J. Boro, DC

**Cranial Adjustments and Neurodivergent Children: Clinical Considerations**
Kathryn Cantwell, DC

**Visual cranial analysis: Palpation of the supine patient's mastoid process position: An investigational study**
Daniel Tuttle, DC, MSW

**Effects of sacro occipital technique (SOT) chiropractic and cranial therapy on dizziness in three patients 68, 72, and 75-years-old: A case series**

Christine Benner, DC, LAc, MS

Objective: To share a novel treatment for the care of three-patients presenting with unresolved "non-pathological" dizziness.

Clinical Features: Three-patients, female age-75, female age-72, and male age-68 presented for care in this office with complaints of severe non-pathological dizziness. Medications and treatment for BPPV did not resolve their condition, which was ongoing for days to months.

Intervention/Outcome: Treatment consisted of sacro-occipital technique category-one prone block placement to treat pelvic torsion, cervical stairstep adjusting, and cranial techniques (e.g. internal temporal and external temporal bone adjusting on opposite sides, and sphenobasilar symphysis techniques). Whereas the patient had dizziness getting down on the table when it was time for them to get up, they were not dizzy and noticed their dizziness had resolved. The effects of this treatment appeared to last as within days the patients were no longer suffering from dizziness.

Conclusion: Current research into fascial continuity supports that pelvic torsion could be represented in the whole kinematic chain, even into the cranium and its dural-meningeal system. Compounded with visual and vestibular righting mechanism factors the process of righting the head to a "pelvis in torsion" may have an adverse affect on the vestibular apparatus and subsequent dizziness.

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**Interdisciplinary care of a 15 year old male patient suffering from unresolving post-concussion syndrome symptoms secondary to high school American football trauma: a case report.**

Thomas Bloink, DC, Charles Blum, DC

Objective: To present chiropractic and cranial care of a 15-year-old patient suffering from unresolving post-concussion syndrome secondary to multiple head trauma while playing high school football (North American).

Clinical Features: A 15-year-old patient presented to this clinic having suffered a concussion 6-months prior describing multiple impacts to his body and head during a game. At his initial office visit he presented with unremitting headaches, photophobia, and hyperacusis unresponsive to rest, watching and waiting, and various medications.

Intervention/Outcome: The patient was treated with sacro-occipital technique prone block placement (category one) and adjustments to his cervical, thoracic, and cranial/TMJ regions. He was referred to a functional optometrist for vision exercises and dentist to balance TMJ occlusal

and condylar function utilizing a mandibular appliance modified immediately after each chiropractic treatment. At one-month into care the patient's symptoms were 80% improved, two-month mark 95% improved, and at the six-month mark had returned to playing football and full activities.

Conclusion: This case represents a 15-year-old male patient's response to novel interdisciplinary care of his prior unresolving post-concussion syndrome symptoms. Further research is needed to determine what subset of pediatric patients with head trauma might be helped with this treatment model.

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**39-year-old male patient presenting with traumatic L4/5 and L5/S1 central disc herniation and stenosis conservatively treated with chiropractic care: A case report**
Thomas Bloink, DC, Charles Blum, DC

Objective: To share a novel low-force chiropractic method of care that successfully treated a patient with severe low-back pain and sciatica that was resistant to surgical or epidural medical procedures.

Clinical Features: A 39-year-old male patient with a prior history of low-back pain and sciatica presented to this office with a severe aggravation of his condition secondary to a fall. He was unable to move and was taken to the ER where he was heavily medicated and sent home. Five-days later since his condition was not improving was seen at this office presenting with positive orthopedic/neurological examination findings and MRI revealing L4-S1 disc herniations with bilateral foraminal stenosis.

Intervention/Outcome: The patient was treated 20-times over three-months with sacro-occipital technique category three pelvic block therapy, psoas myofascial release, LightMD therapy, and various cranial therapies specific for his low-back pain. After three-months the patient had negative orthopedic/neurological findings, no sciatica, minimal low-back pain, and was able to play catch with his son.

Conclusion: Chiropractic care in this case was able to help a patient not wanting surgery or epidural injections recover function and become virtually pain free. Further chiropractic preventative care has been discussed with this patient.

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**Forty-hertz light and sound, gamma waves, and increased glymphatic circulation: Implications for cranial therapeutic approaches: A commentary**
Charles Blum, DC

Objective: To discuss new findings on the treatment and prevention of Alzheimer's disease and its implications on the possibility of enhancing cranial therapeutic approaches.

Recently it has recently been discovered that light and sound that pulses at a 40-hertz frequency will stimulate gamma wave production in the cerebral cortex leading to increased glymphatic circulation. Generally glymphatic circulatory activities predominately occur when we are at sleep. Amyloid plaque build up in the brain has been attributed to incidence of Alzheimer's disease and the current research is suggesting that increasing glymphatic circulation will reduce the plaque accumulation as well as prevent its deposition.

There are various types of devices being developed to help patients explore using 40-hertz light and sound frequency such as the utilization of eye wear that flashes a light and has a plug for ear phones as well as iPhone applications that allow you to play memory games (e.g. Sudoku) on a screen that flashes at 40-hertz and makes an accompanying 40-hertz sound. It is likely in the near future we will see increased options that are more comfortable for patient usage, since improved glymphatic circulation has been demonstrating improved general cognitive function.

It is important to consider the issues of sleep deprivation in our aging population particularly those with airway compromise causing them sleep apnea or those with urinary track issues causing them to awaken regularly to urinate. It is possible that these complex issues are interwoven with adversely affecting the deep sleep necessary for gamma wave production and the necessary glymphatic circulation that helps with movement of fluid and reduction of plaque and catabolic end product build up in our brain and associated tissues.

Conclusion: Due to the low risk nature of the 40-hertz light and sound therapy this may be something worthy of experimenting with patients dealing with cognitive issues. This can be utilized while they are receiving cranial treatment as well as given to them for their home brain rehabilitative exercises. There may be issues with the flashing light with patients that have a history of epilepsy so we may see some contraindication considerations as this intervention becomes more widespread and accepted.

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**Has the field of chiropractic discarded "healing touch" as part of its armamentarium? Reiki, a literature search, and its implications for the chiropractic profession**
Charles Blum, DC

Objective: Chiropractic, founded by D. D. Palmer a magnetic healer, is entering into the evidence-based healthcare arena and concurrently is attempting to integrate into the biomedical field. Chiropractic's academic community has therefore attempted to distance itself from touch and its healing energetic capacity. Ironically Reiki (healing touch) has been flourishing within the biomedical community, however does it have an evidence base?

Methods: A search of PubMed for "Reiki" in the title of an article was performed and articles were reviewed for this method's application in the biomedical community.

Results: 201 articles were retrieved and of those articles evidence supportive of Reiki (healing touch) were found: Oncology (23-studies), Hospital Setting (13-studies), Pediatrics (11-studies),

Nursing (15-studies), HIV (2-studies), COVID (4-studies), Pain Relief (23-studies), Psychotherapeutic Applications (21-studies), Animals (3-studies), Female Focused (2-studies), Cardiovascular (5-studies), and Placebo Comparative Studies (4–studies).

Conclusion: It is interesting that while many researchers in the chiropractic field are attempting to eliminate any discussion of "healing touch" from the chiropractic encounter, Reiki is embracing this concept and gaining biomedical acceptance. Chiropractic is a hands-on method of healing and the Reiki research supports considering investigating the value of healing touch within the chiropractic field.

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**Low back pain, genetics, and chiropractic preventative care: A longitudinal case study**
Charles Blum, DC

Objective: To discuss how preventative chiropractic care might play a role in genetic related low-back pain.

Clinical Features: A 70-year-old female has been under chiropractic care for over 30-years. Both her parents and three siblings have all had multiple low-back and hip surgeries. While she has had some low-back and hip related issues, she is the only person in her family to receive chiropractic care, and in contrast to the rest of her family has been fully functional.

Intervention and Outcome: Monthly chiropractic care at this office utilized sacro occipital technique, soft tissue manipulation, and therapeutic exercise to improve kinematic chain balance and function. The patient is highly motivated and approximately 10-years ago began to include an active yoga practice along with her chiropractic care. While she has had some hip and low-back flare-ups she has been fully functional regularly riding her bicycle, hiking, and has been able to not need surgery.

Conclusion: Many of the low-back twin studies have demonstrated a relationship between hereditary/genetics and low-back pain. There may be a higher need for early chiropractic preventive care for the treatment of low-back/hip pain when there are heritable. familial characteristics.

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**Chiropractic treatment of a patient with chronic low-back pain followed over 20-years: A case report**
William J. Boro, DC

Objective: To describe chiropractic treatment for a 40-year-old male patient presenting with chronic refractory low-back pain causing him to consider surgery and retirement from being a plumber.

Clinical Features: 40-year-old male patient presented over twenty-years ago with chronic low-back pain, unresponsive to medical interventions (e.g., medications, physical therapy, etc.), discopathy (MRI-determined), and told he would need surgery and retire from his plumbing career. He had significant bilateral lower-extremity muscle weakness and radiating pains as well as antalgic with reduced ranges-of-motion.

Intervention and Outcome: The patient was treated with sacro-occipital technique (SOT) block placement, spinal/extremity adjusting, chiropractic manipulative reflex techniques (non-musculoskeletal), and SOT/Van Rumpt cranial procedures. The patient was seen for 10-treatments over 2-months and was able to return to work and not need surgery. However over the past 20-years he has been seen episodically (1-3 times per-year) for flareups that will resolve in 1-3 treatments.

Conclusion: This case discussed conservative chiropractic care for a patient with chronic low-back pain. Episodic care at 1-3 times per-year (1-3 office visits) over the past 20-years has allowed him to have a good quality-of-life, full activities-of-daily-living, and to not need surgery, while maintaining a plumbing career.

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**Cranial Adjustments and Neurodivergent Children: Clinical Considerations**
Kathryn Cantwell, DC

Introduction: The term "neurodivergent children" can describe many types of the pediatric population including autism spectrum disorders, attention deficit/hyperactivity disorders, learning disabilities, such as dyslexia, dyscalculia, dysgraphia and dyspraxia, Tourette syndrome and other tic disorders, and sensory processing issues.

SOT cranial therapy can be vital in treating neurodivergent children. Getting motion in their cranium to help improve of cerebrospinal fluid circulation and glymphatic flow has clinically been shown to be very helpful for their condition. The actual treatment of children with autism spectrum disorder, especially those who have sensory processing sensitivity issues, can be very challenging.

Sensory processing sensitivity is found in the general population (approximately 20%) and colloquially called the “Hypersensitive Person” discussed extensively by Elaine Aron. However children with autistic spectrum disorders will have an even lower threshold to stimuli so that they do not like their heads or bodies to be touched. It can be challenging for a child presenting with this condition to comfortably lie down on an adjusting table. Sometimes their body will be moving and they will be making loud noises so understandably this can make treatment very difficult for the doctor and patient.

Some treatment strategies can be having the parents let them look at an iPhone while they are being treated. Gentle pumping of the sacrum into flexion timed with inhalation can help reduce their motion and facilitate treatment interventions. The chiropractor has to try to synchronize their own movements with the children and treat them in any position possible. These positions

can be while standing, sitting or even as they are twisting around on the adjusting table. Even with the different patient positioning the same chiropractic techniques are applied for adjusting other children without their condition. Adjustments can be made either manually or with an activator type instrument to the child's tolerance. It has been found that making sure to keep lights dim and no outside noises helps to calm them during treatment. These children do best with routines so try not to add too many things at each visit.

Conclusion Realizing that each neurodivergent child is different and may present with different sensitivities and body movements or preferences is important for chiropractors treating this patient population They are in great need of care that chiropractors can offer, but the chiropractor needs to accommodate the child as they present and not expect that the child has to change to meet the doctor's needs or customary treatment methodologies.

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**Chiropractic care of a 7-year-old male child presenting with resolving encopresis: A case report**

John Erickson, DC

Introduction: The purpose of this case report is to share chiropractic care of a 7-year-old male brought to the clinic by his grandmother with a chief complaint of encopresis for three years and learning difficulties. The condition caused significant distress for both the child and the family, affecting the child's social, emotional, and psychological well-being, causing him to feel embarrassed and humiliated. This patient had not been seen by another health care provider for this condition prior to being seen at this clinic.

Methods/Intervention: Based on the postural, cranial, neurological and Sacro Occipital Technique (SOT) assessment he was categorized has have a category two (posterior sacroiliac joint instability) with cranial stress and imbalance. He was treated as a category two with the cranial "basic two" procedure, treated for sphenobasilar symphysis cranial strain imbalance as well as with trans cranial therapy (TCT) low level laser.

Results: The child's step-mother brought him in for a follow-up appointment two weeks later and reported that the patient has not had a single accident since his first adjustment and the two weeks was the longest period of time for him without having an accident. It was recommended that he return for care if there were any flare-ups or possibly for maintenance care. However since his second office visit the child has not returned for care at this office and it is presumed at this time that his condition has remained stable.

Conclusion: It was compelling that prior to care his condition had been stable and unresponsive to watching and waiting, patient attempts to control his behavior, and the use of laxatives. It is unclear what the specific mechanism might have been that helped this child and they could have been from reducing pelvic imbalance, improving cranial function, and stress reduction which may have had psychogenic contributions to his condition.

**Chiropractic care for a patient preparing for a Norwegian Trek when she couldn't walk up stairs: A case report**

Michelle, Greene, DC

Objective: To present a case report on a 68-year-old female unable to walk up stairs without using her arms in distress due to a planned vacation involving hiking that was successfully treated with chiropractic care.

Clinical Features: A 68-year-old female presented for care at this office complaining of relatively severe pain in her left elbow beginning three weeks prior which does not allow her to use her left hand. A more urgent complaint to her was her chronic worsening of extreme weakness in her both her hips and edema in both her ankles. She was deeply concerned because had a "trek" in Norway coming up and she needs to be able to hike though now due to her weakness struggles to walk up stairs and needs to pull herself up with her arms using side rails. The patient reported a past history of a right ankle fracture 8 years prior and had only minimal physical therapy with no supervision following the injury.

Intervention and Outcome: The patient's hip and lumbar ranges of motion were difficult to assess due to her apprehension and muscle weakness. Arm fossa test positive indicative of a posterior sacroiliac joint hypermobility syndrome with pelvic torsion. Assessment of her upper left extremity found that she had a left humeral head was anterior displaced and her left radial head posterior subluxation. She was treated with chiropractic care that included sacro occipital technique category two block treatment, therapeutic massage, orthopedic blocking, activator instrument, and her extremities were also adjusted

At second visit two days later the patient reported she had regained the use of her left hand though she continued to have achiness in the left elbow but did not limit her movement. She noted that her hips felt stronger as well but the right hip continued to feel like it was "catching." Following the first office visit she reported that her "hip" felt better for about two hours but she felt it destabilize while standing while shopping. She also noted that the edema in ankles had resolved. On the second office visit the category two basic cranial was performed while she was being treated supine with pelvic blocks. She was also given home exercises to strengthen and rehabilitate her the gluteus medius muscles.

By the third visit she was able to walk up the stairs without using her arms. Her left shoulder and elbow were significantly improved with only tenderness at left elbow that were treated with adjustments and ultrasound therapy. She was seen three times per week for the first week, then two times per week the following week, with one more treatment the third week at which time she felt confident that she was capable to function on her Norwegian trek.

Conclusion: This patient presented with a chronic weakness in her lower back and hips that was progressively limiting her ability to walk and function most notably walking up stairs. She also had left arm pain, limited range of motion, and weakness but was most concerned about her limitation in walking due to a planned hiking vacation trip. Following 6 office visits over two weeks she had recovered good function of her legs that she felt should could confidently go on her trip and be able to fully function.

**Focal nodular hyperplasia of the liver incidentally identified in a chiropractic patient with rib pain, a case report**
Ibis Melissa Roman Guzman, DC, Jake Halverson, DC

Objective: To describe an adult male with focal nodular hyperplasia (FNH) of the liver mimicking right lower rib pain.

Clinical Features: A 42-year-old male presented with right lower rib pain extending from the midsternal to the midaxillary line. The pain was sharp, aching, and radiating. He had a history of liver laceration after blunt abdominal trauma $34 years prior.

Interventions/outcomes: Murphy's sign was positive, and there was reduced and painful right lateral thoracic bending. Palpation of the anterior right lower ribs elicited epigastric pain. An Activator instrument-assisted adjustment was performed on rib 8, which did not relieve the pain. The working diagnosis was intercostal neuralgia. The patient was referred for a sonographic examination of the gall bladder to discard acute cholecystitis. The sonogram revealed an incidental large hypervascular liver mass. Multiphase contrast abdominal computed tomography was performed to further characterize the lesion, demonstrating a mildly hyperattenuating, and moderately enhancing 8.8 cm mass in the left lobe of the liver, with hypoattenuating central scar, consistent with FNH.

Conclusion: Remote trauma may predispose patients to developing painful visceral lesions that mimic musculoskeletal pain. Diagnostic imaging plays a crucial role in securing the diagnosis and directing appropriate management.

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**Major B. De Jarnette, D.O., D.C. Founder and Developer of Sacro Occipital Technique**
Chad Hagen, DC

Dr. De Jarnette was a pioneer in the early times of chiropractic. He devoted his life to trying to understand the complexity of the human body. His analytical lens was 3-fold, utilizing engineering, osteopathic, and chiropractic concepts. His education and early times in chiropractic research allowed Dr. De Jarnette to develop a base of chiropractic knowledge that would be tough to duplicate by one person today.

His concept was to develop a way to functionally read a patient's physiological presentation to treat patients more efficiently. He realized the patients he treated had similar biomechanical dysfunctions and associated indicators. These dysfunctions and indicators would be the foundation of his category system approach to patient care. The categories, originally 21 and narrowed to 3 basics, represented dysfunction in critical areas of patient physiology. Category 1 relating to a patient's CSF circulation ability/dysfunction. Category 2 was a foundational fault relating to instability/hypermobility of the SI joint complex. Category 3 was essentially our limitation of matter, resulting in lumbar disc herniation with associated sciatica.

Dr. De Jarnette was born on December 23, 1899, and raised in Nebraska. After high school, he accepted a scholarship as an apprentice in experimental engineering. In 1918, he moved to Detroit to work as a design engineer at Timken Detroit Axel Co. While working at the company, Dr. De Jarnette was injured in a boiler explosion that killed 5 of his coworkers. Severely injured and unable to continue working, he sought osteopathic care for his condition. Treatment for his injuries consisted of spinal and cranial therapies. Dr. Garner Sutherland, D.O., considered the founder of cranial osteopathy, personally treated him.

While receiving care, Dr. De Jarnette decided to pursue a D.O. degree. He attended Dearborn College of Osteopathy located in Elgin, Il. Dr. Carles H. Murray, D.O., founded the college in 1912 out of his home based on his osteopathic textbooks. Dr. Murray ran the college with faculty assistants and considered building a college from that. Dr. De Jarnette graduated from Dearborn in 1922.

After receiving his degree from Dearborn, Dr. De Jarnette returned to Nebraska. While in Lincoln, he met with Dr. N.B. Crabtree president of the Nebraska College of Chiropractic. Dr. Crabtree encouraged De Jarnette to further his education and acquire his D.C. degree in 1924. Dr. De Jarnette opened his practice in Nebraska City, Nebraska, in June 1925. His practice was located above The Farmers Bank and would be where he continued to develop his queries in chiropractic therapy.

With this unique education, he spent the rest of his life developing his technique and helping people. Over his chiropractic career, he authored over 135 volumes of information on his technique. Dr. DeJarnette's path to becoming a chiropractor is interesting and gives valuable insight into his methods of developing the Sacro Occipital Technique.

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**Unexpected resolution of chronic sinus headaches following chiropractic care for cervicogenic headaches: A case report**

Chad Hagen, DC, Barbara Mansholt, DC

Objective: To discuss chiropractic management of a patient presenting with suboccipital headaches and chronic allergy-induced sinusitis.

Clinical Features: A 50- year-old female with a history of chronic sinus headaches presented with constant bilateral suboccipital pain for 3 weeks. The patient has had sinus headaches 1 time per week for most of her adult life. She managed the symptoms with daily over-the- counter medications. The physical examination was unremarkable, revealing no red flags. This episode of suboccipital headaches was previously treated with stretching and massage without resolution; she received diversified-type chiropractic care 6 months previously without change to conditions.

Intervention and Outcomes: Upper cervical specific radiographs were used for Atlas Orthogonal (AO) biome- chanical analysis. The patient was scheduled once/wk for 4 weeks and adjusted as indicated using AO, Thompson, and sacro-occipital technique assessments. Suboccipital

headaches resolved after 3 treatments. The patient noted that sinus headaches had also ceased. She chose to discontinue her routine antihistamine use; her allergy symptoms have not returned.

Conclusion: Chiropractic care is a validated option for management of cervicogenic and tension-type headaches. This patient experienced improvement in concurrent allergies and/or sinus headaches. Further research is needed regarding upper cervical specific correlation.

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**Chiropractic care for a child presenting with autism, attention-deficit/hyperactivity disorder (ADHD), and retained primitive reflexes: A case report**
Diana Matson, DC

Objective: To explore novel chiropractic care for a child presenting with autism, attention-deficit/hyperactivity disorder (ADHD), and retained primitive reflexes.

Clinical Features: A 7-year-old male patient was brought to this clinic by his Mother for supportive care. At age 4 he was diagnosed with autism and ADHD. His mother had to pull him out of school to homeschool due to his inability to follow directions, loud outbursts, inability to sit still and emotional dysregulation.

Intervention/Outcome: Due to his history, we proceeded with a general pediatric chiropractic exam and began testing for primitive reflex retention. The most notable retained primitive reflexes were the Moro reflex and Asymmetric Tonic Neck Reflex (ATNR). At the initial office visit he was treated with sacro occipital technique (SOT) category one (pelvic torsion with compromised sacral nutation) protocol and was also treated for occipital restriction. He was given specific home exercises to help integrate his care.

At his second office visit his Moro reflex had improved, however there was no improvement in the ASTNR. His mother reported that he had not been performing the home exercises for the ATNR so the lack of improvement was attributed to this. On the 3rd visit, the ATNR was tested in both the standing and quadruped positions prior to treatment. Arm drift was found bilaterally in both positions. After treatment re-test showed moderate improvement in arm drift when turning to the Left, however no improvement when turning to the Right. While the patient was standing, more occipital release was performed and the ATNR was re-tested again. After performing the standing occipital release, the ATNR test was negative bilaterally in standing and quadruped positions. At the following visit, the ATNR was still negative when tested in both the standing and quadruped positions.

Conclusion: Chiropractic care for this patient appeared to have a positive affect on the child's behavior and quality of life (child and care givers). It appeared in this case that performing occipital release while standing rather than supine had a significant impact on the patient's integration of the ATNR.

**Chiropractic Manipulative Reflex Technique (CMRT): Considerations for uterine or prostate treatment application for patients' undergoing/undergone gender-affirming surgery and hormonal replacement therapy**

Jeffrey Moore, DC, Charles Blum, DC

Introduction: Chiropractic Manipulative Reflex Technique (CMRT) was developed by DeJarnette over the years of 1939 through 1981, with the last major update in his 1966 CMRT Text. During that period of time in our society discussions of a patient's biological or identified gender designation was not generally discussed and contemplated by healthcare developers. Within our recent past there has been increased discussions about *gender-affirming surgery (GAS)* surgical procedures, that alters a person's physical appearance and sexual characteristics. These may also commonly include hormonal replacement therapy (HRT) to support the endocrine system. In light of these new considerations how might "gender related" CMRT, prostate or uterine, be implemented for someone undergoing or having undergone GAS and related HRT?

Methods: A review of the various case studies of patients treated with CMRT suggested two specific studies that might worthy of consideration. One case study by Zablotney and Blum [1] noted a patient with situs inversus unresponsive to typical CMRT treatment. When an ultrasound of the patient's abdomen was performed it was realized that she had situs inversus (sides of organ presentation were reversed). The doctor then reversed the sides of the body for treatment and reflex contacts, and the patient had a significantly positive response to the CMRT care. Another case study by Blum [2] discussed a patient who had their gallbladder removed (cholecystectomy) and yet continued to have a form of phantom gallbladder referred pain, even though there was no gallbladder. Subsequent CMRT reflexes and manipulations were performed two weeks post-surgery and within 15 minutes of application the constant and unrelenting pain that had persisted pre and post surgery was relieved and 20 years later had not returned.

Results: Since discussing patients with GAS and HRT is a new consideration for doctors practicing CMRT we do not have research and evidence to adequately reach a confirmative decision. Therefore we must resort to biological plausibility and any possible related studies. With the two CMRT studies relating to situs inversus and phantom gallbladder referred pain it does seem reasonable that treating patients who have had GAS and HRT that the initial stage of care should focus on the patient's biological birth presentation. If the patient does not respond as anticipated then modifying care to the patient's current gender presentation may be indicated.

Conclusion: With new findings in healthcare it is always difficult for a healthcare practitioner to clearly know their path with therapeutic applications. Care that offers low risk and offers benefit are good platforms to further explore new vistas in therapeutic applications until we can have more information and evidence to better guide us.

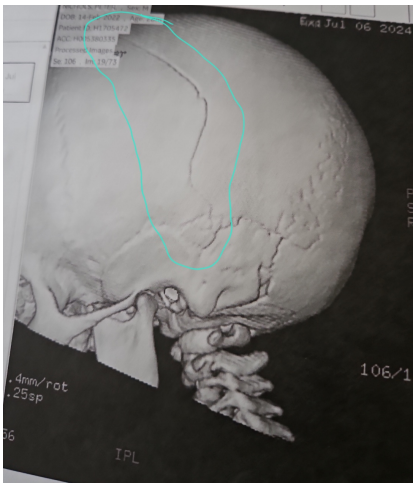
1. Zablotney J, Blum C. Chiropractic care and the Situs Inversus patient: Modifying technique to match anatomy [Abstract only]. Asia-Pac Chiropr J. 2022;2.4.

2. Blum CL, Visceral Mimicry Syndrome and Cholecystectomy: A Chiropractic Case Study. Proceedings on the 2006 Conference on Chiropractic Research, Chicago, Illinois, September 15-16, 2006: 161-3.

**Correction of dramatic cranial changes after traumatic impact on a 2-year-old: A case report**

Jesse Nichols, DC

Introduction: This case report describes the application of cranial techniques to correct dramatic cranial changes presenting in the cranium of a 2-year-old after sustaining severe blunt-force trauma to the left parietal.



Initial Presentation: Patient presented with a fractured left parietal bone secondary to receiving a blow to the top of his head from the full weight of a 10-foot pressure-treated 4x4 board (~70lbs). Patient had been taken to the Emergency Room where Tylenol was administered, and a CT was taken after 3 hours of observation and then patient was released. Patient did not lose consciousness but experienced some confusion, difficulty with balance, and difficulty speaking for 4 days post-impact.

Assessment: Assessment of Neurological Deficiencies showed reduced ability to speak (slurring) and reduced ability to balance (unable to stand unassisted). The front portion of his parietal bone appeared to have been pushed inferior beneath the temporal bone, which in turn had flared laterally and inferiorly.

Methods of Care: Treatment focused on lifting the front portion of the parietal bone and de-rotating the left temporal bone. In addition, treatment worked to maintain flow of CSF.

Results: Fracture has fully healed. Ear flare difference is imperceptible. Head shape is equal and symmetrical. No lasting verbal or cognitive impairment.
Discussion: Addressing mechanical displacement of cranial bones in the acute stage of care alleviated verbal impairment and allowed for a symmetrical and functional healing of cranium.

Conclusion: Cranial techniques can be gentle enough and powerful enough to be used on a fractured cranium to allow for full healing in a young child.

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**Resolution of infantile brachycephaly, plagiocephaly, and torticollis without the use of a cranial remodeling orthosis: A case report**

Keila Nichols, DC

Introduction:  This publication strives to explore alternative treatments to the Cranial Remodeling Orthoses (DOC Band$^{R}$, STARband$^{R}$) for nonsynostotic cranial deformation of infants.

Initial Presentation: Examination of 3-month-old revealed nonsynostotic brachycephaly with general flattening of occiput and specific flattening of the right occiput near lambdoidal suture. Posterior parietals were shoved superiorward creating a tall posterior cranium[1]. Also noted was moderate plagiocephalic asymmetry with the right frontal, zygoma positioned anteriorward[4], and right lateral flexion torticollis.

Assessment: Lambdoidal restriction, especially right-sided, creating growth asymmetry of the occiput. Occipital flexion lesion (shortened AP distance, Falx Cerebri tension, high palate, especially right-sided) causing flat occiput[1] and tall posterior parietals. Clockwise lateral strain of the Sphenobasilar junction causing plagiocephaly, torticollis.

Methods of Care: Treatment focused on releasing lambdoidal restriction, reducing sphenobasilar torsion, restoring occipital motion, redirecting cranial malpositions.

Results: At 9 months, full resolution of brachycephalic, plagiocephalic asymmetries, superior parietals, and torticollis.

Discussion: Proper assessment of the cause of the cranial deformity is key in determining resolution.

Conclusion: Improved research using measuring devices, better photography, and accessible training of infant cranial technique could advance the options of care for nonsynostotic cranial deformities.

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**The SOT diagnostic indicators system is a great guide for successful treatment protocols for severe physically compromised patients: A case report**

Esther Remeta, DC

Objective: To establish the concept that sacro occipital. technique (SOT) is a method of chiropractic which includes diagnosis and treatment through a researched specific indicator system .The advanced practitioner who understands the SOT indicator system and also has years of experience with patient application; can be creative with treatment on the very challenging cases with very physically compromised patients utilizing the SOT indicator system as a guide – which may not necessarily follow normal protocols and procedures for the less compromised patient.

Clinical Features: This patient is a 69-year-old female who has had multiple lower back surgeries that have not relieved left leg and foot pain. Patient had a bad fall in February of 2022 where she fractured Lumbars 4 and 5. After the 2 surgeries to repair L4 and L5 (the second surgery to remodel the first surgery), the patient was left with both bladder and bowel incontinence as well as chronic sciatic pain in complete left leg and ankle. On evaluation the patient's left leg and foot exhibited intermittent paralysis. The patient is on Oxycodone daily for constant excruciating

pain and also had an Evoke Patient Controller (ECV by Saluda Medical -Australia) spinal cord stimulator implanted to help with pain control.

Methods: Chiropractic manipulative therapy was applied via SOT and SOT Craniopathy for evaluation and treatment. SOT Indicator system was used to establish which Category to use in treatment; in this case the patient received a mix of Category III and I. Category III treatments included orthopedic blocking; spinal adjusting via R+ C factors; and Category III basic cranial. These were the initial few visits. After a few visits monitoring heel tension the patient required Category I treatments which included blocking, $ and/or #, SB +, vasomotor neutralization and appropriate intraoral cranial to free the sphenoid bone. Patient received the most pain relief from the Category I procedures.

Other evaluations included standard orthopedic and neurological testing as well as PRO Balance 360 testing. Pro Balance 360 was used for not only evaluation but also treatment of the patient's balance stability. The PRO Balance 360 will give a metric which represents how far the patient's body will sway away from the patient's center of gravity line and is Decisional Support System certified by the United States government as the only unit currently in use at the Veterans Administration Health Care Facilities.

Results: Reevaluation after 10 visits of SOT and SOT Craniopathy utilizing mainly Category III and Category I protocols: patient has improved approximately 50%. Areas of marked symptomatic improvement: pain reduction; better quality of life: greater desire to go out and do things after each adjustment instead of going home to bed. Objective improvement illustrated Balance metric more stable; all evaluation indicators improved.

Conclusion: The SOT indicator system can be an important tool to successfully guide chiropractic treatment protocols for very challenging patient health conditions. Further research is needed to see if the results from this case can be generalized to other patient populations.

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**Chiropractic care for a pediatric patient presenting with myoclonic seizures and delayed development: A case report**

Martin Rosen, DC, Charles Blum, DC

Objective: To share pediatric chiropractic care for a 9-month-old child presenting with myoclonic seizures (several dozen per day), delayed motor development, utilizing G-tube since 6-week NICU stay.

Clinical Features: Induced delivery one-day after due date, suffered hypoxic ischemic encephalopathy during birth, initial APGAR scores 2 and 1 respectively, required resuscitation, intubation, epinephrine administration, and penicillin treatment due to birth complications. The patient presented at this office with myoclonic seizures, multiple delayed development disorders, and one-month into care at this office diagnosed with cerebral palsy.

Intervention/Outcome: Pediatric sacro-occipital and cranial technique procedures were implemented 2-times a week for 8-weeks. By the sixth-office visit there was significant improvement in developmental functioning, removal of G-tube, and seizure intensity and frequency were notably reduced. Three-months into care (seen 1-time per week) the child was three-weeks seizure-free and beginning to start reaching developmental milestones.

Conclusion: This case illustrates the potential benefits of chiropractic care for pediatric patients with neurological and developmental challenges, highlighting the importance of pediatric chiropractors gently addressing structural misalignments and promoting neurological function. Further research is needed to determine if regular pediatric chiropractic care may contribute to improved quality of life and functional outcomes in similar cases.

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**Muscle activity in the head, face, and neck measured with surface EMG before and after cranial therapy: A case report**

Jason Scoppa, DC, Rebecca Taylor, DDS

Although it's the most common type of craniofacial pain, very few practitioners in the world of dentistry or physical medicine know how to diagnose, let alone manage TMJ pain and dysfunction. Many claim to treat this joint, but with no real diagnosis other than the patient complaining of pain in the area, the vast majority of practitioners will throw their one or two catch-all "TMJ treatments" at the problem, crossing their fingers in the hope that the patient feels better enough to not complain further.

When one thinks of craniofacial pain, it is commonly thought that most of the pain symptoms come from the muscles themselves, even if they are rarely the root cause. There are in fact reliable ways to measure muscle activity, and one such method is surface EMG. Muscles can be overactive or underactive, which can be accurately measured via the surface EMG analysis. In our small case study, although the chiropractor was confident that he was affecting the muscles and joints of the head and neck, he and his dental colleague decided to put this to the test by measuring muscles of the head, face, and neck before and directly after cranial therapy. Although it was only performed on two patients, the results were compelling enough to warrant further study and a larger sample of patients. In regards to history, both patients experience various forms of craniofacial and cervical pain and dysfunction, and in their initial EMG scan both had muscle imbalances in almost all muscles tested. Immediately after receiving cranial therapy, almost all muscles that were misfiring (over or underactive) came back into the normal range.

This humble case study is significant for a few reasons. Firstly, very few TMJ treatments have had any research done validating their claims or results, especially utilizing an independent and objective form of analysis. Secondly, no chiropractors and only a small minority of dentists utilize this form of analysis, and most will try and correct these muscle imbalances using TENS. While TENS tends to work well on muscles that are overactive, it tends to create a worsening of symptoms and EMG scores in muscles that are underactive. It is also quite uncomfortable,

difficult and time consuming to set up, and takes valuable chair time and manpower to implement. This leads me to the third reason this case study is novel and intriguing: the results strongly point to the importance of co-management in cases of TMJ pain and dysfunction. A complex joint, it has the potential to create descending patterns of dysfunction on the rest of the body, is influenced by ascending influences as far away as the feet, and highly susceptible to maxillary underdevelopment (especially sagittal), myofunctional processes, and occlusion. By balancing the structures of the head and neck, and relaxing the muscles, the dental practitioner can then find a level a neutral plane on which to begin appliance therapy.

TMJ study is in its infancy, but given the prevalence of this condition and the current practitioner landscape that can only be defined as being akin to the "wild west", any research into objective methods of addressing these dysfunctions are a welcome reprieve.

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**Successful Sacro Occipital Technique care for an 11-year-old female presenting with scoliosis: A case report**
David Simmons, DC

Introduction: An eleven-year-old female diagnosed with scoliosis by her allopathic pediatrician at her yearly check-up presented at this office for care. Because her family was treated at this office for years her mother brought her in for a second opinion. Her initial assessment indicated that she did have a scoliosis with a convexity to the left in the lumbar region and to the right in the thoracic region.

Intervention: The patient was initially treated as a category two and was blocked in the supine position until her indicators subsided and was treated with a DeJarnette scoliosis protocol presented in his 1969 Chiropractic Assistant's Manual. The patient had a scoliosis with the lumbar convexity towards the left and the thoracic convexity towards right. So she was treated initially supine with a pelvic block placed at a 45° caudal angle through the right acetabulum and another pelvic block placed under her shoulder at a 45° caudal angle towards her spine.

As her body relaxed she was then turned to the prone position and blocks were placed at a 45° caudal angle bilaterally through her ASIS (SB+ block position). Once blocks were placed and the patient relaxed, simultaneous pressure was gently applied to reduce the increased asymmetrical muscle tension at the concavity of the curves (case lumbar concavity on the right and thoracic concavity on the left). After the muscle tension was reduced then thumb pressure was applied to the convexities in the lumbar and thoracic region simultaneously until the vertebral spine felt like it relaxed into a more symmetrical positioning.

Outcome: Following the first office visit she was seen again eleven days later and the scoliosis was improved but still present. She was treated again three weeks later and at that time there was no sign of the scoliosis. At a five-week follow up office visit her scoliosis was back but not as severe as initially. She was then seen once a month over two months with no trace of the scoliosis. At seven month from instituting chiropractic care her scoliosis returned though was very mild, but following that treatment it never recurred. When she had her twelve-year-old

check up from her patrician there was no sign of any scoliosis.

Conclusion: This case presents treatment of an adolescent with scoliosis diagnosed initially by her pediatrician and treated successfully with sacro occipital technique protocols. It may be of value for future studies investigating more interdisciplinary relationships between allopathic and chiropractic physicians treating children with scoliosis.

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**Chiropractic treatment of a 33 year old female presenting with bilateral toe walking and mild scoliosis throughout entire spine: A case report**
Lisa Stowell, DC, Charles Blum, DC

Objective: The objective of this report is to share novel treatment for a toe walking in a 33-year-old female presenting with a life-long toe walking condition.

Clinical Feature: A 33 year old female (now 35 years old) presenting for chiropractic care with unresponsive bilateral toe walking and mild scoliosis in her entire spine due to gait disturbances, to an interdisciplinary clinic having given up on other options (e.g., surgery, physical therapy, etc.).

Intervention and Outcome: Treatment consisted of sacro-occipital technique, cranial techniques, and one visit to a pelvic floor physical therapist to address spinal/coccyx, lower extremity, and postural imbalances, likely related to the patient's life-long toe-walking. After two-months of one-two chiropractic treatments per-week the patient was able to stand flatfooted with some forward torso bending for the first time in her life. Her gait still consisted of toe-walking but had some intervals of heel-toe walking as well. After eight-months of chiropractic treatments, approximately one treatment per-week, she has attained proper gait mechanics and only toe-walks out of habit on occasion.

Conclusion: This case demonstrates a conservative treatment for an adult patient presenting with toe-walking/gait disturbance when other methods were not effective.

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**Chiropractic treatment of a 47 year old female presenting with significant bilateral reduced shoulder ranges-of-motion since childhood: A case report**
Lisa Stowell, DC, Charles Blum, DC

Objective: To share conservative chiropractic care for a patient presenting with virtually life-long reduced bilateral shoulder ranges-of-motion.

Clinical Feature: A 47-year-old female presented to an interdisciplinary clinic for chiropractic care with bilateral difficulty raising her arms due to shoulder restrictions more than a 25° angle (flexion and abduction) since childhood. She was also concurrently suffering from daily leg and sharp pains in her legs and "balls" of her feet.

Intervention and Outcome: Treatment consisted of sacro-occipital technique, cranial techniques and trigger point therapy to address spinal, upper extremity, and postural imbalances. After 5-months of treatments one-to-two times per week, patient reported significant improvement in shoulder ranges-of-motion with right-shoulder flexion/abduction reaching 90° and left-shoulder flexion/abduction reaching 135°. During the five-months of care the patient also has reported having no pain in her legs and feet with significant improvement in lower extremity strength and function.

Conclusion: The patient's chronic unresponsive shoulder reduced ranges-of-motion improved for the first time since childhood with care at this office. Prior interventions included medication, physical therapy, and HVLA diversified technique chiropractic, which had no effect. She is still continuing with care, though with greater intervals between sessions, to help maintain her improvements.

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**Visual cranial analysis: Palpation of the supine patient's mastoid process position: An investigational study**

Daniel Tuttle, DC, MSW

**Introduction:** The field of chiropractic has various types of assessment tools used to pre and post evaluate the need for a therapeutic intervention and if that method was successful. This study looked at investigating visual cranial analysis as a method of assessing the structural and functional status of the cranial bones.

**Clinical Considerations**: Clinical applications have found that visual analysis has its strengths and limitations, especially in adults who have established bone growth in the cranium. The strength might be that position and shapes of the bones and their articulations show long-term patterns of tension and dysfunction. A weakness can be that commonly asymmetry in growth and development is not that unusual so a cranial bone may appear to be dysfunctional from a structural standpoint but functionally compensated.

**Future Research:** DeJarnette's premise of Sacro Occipital Technique relates to a reciprocal movement of the cranium (occiput) and sacroiliac joint suggesting that these regions tend to mirror themselves as the bones positionally compensate for each other. With this concept in mind this investigator has observed with the placement of the index fingers under the mastoid tip of a patient in the supine position to almost always show a left finger inferior in position relative to the right. This occurs regardless of sacroiliac joint hypermobility or fixation, functional short leg, upper cervical or occipital subluxation or any other finding in the spine or extremities.

**Conclusion**: Further investigation is warranted to see why the same finding in the cranium would exist regardless of other findings in the body. What might be the cause of this finding and is there reliability between testers of different level of chiropractic palpatory experience?

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**The importance of addressing the psoas muscle in sacro occipital technique's category two and three. A commentary**
Jacky Wong, DC

Introduction: Sacro occipital technique (SOT) [1] notes that sacroiliac joint instability and hypermobility with pelvic torsion (category two) triggers a comprehensive series of compensatory mechanisms that extend throughout the musculoskeletal and neurological systems. A hypermobile pelvis alters proprioceptive input, triggering reflexive psoas contraction and heightened tension in pelvic floor muscles as the body attempts to achieve stability. [2] This muscular compensation, by way of the cerebellar visual and vestibular righting mechanism can create a defensive mechanism affecting the cervical spine and even temporomandibular joint (TMJ) dysfunction. [3-6]

The Psoas Muscle and Sacro Occipital Technique: Additionally, a hypertonic psoas major augments shear stiffness within the lumbar motion segment, altering spinal biomechanics and leading to dysfunction in both the lumbar spine [category three) and sacroiliac joint. Category three patients commonly present with lumbar and lumbosacral discopathy, sciatic nerve radicular syndromes, and antalgic body positioning. [7] The psoas major is integral to lumbar spine stability and pelvic alignment, making it a key factor in posture, movement, and overall spinal health. While traditionally recognized as a hip flexor, its role extends far beyond simple movement. Research suggests that the psoas functions as both a stabilizer and a dynamic mover, adapting based on spinal positioning and load demands. [8]

Because the psoas muscle originates from the lumbar vertebrae (T12-L5) and inserts onto the femur, it has a direct influence on spinal alignment, sacroiliac joint stability, and hip function. Dysfunction in this muscle—whether from hypertonicity, weakness, or asymmetry—can lead to a cascade of mechanical issues in the lower back, pelvis, and lower extremities. DeJarnette the developer of SOT stated, "Category three is a result of the body's failure to adapt to the category two." [7]

When a category two dysfunction is not properly addressed, it can progress to category three, where more advanced compensatory patterns and structural breakdowns occur. Patients with category three presentations commonly exhibit various types of antalgic postures as a protective response to pain and instability. The psoas major, being a crucial stabilizer of the pelvis and spine, plays a central role in this process. Dysfunction in the psoas can exacerbate sacroiliac joint dysfunction, alter pelvic mechanics, and perpetuate a cycle of neuromuscular imbalance.

Conclusion: Therefore, recognizing and addressing psoas function is essential in both rehabilitation and performance-based chiropractic care. In the SOT approach, restoring sacroiliac

stability and reducing pelvic torsion through specific pelvic block placement and associated adjunctive protocols helping regulate the neurological and biomechanical effects of psoas dysfunction. Conversely psoas tension can occur as the body attempts to stabilize a hypermobile sacroiliac joint so treatment to reduce this compensatory tension can be important prior to pelvic block placement used to treat pelvic torsion and associated hypermobility. By integrating these SOT category pelvic block placement methods with specific psoas release and activation techniques, practitioners can effectively manage category two dysfunction and prevent its progression to category three, ultimately improving structural integrity, postural balance, and overall spinal health.

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# SOTO-USA Research Update

SOTO-USA is dedicated to bringing you the most updated and comprehensive research relating to Sacro Occipital Technique (SOT). Research is the future of chiropractic and SOT. Publishing this research sets the foundation for the future of SOT and protects its future worldwide. Understanding the published research allows us to grow, learn and modify our technique and diagnostic methods to fit our discoveries and stay current in the scientific community. The research department of SOTO-USA is goal oriented and focuses on action and results. **Please consider a tax-deductible donation to SOT research so SOTO-USA can help us further SOT's prominence in chiropractic healthcare**.

SOTO-USA is an organization dedicated to the advancement of SOT and the work of Major Bertrand DeJarnette, DO, DC. One of the many ways in which we at SOTO-USA contribute to the chiropractic profession is through the publishing of articles, newsletters, compendiums, and manuals relating to the art, science and philosophy of SOT (please visit our website for a complete listing of publications: www.SOTO-USA.org).

**Association of Chiropractic Colleges – Research Agenda for Chiropractic (ACC RAC) Conferences -** Papers Presented at the 2024 and 2025 Conferences

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18-21 September 2024 • Glasgow, Scotland

Thomas Bloink, Charles Blum.. Interdisciplinary care of a 15 year old male patient suffering from unresolving post-concussion syndrome symptoms secondary to high school American football trauma: a case report. Poster Session I, Thursday, Sep 19, 2024.

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**18th World Federation of Chiropractic Biennial Congress**
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Thomas Bloink, Charles Blum. A rare case of a patient presenting with Acoustic Neuroma and a Temporomandibular Joint Disorder treated with chiropractic and dental care: A case Report

**Forty-Fourth Annual Conference of The Association for the History of Chiropractic**
June 21, 2025, at The Gonstead Clinic, Mount Horeb, Wisconsin

Chad Hagen.  Major B. De Jarnette, D.O., D.C. Founder and Developer of Sacro Occipital Technique

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**The SOT Research Conference Proceedings** (Now indexed and searchable!)

Many of the SOT Research Conferences have now been or will be published in the Annals of Vertebral Subluxation Research as well as in the Asia Pacific Chiropractic Journal and are available for searching through chiroindex.org (a major chiropractic search engine).

1st Annual Sacro Occipital Technique Research Conference Proceedings. Las Vegas, Nevada October 22, 2009. Annals of Vertebral Subluxation Research ~ Sept 29, 2011 ~ Pages 104-132.

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Many thanks go to the editors of the Annals of Vertebral Subluxation Research, Drs. Pamela Stone and Matthew McCoy for their continued support of chiropractic clinical research and SOT is greatly appreciated.

13th Annual Sacro Occipital Technique Research Conference, New Orleans, LA April 27, 2022. Asia Pacific Chiropractic Journal. Third Quarter July 2022; Issue 3.1. [https://www.apcj.net/sot-abstracts-2022/]

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15th Annual Sacro Occipital Technique Research Conference, Nashville, Tennessee. April 26, 2024. Asia Pacific Chiropractic Journal. [https://view.publitas.com/asia-pacific-chiropractic-journal/2024-sot-conference-proceedings-book/]]

16th Annual Sacro Occipital Technique Research Conference, Nashville, Tennessee. April 25, 2025. Asia Pacific Chiropractic Journal. [In print]

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At the inaugural 2009 Sacro Occipital Research Conference, Las Vegas, Nevada we had 28 abstracts accepted. At subsequent Sacro Occipital Research Conferences many of the submissions have led to paper submissions to various other research conferences and peer review journals. All SOT practitioners and allied healthcare partners are encouraged to be a part of our future research conferences. Check the SOTO-USA website [www.SOTO-USA.org] or be aware for the call for papers.

Our ongoing commitment continues into the future with papers submitted to chiropractic and allied healthcare conferences and journals. One of the easiest ways research can be facilitated by a doctor in clinical practice is through the publishing of individual research papers and case histories. These lay the groundwork for future research directions and projects. If the need arises, we will be happy to assist the doctor in writing the paper or case history in order to get it submitted for publishing.

Please take a moment to review our landmark SOT and cranial research conference proceedings and texts, which will eternally preserve SOT and related published research. These can all be purchased online at www.soto-usa.org. by calling (336) 793-6524, or email – drcblum@aol.com.

1st Sacro Occipital Technique Research Conference Proceedings: 2009.

2nd Sacro Occipital Technique Research Conference Proceedings: 2010.

3rd Sacro Occipital Technique Research Conference Proceedings: 2011.

4th Sacro Occipital Technique Research Conference Proceedings: 2012.

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11th Sacro Occipital Technique Research Conference Proceedings: 2019.

12th Sacro Occipital Technique Research Conference Proceedings: 2019.

13th Sacro Occipital Technique Research Conference Proceedings: 2022.

14th Sacro Occipital Technique Research Conference Proceedings: 2023.

15th Sacro Occipital Technique Research Conference Proceedings: 2024.

16th Sacro Occipital Technique Research Conference Proceedings: 2025.

***In Print:***

The Compendium of Sacro Occipital Technique**: *Peer-Reviewed Literature 2000-2005.***

The Compendium of Sacro Occipital Technique**: *Peer-Reviewed Literature 1984-2000.***

**The SOT Collection:** *To the Year 2000.*

The SOT Collection: Supplement: ***To the Year 2000.***

## Coming Soon

More than forty years ago, Major Bertrand DeJarnette encouraged Nebraska City newspaperman Ivan Beaumont to write a biography of his life. The doctor shared stories and documents with his hometown friend, and a rough draft was written. Each of the busy men added a few notes, but as time and interest slipped away, the stalled project was shelved.

*Complete with sign, Dr. DeJarnette's office at 722 Central Avenue in 1936*

Although information from the unfinished manuscript found its way into articles and time-lines over the decades, this fascinating investigation of Dr. DeJarnette's formative years and early influences has been gathering dust until now.

The title of the biography was and will remain "The Making of a Chiropractor," because its focus is on the people, places and events that put "the Major" onto the road to his destiny. For those elements of the book that were sketched out too vaguely, our editor's (Ken Wheat) many thousands of hours of sleuthing has uncovered details that clarify many misunderstandings and fill in details that have been missing in the history of Dr. DeJarnette.

# **Be a Champion** for Chiropractic Education and Research

*"I extend a large thank you to the NCMIC Foundation for its support. I am both humbled and excited to continue to work hard within my role and am so grateful for these wonderful opportunities."*

**— Wren Burton, DC and Research Fellow, Osher Center for Integrative Medicine, Brigham and Women's Hospital and Harvard Medical School**

The NCMIC Foundation's mission hasn't changed since its inception in 2003. We continue to invest in the advanced education of chiropractic research experts and fund ongoing research projects that demonstrate the effectiveness, safety and cost efficiency of chiropractic and alternative health care.

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