



Alert! Chiropractors are being reported to the State licensing board for immunity statements.

The CSW's response to the relationship between chiropractic, immunity and public relation in Wisconsin.

Before we provide the vital data associated with this document, we feel it is very important to acknowledge the members of the CSW who kept their offices open to treat the citizens of Wisconsin during the height of the pandemic. We as an association are very proud of our members service to their communities.

Because chiropractic care was deemed an essential health care service by the State of Wisconsin in Governor Evers's executive orders and confirmed as essential by the Federal CISA organizational documents, the members of the CSW made the conscious and correct decision to keep their doors open to assist their patients and communities in need during the pandemic.

Unfortunately, rather than focusing on and promoting the positive attributes that the chiropractic profession could provide the nation and world during this time of need, we are dealing with a totally unnecessary controversy over the relationship between chiropractic care and the immune system. This controversy was initiated by a single flawed document created by the World Federation of Chiropractic (WFC) and was immediately and fully endorsed by the American Chiropractic Association (ACA) and the Wisconsin Chiropractic Association (WCA) to control the narrative related to chiropractic care and the pandemic. The WFC position stated that there was no credible evidence to support any relationship or effect between spinal manipulation and the immune system.

The issue we as a profession in Wisconsin and around the United States are now facing is that the dissemination of the WFC position by the WFC, ACA and WCA has escalated the issue past a simple disagreement of opinions between colleagues to a level where it now has become weaponized to be used against any chiropractor who discusses the benefits of chiropractic care and optimal health including the immune system.

Recently, Dr. Keith Overland, the past president of the ACA went on a Milwaukee TV station using the WFC document talking points stating that there is no credible evidence that chiropractic spinal manipulation can affect the immune system. This action was immediately endorsed by the WCA. As a result, we now have Wisconsin Chiropractors who have had complaints filed against them to the Chiropractic Examining Board by other chiropractors for simply associating chiropractic healthcare and improvements to the immune system.

The members of the CSW, as an association, find this unacceptable. Unlike the ACA and WCA which blindly and immediately accepted the WFC position, the CSW has taken the necessary time to fully review the WFC document and then compare its rapid review process against the multitude of valid evidence-based available data, both research and clinical, to provide a more thought out and balanced position statement.

The CSW's Position

The CSW, using an evidence-based review approach to this issue, found very credible research and practical clinical evidence that supports the association between the human body's immune system and the numerous natural chiropractic healthcare services including but not limited to: spinal manipulation, exercise or physical rehabilitation therapy, nutritional therapy and wellness lifestyle education.

The CSW using an evidence-based approach found multiple sources that would support the association between natural chiropractic health care and optimum health including influence on the body's immune system. There are three components to an evidence-based review, one of them being associated with patient outcomes. It's worth stating that Improved Patient Outcomes have been significantly enhanced through balanced application of

chiropractic healthcare services. There exists valuable objective data that support the interconnectedness of cross-communication between the nervous system, our innate immune response, adaptive immune response as well as a direct link to the autonomic nerve system (ANS) integrity and homeostasis in the body.

The CSW has taken the Brightline position that no healthcare provider, medical or chiropractic, imply or claim that they have a "cure" for COVID-19. Clinical trials are underway that include both innovative drugs and natural nutritional products, with preliminary success being noted, but until more evidence is available, the term "**cure**" should not be used with any communication to patient or the public.

Discussion Points Related to the Immune Issue

This memo will contain the following 4 points to assist Wisconsin chiropractors to be fully informed of the immunity issue:

- 1.** Review of the research and clinical evidence-based information related to spinal manipulation, osteopathic manipulation, wellness lifestyle education, nutrition and nutritional supplements and exercise therapy with links for our members to download and review to make a proper and fully informed decision on this issue and subsequent choice of communication with their patients and communities.
- 2.** Background information on the WFC document and the potential bias and flaws associated with the improper political use of the document.
- 3.** Information related to the April 2nd Chiropractic Board of Examiners meeting and their vote to remove the WFC "advice" document from the DSPS website.
- 4.** The Basic components of a complaint filed with the Chiropractic Board of Examiners and how to respond should a complaint be filed against you.



1. Review of the Available Research



Rather than blindly accepting the WFC document, the leadership of the CSW requested several association members assist with reviewing the available evidence-based information associated with more accurate assessment of all of the health care services provided in a chiropractic office.

It is important to note that the WFC document was based entirely on the review of only 7 studies. Interestingly, an unbiased review of those studies actually provided information that would support some form of association with spinal manipulation and the immune system.

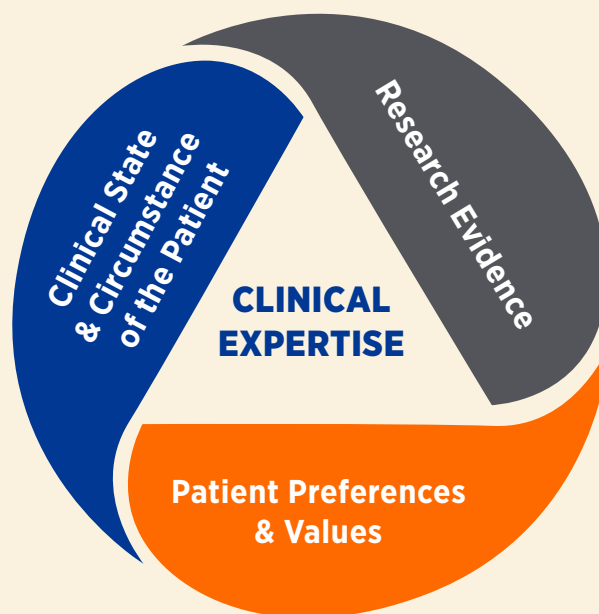
The CSW using an evidence-based approach found multiple sources that would support the association between natural chiropractic health care and optimum health, including influence on the body's immune system.

The WFC documents only used a research-based, rapid review process. There are three components to an evidence-based review, one of them being associated with a research-based process. It's worth stating that Improved Patient Outcomes have been significantly enhanced through balanced application of the triune approach vs. the limited or singular application of one component alone.

Three Components Found in the Evidence-Based Model

Improved Patient Outcomes

Improved Patient Outcomes have been significantly enhanced through balanced application of the triune approach vs. the limited or singular application of one component alone. There exists valuable objective data that supports the interconnectedness of cross-communication between the nervous system, our innate immune response, adaptive immune response as well as a direct link to the autonomic nerve system (ANS) integrity and homeostasis in the body.



Evidence-based review is a process that brings together the best available research, professional expertise, and input to identify services that have been demonstrated to achieve positive outcomes. Some people may believe the use of evidence-based programs and practices de-emphasizes decisions based on experience, authority or opinion. However, using evidence-based programs and practices simply means identifying the best available research and **combining** it with other factors for the best results. Advocates of evidence-based programs and practices do not minimize the importance of experience. Instead, they believe **evidence-based programs and practices should be integrated with the experiences and resources that healthcare providers bring to practice.** Using the evidence-based approach, the CSW members were able to discover not only additional research-based information, but the combination of the research with the practical clinical experience and the patient values and expectations associated with improvement in the body's optimum health including the immune system.

The following documents are only a small fraction of the results obtained under the CSW's "best external evidence" review. Once we began, we continued to find more and more data that was very positive in the support of chiropractic health care services and optimum health and immune system response. The clinical expertise and patient values will be released in subsequent editions of this overall review.

Our position is that it is very difficult if not impossible to separate or discount any ONE factor that influences a coordinated immune response to microorganisms, as the dynamics involve the proper neurolinguistics and feedback loops up and down regulatory pathways. Is there a need for more research in this area? Absolutely.

Is there evidence-based research, clinically relevant experience/expertise along with patient values and expectations in existence that support the connection of neuromodulation, psychoneuroimmunological relationships as well as the role dysautonomia has in our ability to adapt and respond to our environment functionally and immunologically? Yes.

In the bibliography that follows, you will find a large body of documentation supporting the relationship. We clearly and explicitly make no claims of "treating" any viral, bacterial, or fungal infections or claim to "cure" COVID-19 or any other virus for that matter. We DO clearly and explicitly support chiropractic care, along with proper nutrition, exercise, sleep, stress management, as an effective, efficient modality that promotes enhanced adaptability by way of influencing many systems in the body including, but not limited to the immune system integrity.

Resources for review

Spinal manipulation and immune response:

- ◆ Heidi Havaak papers ([Link 1](#)) ([Link 2](#))
- ◆ JVS document ([Link](#))
- ◆ ICA document ([Link](#))
- ◆ Life West and Dr. Dan Murphy ([Link 1](#)) ([Link 2](#))
- ◆ Life with Dr. Gerry Clum ([Link 1](#)) ([Link 2](#))

*"Wisconsin Chiropractors
should not be unfairly and
improperly policed by
members of a chiropractic
association either national
or state-based for simply
deciding to remain open
during the pandemic..."*

The Short Summary of this Issue and CSW Response

- ◆ The COVID-19 pandemic reached the United States and the Federal and many State public health agencies began new health advisories to protect the public.
- ◆ New determinations on what health care services would be considered “essential” to treat patients affected with the COVID-19 virus were established. Chiropractic was included on the list of “essential” health care both in Governor Evers’s executive orders and the Federal CISA document’s second draft.
- ◆ The Chiropractic Society of Wisconsin (CSW) members across the state made the conscious decision to keep their doors open to assist their patients and communities in need during the pandemic.
- ◆ The CSW provided to its members correct up-to-date information on how to properly proceed in a safe and effective manner for both their office staff and their patients.
- ◆ The WFC released an advice document that states, “There is no credible scientific evidence that chiropractic spinal adjustment/manipulation confers or boosts immunity. Chiropractors should refrain from any communication that suggests spinal adjustment/manipulation may protect patients from contracting COVID-19 or will enhance their recovery.”
- ◆ The ACA immediately endorsed the WFC position on chiropractic and immunity.
- ◆ The past president of the ACA appeared on a Milwaukee TV station and stated the WFC talking points related to zero credible evidence linking chiropractic healthcare to improved immunity.
- ◆ The WCA fully endorsed both the WFC document and the ACA’s statements from the Milwaukee TV interview.
- ◆ Subsequent to the endorsements and TV interview, specific chiropractors in Wisconsin began “policing” other chiropractors and started reporting to the Wisconsin Board of Examiners any chiropractor that indicated an association between chiropractic healthcare and assisting or boosting the immune response.
- ◆ The WFC document was improperly placed on the Department of Safety and Professional Services (DSPS) Chiropractic Board of Examiners website along with a threat of unprofessional conduct violations associated with discussions on chiropractic care and the body’s immune response.
- ◆ The CSW put in a formal complaint to the Department requesting information on the source of the announcement and demand for its removal.
- ◆ On April 2nd, the full Chiropractic Examining Board met and voted to remove the WFC document from the website.
- ◆ In very sharp contrast to the WCA, which blindly accepted the WFC and ACA positions, the Chiropractic Society of Wisconsin (CSW) conducted an intensive review of not only the WFC document, but the current evidence-based and informed data that is available related to the natural healthcare services provided in a chiropractic office and any effect on the body’s immune response.
- ◆ The result: CSW along with other state and national chiropractic organizations who also took a more evidence-informed review process found:
 - ◆ Significant flaws in the WFC document including the very narrow question posed, the very limited data of only 7 articles that was considered in the review and the very extrapolated conclusion that would not be considered normal for a rapid review process.
 - ◆ That there actually exists additional research and clinical data that was not considered in the WFC rapid review that supports a very different conclusion and a more positive association between the multitude of natural healthcare services performed in a chiropractic office and a resultant effect on the body’s immune system.
- ◆ Conclusion:
 - ◆ The CSW has published a position statement that is dramatically different and based on a more detailed evidence informed process than the WCA, ACA and WFC position related to the association between chiropractic natural healthcare services and the body’s immune response.
 - ◆ Wisconsin Chiropractors should not be unfairly and improperly policed by members of a chiropractic association either national or state-based for simply deciding to remain open during the pandemic and educating the public on the positive and vital natural chiropractic healthcare services and their positive effect on the body including the immune system.

The Longer Story for Those Who Enjoy Details

[View WFC document](#)

2. Background Information on the WFC Document

From the very beginning, the WFC document was suspicious — meaning it really did not pass the smell test. The subsequent political assault by the WFC, ACA and WCA to weaponize this document against chiropractors also increased the likelihood that this document was not a true “scientific” review of the literature, but a quickly performed review to obtain a pre-determined result that could be used to “control” the narrative related to chiropractic healthcare during the COVID pandemic.

Rather than blindly accepting the conclusion of the WFC “advice” document, the leadership of the CSW did a review to determine the actual validity of the document. The results were somewhat startling in the basic flaws of not only the conclusion, but the simplicity of the actual review. It took a mere 5 minutes to retrace the sources of the 7 articles used by the WFC research committee, primarily due to the fact that most of them are associated with a single article.

The CSW Found the Following Basic Issues and Flaws Associated With the WFC Document

- ◆ The WFC document is based on a very rudimentary rapid review process of 7 – yes only 7 – studies¹:
- ◆ The rapid review process is a very limited review process, and extreme caution should be used with the conclusion based on its limited source. “As a field, rapid review evidence synthesis is marked by a tension

between the strategic priority to inform health care decision-making and the scientific imperative to produce robust, high-quality research that soundly supports health policy and practice.”²

- ◆ The available public information on the WFC rapid review process does not allow the ability to review, if even the basic elements of a proper review was conducted. The majority of the 7 articles listed are associated as the references from one of the articles reviewed. Meaning a simple review of one article provided the majority of the other listed WFC articles due to being a reference to the first article. It was a very easy and simple process to find the 7 articles reviewed.
- ◆ The rapid review conclusion appears to be based on a very narrow question and extremely limited inclusion factors for research articles for review by the authors.
- ◆ Based on a very quick and simple review of *Pubmed*, it appears that valid research that would potentially create a different outcome or conclusion was not included.

It is very important to note that the validity of the conclusion found within the WFC is not the result of an extensive meta-analysis research process but was based on a simple and very rudimentary rapid review process consisting of 7 studies. It is also important to note that the WFC could not call this document a detailed white paper or even a formal guidance document. The WFC was only able to label it an “advice” document.

¹ https://www.wfc.org/website/images/wfc/Latest_News_and_Features/Spinal_Manipulation_Immunity_Review_2020_03_19.pdf

² *Syst Rev*. 2015 Sep 26;4:111. doi: 10.1186/s13643-015-0111-6.

Rapid Review Summit: an overview and initiation of a research agenda. Polisena J^{1,2}, Garritty C^{3,4}, Umscheid CA⁵, Kamel C⁶, Samra K⁷, Smith J⁸, Vosilla A⁹.

What is a rapid review process and how should the conclusions be treated?

As noted with the COVID pandemic, the demand for accelerated forms of health-related evidence synthesis is on the rise. This is largely in response to requests by health care decision makers for expeditious assessment and up-to-date information about health care technologies and health services and programs.

“As a field, rapid review evidence synthesis is marked by a tension between the strategic priority to inform health care decision-making and the scientific imperative to produce robust, high-quality research that soundly supports health policy and practice.”³

While a rapid review process can be conducted for emerging issues, the literature that the CSW was able to review on the rapid review process indicates that due to the inherent limitations of the rapid review process as compared with the more extensive high quality research process **the conclusion drawn from the rapid review needs to be cautious and not extrapolated beyond the limited scope of the review.**

This appears to be the very problem with the WFC’s advice document position. The WFC research committee started with a very narrow question and used a simple rapid review process, which under normal and ethical procedures should have produced a very cautious and limited conclusion. This is especially true when the researchers only reviewed 7 documents.

Unfortunately, and in complete contradiction to the normal process of producing a cautious conclusion, the WFC research committee produced and widely disseminated a very bold and apparently biased conclusion.

A prominent member of the WFC committee who is also widely associated with the ACA, then went beyond appropriate parameters associated with a rapid review process and included threats of regulatory retaliation for any chiropractor that did not strictly adhere to the WFC’s research committee’s conclusion. ([Dr. Goertz link](#))

The key questions the CSW believes every Wisconsin Chiropractor should be asking before following the WCA’s lead and blindly accepting the WFC advice document:

- ◆ Did the WFC research committee look at all of the available evidence-based information available to validate their bold conclusion? Based on the CSW’s own efforts, we can conclude they did not.
- ◆ Did the WFC research committee’s decision to create a very narrow question result in the elimination of valid research that could have created a much different conclusion? Based on our review, the answer is definitely yes.
- ◆ All of the researchers on the WFC committee have multiple credentials associated with research and academics. If the CSW with our basic level of research could find multiple studies on *Pubmed* related to spinal manipulation and immune response as well as osteopathic manipulation and immune response, it begs the question are there really only 7 research documents that this esteemed panel of researchers could find? No. The CSW was able to easily find additional research including a single research document on *Pubmed* that included 13 associated research references to the WFC narrow question.⁴

³ *Syst Rev*. 2015 Sep 26;4:111. doi: 10.1186/s13643-015-0111-6.

Rapid Review Summit: an overview and initiation of a research agenda. Polisena J^{1,2}, Garritty C^{3,4}, Umscheid CA⁵, Kamel C⁶, Samra K⁷, Smith J⁸, Vosilla A⁹.

⁴ *Medicina (Kaunas)*. 2019 Aug 7;55(8). pii: E448. doi: 10.3390/medicina55080448.

The Effects Induced by Spinal Manipulative Therapy on the Immune and Endocrine Systems. Colombi A1, Testa M2.

Author information

Abstract

Background and Objectives: Spinal manipulations are interventions widely used by different healthcare professionals for the management of musculoskeletal (MSK) disorders. While previous theoretical principles focused predominantly on biomechanical accounts, recent models propose that the observed pain modulatory effects of this form of manual therapy may be the result of more complex mechanisms. It has been suggested that other phenomena like neurophysiological responses and the activation of the immune-endocrine system may explain variability in pain inhibition after the administration of spinal manipulative therapy (SMT). The aim of this paper is to provide an overview of the available evidence supporting the biological plausibility of high-velocity, low-amplitude thrust (HVLAT) on the immune-endocrine system. Materials and Methods: Narrative critical review. An electronic search on MEDLINE, ProQUEST, and Google Scholar followed by a hand and “snowballing” search were conducted to find relevant articles. Studies were included if they evaluated the effects of HVLAT on participants’ biomarkers Results: The electronic search retrieved 13 relevant articles and two themes of discussion were developed. Nine studies investigated the effects of SMT on cortisol levels and five of them were conducted on symptomatic populations. Four studies examined the effects of SMT on the immune system and all of them were conducted on healthy individuals. Conclusions: Although spinal manipulations seem to trigger the activation of the neuroimmunoendocrine system, the evidence supporting a biological account for the application of HVLAT in clinical practice is mixed and conflicting. Further research on subjects with spinal MSK conditions with larger sample sizes are needed to obtain more insights about the biological effects of spinal manipulative therapy.

- ◆ Why did the WFC research committee not include the research associated with osteopathic manipulation and immune response? It is difficult to understand their rationale as again a very simple review found multiple valid and credible research documents related to osteopathic manipulation and positive immune response.
- ◆ Why did the WFC research committee choose a rapid response process rather than a more appropriate evidence-based approach and process? This is a question only they can answer, but again based on the very quick and coordinated communication it appears that a full review of all of the available evidence would not have resulted in the conclusion that they ended up with.
- ◆ Do chiropractors routinely provide exercise programs, nutritional supplements and educational advice related to natural, organic based diets all of which have volumes of research associated with assisting the body's ability to improve its vitality and immune response?⁵ The CSW says yes, but the WFC specifically excluded these services.
- ◆ Did the members of the WFC research committee allow their own personal bias to infiltrate the analysis of the available research data and permeate the final conclusion? Based on our observation, it appears the answer is yes.
- ◆ Is there a common connection between the WFC, ACA and WCA? It is very obvious to see that one of the members of the WFC research committee is also a member of the ACA Board of Directors and one of the members of the WCA leadership team is also a member of the ACA Board of Directors. Three of the members of the WFC research committee are active in the ACA and have expressed opinions opposed to subluxation based chiropractic. Members of the WCA leadership have not only expressed lock step values with the ACA, but have also promoted prescription rights for chiropractors.

In Summary

The CSW using a valid evidence-based approach was able to very quickly and easily find numerous credible research articles, clinical articles and patient outcome reports that support the association between the entirety of natural chiropractic healthcare services and the immune system.

In direct contrast the WFC, using the very limited rapid review process and narrow question missed valuable and credible evidence based information that then questions the validity of not only their review, but more importantly their improperly extrapolated conclusion.

⁵Brain Behav Immun. 2020 Apr 17; pii: S0889-1591(20)30537-7. doi: 10.1016/j.bbi.2020.04.040. [Epub ahead of print]

The impact of nutrition on COVID-19 susceptibility and long-term consequences.

Butler MJ1, Barrientos RM2. **Author information** *Abstract* While all groups are affected by the COVID-19 pandemic, the elderly, underrepresented minorities, and those with underlying medical conditions are at the greatest risk. The high rate of consumption of diets high in saturated fats, sugars, and refined carbohydrates (collectively called Western diet, WD) worldwide, contribute to the prevalence of obesity and type II diabetes, and could place these populations at an increased risk for severe COVID-19 pathology and mortality. WD consumption activates the innate immune system and impairs adaptive immunity, leading to chronic inflammation and impaired host defense against viruses. Furthermore, peripheral inflammation caused by COVID-19 may have long-term consequences in those that recover, leading to chronic medical conditions such as dementia and neurodegenerative disease, likely through neuroinflammatory mechanisms that can be compounded by an unhealthy diet. Thus, now more than ever, wider access to healthy foods should be a top priority and individuals should be mindful of healthy eating habits to reduce susceptibility to and long-term complications from COVID-19. Copyright © 2020. Published by Elsevier Inc.

3. The Effect of the WCA's Endorsing the WFC Document in Wisconsin

The Wisconsin Chiropractic Board of Examiners (CBOE) recently placed an “announcement” on the Chiropractic Board’s website that contained two items:

- ◆ The WFC advice document
- ◆ Warning to Wisconsin chiropractors related to chiropractic rule 6 on unprofessional conduct

Based on the Board of Examiners “announcement,” there existed a veiled threat that chiropractors in Wisconsin should not discuss or even infer that chiropractic treatment has any association with the body’s immune system functions, or they would be subject to disciplinary actions by the Board.

The problem is that it has moved beyond the threat stage, and there are WCA members who are currently filing complaints with the Board of Examiners against chiropractors who have simply indicated that chiropractic care can improve the immune system in patients.

While we cannot stop chiropractors from filing complaints, the CSW initiated action to inform the Department of Safety and Professional Services (DPS) that the placement of the WFC “announcement” was a violation of agency policy and should be immediately removed. The full Board met on April 2nd and discussion resulted in a vote to remove the document and announcement immediately.

This removal action by the full board and supported by the CSW protected every single chiropractor in Wisconsin. The CSW applauds the Board members who voted to remove the WFC document.





4. What is the process if you are reported to the Wisconsin Board of Examiners

Should a chiropractor be reported to the Board of Examiners, the CSW has provided the following basic information, so that they fully understand the process. It is advised to seek legal council if you are dealing with any complaint associated with the Board of examiners.

1. The basic process is as follows:

- a. A complaint against you needs to be filed with the Department of Safety and Professional Services.
- b. The Department will send you a notice of the complaint and request a response.
- c. You will need to provide a response to the complaint.
- d. The complaint and your response are reviewed by a committee of the Chiropractic Examining Board made up of members of the Board and attorneys from the Department of Enforcement.
- e. This committee will make a decision to either open up the case or find no violation and close the case.
- f. If the case is opened, it will be assigned to a member of the Chiropractic Board who will serve as an advisor on the case. It will also be assigned to an investigator and attorney within the DSPS Department of Enforcement.
- g. The attorney will evaluate the case with the Board member case advisor and then initiate communication with you to reach a stipulated solution.
- h. The next steps involve either agreeing with the stipulation or fighting back and negotiating a different outcome.
- i. The basic outcomes are:
 - i. Close case with no violation.
 - ii. Close case with an administrative warning.
 - iii. Close case by agreeing to the stipulation which could be:
 1. Reprimand.
 2. Suspension of license.
 3. Revocation of license.
- j. If you determine that the proposed stipulation is not acceptable and you want to challenge the Board's position, you would first go to the Administrative Judge level and provide your information. If you are successful at this level, the Board members would review the decision and then make their final decision.
- k. If you are unsuccessful and still believe you are correct, the next level is Circuit Court.

2. Because this involves your livelihood, it is recommended that you retain legal counsel to represent you throughout this entire process.

3. Most Malpractice Carriers cover your legal expenses for Board investigations.

Full Bibliography

- https://www.wfc.org/website/images/wfc/Latest_News_and_Features/Spinal_Manipulation_Immunity_Review_2020_03_19.pdf
- See e.g. Colombi A., Testa M., The effects induced by spinal manipulative therapy on the immune and endocrine systems, *Medicina* (2019); Ganta CK, Kenney MJ., Autonomic Nervous System and Immune System Interactions, *Compr Phys* (2014); Teodorczyk-Injeyan JA., et al., Interleukin 2-regulated in vitro antibody production following a single spinal manipulative treatment in normal subjects. *Chiropr Osteopat* (2010); Rome PL., Neurovertebral influence on visceral and ANS function: Some of the Somatovisceral Evidence To Date – Part II Somatovisceral, *Chiropr J Aust* (2010); Rome PL., Neurovertebral influence upon the autonomic nervous system: Some of the Somato-Autonomic Evidence To Date, Part I. *Chiropr J Aust* (2009); Cohn A., Chiropractic and the Neuroimmune Connection, *J Vert Subluxat Res* (2008); Teodorczyk-Injeyan JA., et al., Enhancement of in vitro interleukin-2 production in normal subjects following a single spinal manipulative treatment, *Chiropr Osteopat* (2008); Steinman L., Elaborate interactions between the immune and nervous systems, *Nature Immunology* (2004); Pickar JG., Neurophysiological effects of spinal manipulation, *Spine J.* (2002); Todres-Masarsky M, Masarsky CS, The Somatovisceral Interface: Further Evidence. *Somatovisceral Aspects of Chiropractic: An Evidence-Based Approach* (2001); Elenkov IJ., et al., The sympathetic nerve – An integrative interface between two supersystems: the brain and the immune system, *Pharmacol Rev* (2000); Identification of the Location, Extent and Pathway of Sensory Neurologic Feedback After Mechanical Manipulation of a Lateral Spinal Ligament in Chickens, *Spine* (1997); Hightower, BC, et al, The effects of specific upper cervical adjustments on the CD4 counts of HIV positive patients, *Chiropractic Research J* (1994); Murray DR., et al., Sympathetic and immune interactions during dynamic exercise. Mediation via a beta 2 – adrenergic-dependent mechanism, *Circulation* (1992); Brennan PC, et al, Immunologic correlates of reduced spinal mobility, *Proceedings of the 1991 International Conference on Spinal Manipulation* (1991); Brennan PC, et al. Enhance phagocytic cell respiratory burst induced by spinal manipulation. *J Manipulative Physiol Ther* (1991). Haas, A, Chiropractic contributes its unique salutogenic health care approach to the emergent COVID-19 crisis, Future of Chiropractic (2020). Osteopathic Manipulative Treatment as a Useful Adjunctive Tool for Pneumonia Sheldon Yao, John Hassani, Martin Gagne, Gebe George, Wolfgang Gilliar *J Vis Exp.* 2014; (87): 50687. Published online 2014 May 6. doi: 10.3791/50687 Osteopathic Manipulative Therapy Induces Early Plasma Cytokine Release and Mobilization of a Population of Blood Dendritic Cells Stevan Walkowski, Manindra Singh, Juan Puertas, Michelle Pate, Kenneth Goodrum, Fabian Benencia *PLoS One.* 2014; 9(3): e90132. Published online 2014 Mar 10. doi: 10.1371/journal.pone.0090132 Lymphatic Pump Treatment Repeatedly Enhances the Lymphatic and Immune Systems Artur Schander, David Padro, Hollis H. King, H. Fred Downey, Lisa M. Hodge *Lymphat Res Biol.* 2013 Dec 1; 11(4): 219–226. doi: 10.1089/lrb.2012.0021 Effectiveness of an osteopathic treatment on the autonomic nervous system: a systematic review of the literature Verena Rechberger, Michael Biberschick, Jan Porthun *Eur J Med Res.* 2019; 24: 36. Published online 2019 Oct 25. doi: 10.1186/s40001-019-0394-5 Osteopathic lymphatic pump techniques to enhance immunity and treat pneumonia Lisa M. Hodge *Int J Osteopath Med.* Author manuscript; available in PMC 2013 Mar 1. Published in final edited form as: *Int J Osteopath Med.* 2012 Mar; 15(1): 13–21. doi: 10.1016/j.ijosm.2011.11.004 *J Am Osteopath Assoc.* 2016 Sep 1;116(9):600-8. doi: 10.7556/jaoa.2016.119. **The Potential of Osteopathic Manipulative Treatment in Antimicrobial Stewardship: A Narrative Review.** Regulatory role of vitamin E in the immune system and inflammation Erin Diane Lewis, Simin Nikbin Meydani, Dayong Wu *IUBMB Life.* Author manuscript; available in PMC 2020 Apr 1. Published in final edited form as: *IUBMB Life.* 2019 Apr; 71(4): 487–494. Published online 2018 Nov 30. doi: 10.1002/iub.1976 Enhancing immunity in viral infections, with special emphasis on COVID-19: A review Ranil Jayawardena, Piumika Sooriyaarachchi, Michail Chourdakis, Chandima Jeewandara, Priyanga Ranasinghe *Diabetes Metab Syndr.* 2020 Apr 16 doi: 10.1016/j.dsx.2020.04.015 [Epub ahead of print] Exercise, Immunity, and Illness Arwel Wyn Jones, Glen Davison *Muscle and Exercise Physiology.* 2019 : 317–344. Published online 2018 Nov 9. doi: 10.1016/B978-0-12-814593-7.00015-3

Resources for Review

- Dr. Clum and Dr. Heidi**
<https://www.youtube.com/watch?v=DW47ejC8Sps>
- Drs. Clum, Heidi, Murphy and Nutrition Specialist**
<https://www.youtube.com/watch?v=SHLHJLO5lzo>
- Heidi Havaak papers**
Paper 1
Paper 2
- JVS document**
http://www.mccoypress.net/docs/fvs_rebuttal_wfc_booklet.pdf
- ICA document**
<http://www.chiropractic.org/wp-content/uploads/2020/03/Updated-Report-of-3-28-wtih-fixed-biblio.pdf>
- Link to Life West and Dr. Dan Murphy**
<https://www.youtube.com/watch?v=aXQjI5oLtrU&feature=youtu.be&t=5>
- https://www.nutriwest.com/assets/files/fact_sheets/e6374141c6bdfc68b54e94eddac7d3ab.pdf
- Link to Life with Dr. Gerry Clum**
<https://www.youtube.com/watch?v=SHLHJLO5lzo>
- <https://www.youtube.com/watch?v=DW47ejC8Sps>
- WFC document**
https://www.wfc.org/website/images/wfc/Latest_News_and_Features/Spinal_Manipulation_Immunity_Review_2020_03_19.pdf
- Dr. Goertz**
https://web.facebook.com/1751030505108839/posts/2595414324003782/?vh=e&_rdc=1&_rdr