NATIONAL UNIVERSITY OF MEDICAL SCIENCES

PH.D. PHYSICAL MEDICINE & REHABILITATION

DR. J. GORDON ZINK'S PHILOSOPHY ON THE RESPIRATORY-CIRCULATORY MODEL OF OSTEOPATHY

NATHANAEL DAVID ENNS

A QUALITATIVE RESEARCH

STUDENT NUMBER: S2309005

MAY 30, 2024

NATIONAL UNIVERSITY OF MEDICAL SCIENCES

PH.D. PHYSICAL MEDICINE & REHABILITATION

DR. J. GORDON ZINK'S PHILOSOPHY ON THE RESPIRATORY-CIRCULATORY MODEL OF OSTEOPATHY

NATHANAEL DAVID ENNS

A QUALITATIVE RESEARCH

STUDENT NUMBER: S2309005

MAY 30, 2024

ACKNOWLEDGEMENTS

I wish to thank Catherine Cabral-Marotta, B.SC HK, Dip SIM, D.O.M.P., CAT(C), RMT, CSCS, for all her time and guidance during the development of this project, and for graciously agreeing to serve as my primary research advisor.

My thanks go out also to Theodore J. Enns, M.Ed., B.I.M., for all his continued support, tireless editing, and mentorship as my secondary research advisor and editor.

Thank you to Dr. Shawn Pourgol, MBA, DC, DO, DN, PhD, for his encouragement to convert my passion and research into this final written paper.

I would be remiss if I did not acknowledge the patience and persistence of the Canadian College of Osteopathy director, Jane Stark D.O.M.P., MS, D.Sc.O. for her encouragement and insight throughout my research.

I particularly want to express my gratitude to Dr. Richard Clofine, D.O., for so freely sharing his copies of Dr. J. Gordon Zink's educational materials, his own study notes and even his personal correspondence with Dr. Zink.

Lastly, I wish to thank the American Academy of Osteopathy and their staff for their encouragement and permission to use the purchased copy of the "Collected Works of J. Gordon Zink, DO, FAAO" (Zink & Goldman, 2008) for this research project, without which this report would not have been as comprehensive.

RESEARCH ADVISORS

Catherine Cabral-Marotta, B.SC HK, Dip SIM, D.O.M.P., CAT(C), RMT, CSCS

Theodore J. Enns, M.Ed., B.I.M.

RESEARCH QUESTION

What was Dr. J. Gordon Zink's specific teaching on the Respiratory-Circulatory Model?

ABSTRACT

This research paper is an investigation into the teaching of Dr. James Gordon Zink, D.O., F.A.A.O. (1912-1982), specifically concerning the Respiratory-Circulatory Model (RCM) of osteopathy. Dr. Zink became an authority on the RCM, as an osteopathic physician and as a professor. The literature review examines the extensive written works of Dr. Zink, both published and unpublished, and includes reporting on his recorded lectures, both video and audio, maintained by the American Academy of Osteopathy library. This qualitative research describes the philosophy of Dr. Zink in implementing an RCM treatment, within the osteopathic manipulative treatments (OMT). This report explains how he taught the RCM and highlights the Common Compensatory Pattern (CCP) which he developed as an assessment tool for evaluating the treatment a patient may need. Understanding his unique distinctives will promote awareness of the value of Dr. Zink's teaching and methods for increased effectiveness of the OMT procedures. This realization should stimulate osteopathic manual therapists to further explore, examine, expand, promote, and implement Dr. Zink's RCM philosophy. Dr. Zink's approach to the RCM is a practical and essential legacy for the ongoing development and expansion of osteopathic practice worldwide.

Keywords: Common Compensatory Pattern (CCP), Dr. J. Gordon Zink, Eupnea, hydrodynamics, integration, lymphatics, osteopathic manipulative treatment (OMT), Respiratory-Circulatory Model (RCM).

TABLE OF CONTENTS

TABLE OF FIGURES

1. CHAPTER ONE: INTRODUCTION

1. CHAPTER ONE: INTRODUCTION

1.1. OVERVIEW

This qualitative research paper explores the teaching of Dr. James Gordon Zink, D.O., F.A.A.O. (1912-1982) concerning the Respiratory-Circulatory Model (RCM) of osteopathy. This narrative-designed investigation presents Dr. Zink's teachings on this particular model, used as an osteopathic manipulative treatment (OMT). A working definition of the American Model of RCM, one of five models of osteopathy, was described by Dr. Jane E. Carreiro, from the Department of Osteopathic Manipulative Medicine of the University of New England's College of Osteopathic Medicine in Biddeford, Maine as follows:

> The respiratory/circulatory model concerns itself with the maintenance of extracellular and intracellular environments through the unimpeded delivery of oxygen and nutrients, and the removal of cellular waste products. Tissue stress or other factors interfering with the flow or circulation of any *[sic]* body fluid can affect tissue health. This model applies therapeutic approaches, including osteopathic manipulative techniques, to address dysfunction in respiratory mechanics, circulation, and the flow of body fluids. (Carreiro, 2010, p. 4)

This explains how the RCM is a philosophy of osteopathy that focuses on the cellular health of an individual as a starting point for all OMT. The primary goal for any initial OMT therapy is to ensure that the tissues are being supplied with healthy, oxygenated and nutrient-rich blood, while simultaneously ensuring that the negative pressure in the chest is allowing for an unimpeded return of venous and lymphatic tissues to their respective terminating points. Dr. Zink used the phrase "Lymph is life" as his affirmation that his first goal for a patient was to establish and/or ensure that the body's natural pumps were functioning correctly and that the patient was thereby able to, at the very minimum, continue working toward normal health (Zink, 1978d, 1978e, 1978l, 1978m, 1978n, 1979c, 1981d). This included the lymphatic return to the subclavian veins, which confirmed that the primary goal of Eupnea and global fluidic matrices were circulating well (as will be discussed in Chapter 3), and therefore that relieving any other symptoms in the patient could be pursued using any other appropriate model of osteopathy.

This present investigation is focused on Dr. Zink's perspective and understanding of osteopathic health care, specifically in regard to his emphasis and focus on the RCM. His approach to restoring health relied on the body's natural normal ability to rid itself of bacteriae, viruses and other foreign entities through its hydrodynamic systems. He felt that the circulation and flow of body fluids (including oxygen in the blood system and other nutrients distributed through external and internal respiration) and lymphatics (which dispose of waste material from cell tissues) were the best way to apply a primary tenet of osteopathy, which is based on "[the body's] innate self-regulation toward healing", as well as the osteopathic tenet that "the rule of the artery is supreme and paramount." (American Association of Colleges of Osteopathic & Educational Council on Osteopathic, 2017; Carreiro, 2010). Dr. Zink purported that the release of restrictions, enabled through the RCM method, assisted the body's ability to restore health, while it prevented disease (Zink, 1974a). His emphasis on the circulatory systems was documented by one of Dr. Zink's students, Dr. Rick Clofine, D.O., who said that his mentor

loved to claim that he "sort of stressed hydrodynamics, to sell [it to] those who never heard of it." (Azneer & Clofine, 1982).

Dr. Zink was a passionate professor of osteopathy, and whose primary focus was to show his students how the RCM was relevant, and how it was a valid (if not essential) starting place for any osteopathic manipulative treatment. Yet, his first and foremost goal in teaching was to motivate his students to dig deeper, to always ask the question: "why?". He believed that a student should first understand a concept well, and thereby know when it was needed. That way it would not merely be performed as a technique, but as the appropriate treatment application for that specific patient's need. Dr. Zink was often "disheartened by those who would simply mimic or repeat what others had said, and go through cookbook treatment [or techniques], paying little attention to the soma [the whole body] being treated." (Azneer & Clofine, 1982, p. 1). Dr. Zink cared less about teaching students to pass their exams, and more about how to pass on his love of learning and questioning, his willingness to learn and to not just "regurgitate" knowledge or methods.

His philosophy was less about techniques (although he taught many of them), and more about understanding the key question of "why". This question of the why behind doing something was repeated throughout Dr. Zink's lectures. He would ask his students:

> "*Why do… a certain technique?"*
> *"Why [does] a technique work?"*
> *"Why [does] a symptom reveal itself?"*
> *"Why [did] a patient respond in [this] certain way?"*

Dr. Rick Clofine described Dr. Zink's questions this way: "He was rarely looking for a specific answer from the students he questioned; rather, he was trying to stimulate them to dig, learn and see the 'big picture'." (Azneer & Clofine, 1982).

1.2. BACKGROUND

The Respiratory-Circulatory Model (RCM) is now considered one of the five main models of osteopathic medicine. The first known publication referring to the RCM was in the March edition of the Osteopathic Annuals, where an article by Dr. J. G. Zink was entitled: "Respiratory Circulatory Care: The Conceptual Model" (Zink, 1977f). In this conceptual model, Dr. Zink highlighted principles that originated in the philosophies of Dr. Andrew Still, from when Osteopathy was first founded. For instance, in a journal article entitled "Osteopathic Philosophy", the authors cite that Dr. Still's original focus was on the arterial supply, with venous and lymphatic return (Seffinger, King, Ward, Rogers, & Patterson, 2003). In that article, the authors cite statements by Dr. Still from his 1908 *Autobiography of Andrew T. Still* that demonstrate this philosophy was already found in Dr. Still's original osteopathic methodologies:

> "All diseases are mere effects, the cause being a partial or complete failure of the nerves to properly conduct the fluids of life… [T]he rule of the artery is absolute, universal, and it must be unobstructed, or disease will result… [W]e must keep the lymphatics normal all the time or see confused Nature in the form of disease. We strike at the source of life and death when we go to the lymphatics." (A. T. Still, 2015, p. 94ff)

So, although this was one of Dr. Still's main focuses for OMT, the RCM philosophy was ultimately acknowledged as a distinct model of osteopathy through the teaching of Dr. Zink in the 1970s, while he was a professor at the Des Moines University in Des Moines, Iowa (Zink & Contributor, 1982). In 2010, the World Health Organization (W.H.O.) defined Dr. Zink's conceptual model as the "Respiratory-Circulatory Model" and further officially recognized it as one of the five major models of Osteopathy in the publication entitled, "Benchmarks For Training In Osteopathy" (Carreiro, 2010).

The W.H.O. description of these five models (Carreiro, 2010), although using some slightly different names than those used for the same five models in North America (seen in Appendix 1: W.H.O.'s Five Models of Osteopathy), can be briefly summarized as follows:

- The Respiratory/Circulatory Model (RCM) of osteopathy concentrates on the extra- and intra-cellular environments that contribute to or impede the circulation of body fluids (both delivery of nutrients and evacuation of wastes) affecting tissue health.
- The Biomechanical model of osteopathy (also known as the MSK model) seeks to harmonize the soma, the whole-body unit, in relationship to posture and balance, to reduce stresses on the body that can cause changes to systemic functions.
- The Neurological model of osteopathy emphasizes the facilitation of the spinal column and proprioceptive (or kinesthetic) functions, the autonomic nervous system, and the nociceptors (or pain receptors) of the body.
- The Behavioural model of osteopathy (also called the Biopsychosocial model) concentrates on the effect of psychological stresses that impact health and can influence or even cause physical disease.
- The Metabolic model of osteopathy (also called the Bioenergetic model) highlights the body's goal in balancing the production, distribution, and dissipation of energy.

While the American and W.H.O. definitions of RCM are virtually the same, the difference that Dr. Zink offered the osteopathic world was that he felt that the RCM was truly foundational for all areas of human health, and that this model could be used by all osteopathic manipulative therapists, as a baseline for whole-body health of the patient. Dr. Zink felt that the body's circulation of nutrients (e.g., oxygen in the blood and drainage through the lymphatic tissues) needed to be unimpeded globally, before local tissue health could be assured. In writing a thesis on "The Bioenergetic Model in Osteopathic Diagnosis and Treatment: An FAAO Thesis", Dr. Jan Hendrix, D.O. was one of the many osteopathic physicians who cited Dr. J. Gordon Zink as the authority on the RCM approach to osteopathy (Hendryx, 2014). Dr. Hendryx stated that Dr. Zink shared the perspective of Dr. Andrew Still, M.D., D.O. regarding tissue health being maintained through the unrestricted flow of our body fluids – particularly the arterial, venous, and lymphatic systems – throughout our whole body.

Dr. Zink did invent the RCM model, and was given credit for much of the research on this concept of osteopathic care. However, although his words were often quoted or referred to in osteopathic literature, the original publication by Dr. Zink, from which those citations claimed to have come, were not always cited within their context by those authors. This present investigator found that some of the quotes, claimed to have been from Dr. Zink, appeared rather to be definitions obtained from other sources, like the World Health Organization, which purported to reflect Dr. Zink's philosophy of the RCM. This present research project seeks to clarify the some

of the distinctives of Dr. Zink's philosophy, highlighting the most common themes from his published works, classroom lectures, and even from some of his unpublished writings. Literature by Dr. Zink was found almost exclusively in the largest known database of his teaching material, under the library title: "Collected Works of J. Gordon Zink, DO, FAAO" (Zink & Goldman, 2008). This data was enhanced by also reviewing some of the unpublished works of Dr. Zink, which were kindly provided for this research project by Dr. Richard Clofine, D.O. and the American Academy of Osteopathy library in Indianapolis, Indiana.

1.3. PURPOSE OF THIS STUDY

This present investigation explored how the man, the model, and the methods of Dr. J. Gordon Zink, D.O. who capitalized on the Respiratory-Circulatory Model (RCM) approach to osteopathic treatment. The man that Dr. Zink became, as an osteopathic physician (D.O.) who practiced Osteopathic Manipulative Treatment (OMT), as a professor at the Des Moines University's College of Osteopathic Medicine and Surgery, and then even as a Fellow of the American Academy of Osteopathy (FAAO), had his career cut short by an early death from amyotrophic lateral sclerosis (ALS). The model of osteopathy – called the Respiratory-Circulatory Model (or RCM) – that he perfected and then taught extensively was seen to have merit in its comprehensiveness for osteopathy as a whole – and even for other professions using manual techniques as part of the treatments they administer. The methods Dr. Zink employed in his osteopathic RCM treatments started with the assessment tool that he created – the Common Compensatory Pattern (CCP) – which enhanced his approach to the osteopathic techniques that he used, always seeking whole-body health for each patient.

This present research project investigated Dr. Zink's philosophies about the science and art of osteopathic RCM therapy by reviewing all of his known written works. Some unique nuances that Dr. Zink brought to many of the osteopathic techniques, which he practiced and taught, were found. These distinctions, from his written works and teachings (many of which had been collected as video and audio files, which were again meticulously reviewed for this research project) should stimulate even further studies into the essential value of the RCM and its potential impact on health in general, as it has for this present investigator. The rationale and benefits of Dr. Zink's perspectives were examined so that all manual therapists, especially in the osteopathic profession, might be able to better understand and practice Dr. Zink's methods, and thereby gain even greater success in improving the long-term health of their patients.

The motivating ambition for this study was to convince the reader that Dr. Zink's contributions to osteopathy through his approach to the RCM were practical and essential for any osteopathic manual manipulative treatment, and would therefore be worth fully understanding, practicing, and even teaching in all osteopathic curriculums. This present research report means to show the necessity of passing on Zink's RCM legacy to all future therapists who will study and practice the philosophy, science, and art of osteopathy.

1.4. OSTEOPATHIC JUSTIFICATION

Since the Respiratory-Circulatory Model (RCM) is one of the five models accepted by osteopathic community worldwide, it is essential that osteopathic curriculums more clearly emphasize a fuller understanding of the RCM approach, the way Dr. Zink practiced and taught it.

This present investigative report shows the comprehensive potential of using Dr. Zink's approach to the RCM as a valid baseline, particularly for osteopathic manipulative treatments, and shows how his accompanying Common Compensatory Pattern (CCP) assessment tool can be used as a foundational instrument for all osteopathic therapists, when fully understood and used as it was designed. There is no doubt that having a standard way to evaluate patients enables a therapist to consistently find the correct, applicable technique for resolving a patient's complaint. Dr. Zink developed and provided such a standard baseline (see Appendix 2: The CCP Assessment Tool) from which to assess a patient's needs, as well as a flowchart questionnaire for using the CCP assessment tool (see Chapter 3, section 3.2.2). Dr. Zink believed that the respiratory and circulatory systems could be best evaluated by first determining the presence or lack of the state of Eupnea in the patient (which will be discussed in Chapter 3, section 3.2.3. Equally critical is the fascial compensatory patterns (as seen in Figure 1 of Chapter 3, section 3.2.2) which help pinpoint where an osteopathic technique should first be applied (Zink, 1982). Dr. Boyd Buser, D.O., a former clinical professor at the Des Moines University College of Osteopathic Medicine, and former president of the American Osteopathic Association (AOA), in his lecture on: "Dr. Zink's Respiratory/Circulatory Model and the Common Compensatory Pattern" affirmed that Dr. Zink was the authority to be studied, in order to be able to successfully understand and use the RCM (Buser, 2010).

Fortunately, Dr. Zink's philosophy and teachings were well documented at the American Academy of Osteopathy, in the "Collected Works of J. Gordon Zink, DO, FAAO" (Zink & Goldman, 2008). Therefore, the validity, value and virtues of Zink's legacy will be able to continue, by being clearly taught and then correctly implemented by both present and future osteopathic manual therapists. Dr. Zink taught that the RCM approach was especially relevant when dealing with health concerns where there was a restriction or blockage in either external or internal respiration, whether that restriction affected the oxygen and nutrient flow in the arterial system or in the drainage of the venous or lymphatic flow. This focus followed osteopathic norms, since all the respiratory and circulatory systems are paramount to all patients, so his search for any lesion (that is, any obstruction or restriction) was valid for all his patients.

All students, researchers or therapists who want to understand the value of osteopathy will be encouraged to find that Dr. Zink's approach to using the RCM in osteopathic manipulative therapy was very reasonable, rational, and reproducible. His approach to this model was unique, and therefore, a full understanding of his nuances will enhance the development of any comprehensive osteopathic curriculum. As therapists grow in their understanding of Dr. Zink's perspectives, develop their practice through ongoing research in using his methods, and then implement the proven techniques and therapy methods they find in their own practices, the benefits of his RCM approach will be noticed and testified to – even by their patients, who will have been helped by this type of osteopathic treatment.

1.5. RESEARCH QUESTION

1.5.1. What was Dr. J. Gordon Zink's specific teaching on the Respiratory-Circulatory Model?

This investigation was able to highlight how Dr. Zink taught his approach to the RCM, specifically how he nuanced techniques, used by other osteopathic manipulative therapists, to

optimize his preferred foundational model of osteopathy. Although he taught many of the classical osteopathic techniques, this present investigation concentrated on how Dr. Zink's use of them were affected by his focus on the RCM.

1.6. LITERATURE REVIEW

Although not a lot of literature was found written by other authors or researchers either affirming or critiquing Dr. Zink's approach and model of osteopathy, an exhaustive compilation of Dr. Zink's own writings was kept at the library of the American Academy of Osteopathy. By purchasing a copy of this collection, as described in more detail further on in this report, this present investigation of his teaching and practice was able to be quite comprehensive in understanding Dr. Zink, specifically as related to his passion for the implementing the Respiratory-Circulatory Model of osteopathy (RCM).

This present investigation used the sampling strategy with a substantive criterion – as defined for qualitative research by Dr. Uwe Flick, Ph.D. (2019) – since its scope was narrowed down to researching one specific individual. That made the sampling purposive in nature, since the individual chosen to be investigated – Dr. James Gordon Zink, D.O., F.A.A.O. – was already known in the osteopathic world as the authoritative teacher of the RCM. This meant that there were no other individuals that needed to be researched for the purposes of this present research project. Dr. Zink's teaching material had already been verifiably collected, and a copy of the same was purchased for this present research project, which provided the data needed to fully understand Dr. Zink's contribution to this model of osteopathy. After carefully reviewing his teachings, this present report came to the conclusions seen herein, which are hoped to become a motivational factor for other osteopathic therapists and instructors to use in their own practices and ongoing research.

1.6.1. Literature Review of Topic

While Dr. Zink has often been cited as the leading authority on the RCM method, this investigator did not find many studies evaluating Dr. Zink's actual approach to the RCM. Any literature of topic – that is, literature that discuss osteopathic manipulative treatment procedures – that this present investigator found or reviewed merely acknowledged that the RCM was Dr. Zink's preferred model of osteopathic treatment. But the fact remains that even by Dr. Zink's own claims about himself, he was a self-proclaimed "fluids freak" (Zink & Goldman, 2008), a phrase which he repeated proudly in many of the recordings of his osteopathic teaching lectures.

In doing online Google searches regarding the topic of RCM, this present investigator was able to narrow down to the search to obtain the works specific to Dr. J. Gordon Zink, by using several Boolean search parameters (i.e., using different combinations of keywords separated by AND, OR, or NOT). The search for "respiratory circulatory model" produced 195,000,000 hits; whereas the words "Dr Zink" produced 37,200,000 results (as seen in Appendix 3: Comparing Google Search Results). Narrowing the Boolean search further, the results for "J Gordon Zink RCM" resulted in merely 82,400 mentions; and then, by adding the sequence of parameters: "J. Gordon Zink" AND "RCM" OR "Respiratory circulatory model" AND "Osteopathy", the result was only 25 articles (see Appendix 4: Narrowed Boolean Search Results). This process was repeated in various other combinations, by adding or removing

several different significant terms, until recognizable repetition and identifiable duplication in the results were noted. Since the "Collected Works of J. Gordon Zink, D.O., FAAO" appeared in every single search using Dr. Zink's full name (when coupled with a search for "osteopathy" or "RCM"), a copy of that library collection was subsequently purchased (see Appendix 5: American Academy of Osteopathy Book Order).

Interestingly, the website www.aumdoc.com appeared in many of the searches that contained most of the relevant keywords. When the email address associated with that site was contacted, it resulted in an ongoing telephone and email communication between this present investigator and the site owner: Dr. Rick Clofine, D.O. This osteopathic physician had been mentored by Dr. Gordon Zink (as explained further in Section 1.6.2, below) throughout the last three years of Dr. Zink's life.

After receiving permission from the American Academy of Osteopathy to use the purchased collection of Dr. Zink's teaching material (which was a comprehensive compilation of published and unpublished writings, plus recorded lectures given by Dr. Zink), and then also receiving material from when Dr. Clofine was a student of Dr. Zink's, it was felt that adequate relevant literature had been found to fully answer the research question concerning Dr. Zink's perspective and teaching on the RCM.

1.6.2. Literature Review for Topic

In order to arrive at comprehensive conclusions as to Dr. Zink's teaching, duplicatable for any future researcher, narrative-related data was also researched on generic online sites which included public records concerning Dr. J. Gordon Zink., using search engines like Google Scholar and PubMed (from the National Institute of Health). Fortunately, Dr. Steven I. Goldman, D.O., F.A.A.O. of Novi, Michigan had already collected all known literature written by Dr. Zink, both previously published material and some unpublished writings that were included at the American Academy of Osteopathy library, under the name: "Collected Works of J. Gordon Zink, DO, FAAO" (Zink & Goldman, 2008). This collection even contained audio and video recordings of lectures given by Dr. Zink at the Des Moines University's College of Osteopathic Medicine and Surgery, which were also reviewed for this research project.

This present research was particularly enhanced through contact with two osteopathic physicians who knew and understood Dr. Zink: Dr. Richard Clofine, D.O., presently of Atlanta, Georgia; and some brief written contacts with Dr. Ross Pope, D.O, presently in Oklahoma City, Oklahoma. No personal replies were received from any other osteopathic therapists, although also cited in this present report, when attempts were made to contact them. But this present investigation found enough saturation in the data collected to extrapolate the reality of the expertise of Dr. Zink, both as an osteopathic physician and as a teacher/mentor – which underscored that his perspective on how to use the RCM was valid, when his approach to the philosophy and science of osteopathy was followed correctly.

This research included searching for any documentation by other osteopathic therapists or researchers who might have sought to refute or at least differ in their application this RCM model of osteopathy – as well as searching for authors or therapists who affirmed or had even taught Dr. Zink's approach. But other than possible material currently being taught by Dr. Boyd

R. Buser, D.O., and a presentation by Dr. Ross Pope, D.O. (which this present investigator was not able to verify as accurately reflective of what Dr. Zink taught), no literature was found to be available that specifically taught Dr. Zink's approach to the RCM.

All available known literature concerning Dr. Zink's approach to the RCM was reviewed, leading this present investigator to acknowledge that there continues to be a need for more detailed, critical review of Dr. Zink's perspective and correct osteopathic manipulative treatment, using the RCM. Such research could include investigating what other authorities on the topics of respirogenic circulation treatments are teaching – such as Boyd Bruser, D.O., Rick Clofine, D.O., Ross Pope, D.O., as well as other historical authorities such as Andrew Taylor Still, M.D., D.O., Viola Frymann, D.O., and Fred Mitchell Jr., D.O., to name a few. Their teaching would need to be evaluated and compared as to their compatibility with the teachings of Dr. Zink. While not a part of the express purpose of this present paper, the above-mentioned authors (and others), are briefly discussed or referenced throughout this report. This present investigation was therefore completed using the data available, as described above, consisting mostly of published and collected unpublished writings of Dr. Zink. Even more productive was the fact that this data included the careful review of video and audio recordings of Dr. Zink's lectures, as he was teaching osteopathy and specifically the RCM.

1.7. ASSUMPTIONS AND BIASES

This present investigator, even while still a student of osteopathy, was intrigued by the merits of more fully studying the Respiratory-Circulatory Model (RCM) of osteopathy. This topic was initially inspired by a class on the importance of the three primary diaphragms and their inter-relationships, taught by Dr. Jane Eliza Stark, D.O.M.P., MS, D.Sc.O., the director of research at the Canadian College of Osteopathy (CCO) in Toronto, Ontario, Canada. Then a second motivation, still at the CCO, was a class taught by the late Dr. Robert Rousse, D.O. (originally from France, but now a professor in Montréal, Quebec). His class was called "Functional Emergency Techniques" – which emphasized the pumping pressures that the body uses to maintain a free fluidic flow to correct restrictions and maintain whole-body health. These two classes sparked the desire to further investigate this RCM approach to osteopathy and to undertake this present qualitative research of Dr. J. Gordon Zink's philosophy and approach to the RCM through the National University of Medical Sciences (NUMSS).

This research project was undertaken after being convinced that a better understanding of the philosophy that Dr. Zink brought to this osteopathic manipulative treatment (OMT) was needed. His approach ensured the free flow of essential body fluids to the soma, or whole-body unit, and needed to precede attempting to deal with a specific felt need(s) in an osteopathic patient. This predisposition to believe the validity of Dr. Zink's perspective may well have affected how this investigator interpreted the literature and recordings of Dr. Zink's lectures, and therefore may also have affected the conclusions arrived at in this present report. On the other hand, over the course of this present investigation, the believable rationale given by Dr. Zink included his constant reminder that a therapist should never practice a model, method, or technique without first understanding why such a procedure could produce the desired result.

So, this potential bias, of approaching this investigation as one who expected to believe Dr. Zink, was coupled with a shared conviction, which Dr. Zink also taught, that more research

was still needed to follow up on his philosophy and methods. It is acknowledged that there will always be the need to revise or expand on specific applications and techniques that Dr. Zink taught. The research conducted on this topic illustrated how an unfounded assumption can too easily lead to a wrong understanding. For instance, although this present investigator had expected to find that Dr. Zink emphasized mainly lymphatics in his approach to the RCM, it became clear that, although Dr. Zink certainly taught about lymphatics, that was only one aspect of his approach. Dr. Zink used the treatment of lymphatics as a part of assessing all fluidic needs of the whole body, in his overall assessment of the patient's needs. This present research report clarifies how that previous assumption was incorrect on the part of this investigator, by making Dr. Zink's actual distinctives clear for the reader.

1.8. LIMITATIONS

The obvious main limitation in researching Dr. J. Gordon Zink was the fact that he passed away in 1982. Therefore, any research about Zink can no longer include any personal interaction with him for this present investigation. But reviewing Dr. Zink's lectures off of the video and audio files recorded and collected at the American Academy of Osteopathy library did allow this present investigator to see and hear Dr. Zink in his own words – while he was in the act of teaching the RCM to osteopathic students in a university setting, even during multiple lectures and conferences.

Additionally, Dr. Rick Clofine, D.O., an osteopathic physician who studied under Dr. Zink and then was mentored by him, was very helpful with additional personal information from his interaction with Dr. Zink. Dr. Clofine was able to supply this present investigator with multiple original documents, coursework material, as well as some personal correspondence between the two of them. These additional resources became a vital part of the research and review done for this present research paper.

There are many authors who cited Dr. Zink's work, but no publications or articles were found that were negatively critical of his specific approach to the RCM. This present research project limited itself to the known exhaustive collection of data written or spoken by Dr. Zink mentioned above, plus other literature that merely mentioned his expertise and particularities without expanding on his teaching. This large volume of data was felt sufficient to fulfill the scope of this research, since the goal was specifically defined and limited to fully understanding Dr. Zink's philosophy on how to correctly apply the respiratory-circulatory model (RCM), with its accompanying methods and techniques, for osteopathic manipulative treatments (OMT). Ongoing research by others will of course always be beneficial, as well. One area for future investigation, for instance, would be to search for documented case studies and/or any other theses that either support or critique Dr. Zink's approach to the RCM.

Although current osteopathic curriculums seem to offer only limited insight into the general concept of the Respiratory-Circulatory Model (RCM), this present research project was prompted by the exposure to Dr. Zink's RCM method that was given during classes attended at the Canadian College of Osteopathy (CCO) in Toronto and then again through correspondence with Dr. Shawn Pourgol, MBA, DC, DO, DN, PhD, at the National University of Medical Sciences (NUMSS) in Spain.

1.9. SUMMARY

Dr. J. Gordon Zink, D.O. was often mentioned in osteopathic literature as the authority on the Respiratory-Circulatory Model (RCM). His premature death because of ALS left a great void in the scope of teaching on the value of correctly applying the RCM for any osteopathic manipulative treatment or therapy. Dr. Zink was an osteopathic manual therapist and D.O. physician for over 40 years. In his last days, even after losing his ability to speak, he refused to stop teaching. In fact, much of what this present investigator found – both in published and unpublished works – was produced in the last four years of his life. During the last two years of his life, Dr. Zink could no longer even speak, because of his ALS. Shortly before his death, he had a colleague help him write an article entitled, "Method" (Zink, 1982), in which he summarized much of his work and findings over his 40 years as a Doctor of Osteopathy (D.O.). That article is the last known official paper by Dr. Zink, and in it, he expressed the following summary of his life's work as an osteopath:

> It is the purpose of this paper to share with you some of the observations that I have made over the years, describe palpatory diagnosis; and finally, to present the principles to be applied in treating the body osteopathically using respiration hydrodynamics, to achieve high level wellness (Zink, 1982, p. 1).

This present report shows that a comprehensive understanding of Dr. Zink's perspectives and application of the Respiratory-Circulatory Model (RCM) can only enhance such a well-thought-out approach to the philosophy, science, and art of osteopathy. Although this present report is not an exhaustive study on all topics that Dr. Zink taught about osteopathy in general – nor does it attempt to explain any differing points of view concerning the RCM by others – it does seek to give the reader clear insight into Dr. Zink's approach to the RCM, and how it can and should contribute to successfully practicing this model of osteopathic manipulative therapy.

2. CHAPTER TWO: METHODOLOGY

2. CHAPTER TWO: METHODOLOGY

2.1. OVERVIEW

This qualitative (QL) research paper reports on a thorough investigation of the teachings, writings, and practice of Dr. J. Gordon Zink, D.O., F.A.A.O, specifically through the Respiratory-Circulatory Model (RCM). To be able to fully explain his teaching, a combination of narrative and historical design was used, after incorporating an immersion and crystallization approach. This design is explained below, where other research terminology critical to this QL research is defined. This present investigation started with "an openness to uncertainty" (Crabtree & Miller, 2000), by collecting all data possible, including published and non-published works, that had been validated as authored by Dr. Zink. The data was analyzed using the "horizontal pass" method (and detailed in Section 2.7). The data was reviewed to the point of saturation, using the triangulation method of comparing facts found in the written literature to his actual recorded teaching sessions, compared also to information obtained by correspondence from an osteopathic practitioner that Dr. Zink taught and mentored. The printed material data was validated by watching actual video recordings of Dr. Zink lecturing, to ensure that there was plausible and valid transferability of conclusions made in this report for any reader from the osteopathic community. Authentic conclusions were drawn from the data collected, by following prescribed QL research methods, like those taught by Dr. Flick (2019), Crabtree and Miller (2000), and others. It was concluded that, even though it was his preferred method of treatment, Dr. Zink had scientific reasons to insist on the validity of his approach to the RCM. The research design and methodology used in this present report will be more easily described and understood by the following qualitative research terminology, as defined below.

2.2. TERMINOLOGY

In describing the methods used in the present investigation, this present research paper uses terminology that conforms to the standard usage and definitions given for qualitative (QL) research, according to authorities such as Dr. Uwe Flick, Ph.D. in his book entitled, "An Introduction to Qualitative Research" (2019), and by the editors of Volume 3 "Doing Qualitative Research": B.F. Crabtree and W.L. Miller, W. L. (2000). This present report used methods that could be defined using some of the following terms, briefly described below.

2.2.1. Primary, Secondary, and Tertiary References

To confidently authenticate a fact, and to separate it from a probability or a possibility, QL research uses the criteria – as described by Dr. Flick (2019) – of whether the source was a primary reference (cited from the one who originally stated or documented the data), a secondary reference (cited from someone who had learned of the original data source) or a tertiary reference (described by a third party, not always as a citation).

An abundance of primary reference material was found to authenticate the facts presented herein. QL research protocol was strictly followed, and any definitions obtained from reliable websites that have been used herein are carefully cited. The primary references used for this present research paper are within the accepted classification of journal and periodical articles, conference presentations and research reports, government documents, dissertations and class

lectures presented by Dr. Zink. In fact, the material chosen for review by this present investigator was almost exclusively (unless cited otherwise) primary source material, the majority being by, or co-authored by, Dr. Zink himself. Even the unpublished works of Dr. Zink that were used were authenticated by the American Academy of Osteopathy library, that retained the collection under the name: "Collected Works of J. Gordon Zink, DO, FAAO" (Zink & Goldman, 2008).

2.2.2. Auditability

Future readers, researchers or investigators will be able to audit or even duplicate this present investigation by watching and listening to the video and audio files found in the "Collected Works of J. Gordon Zink, DO, FAAO" (Zink & Goldman, 2008), and maintained at the library at the American Academy of Osteopathy. Much of the other unpublished works of Dr. Zink (listed in Appendix 6A & B: Published & Unpublished Articles by Zink) were obtained from Dr. Rick Clofine, D.O., in Atlanta, Georgia.

2.2.3. Immersion and Crystallization

In order to produce a "well-articulated and substantiated" QL research report (Crabtree & Miller (2000), extensive immersion was used, interspersed over time, which allowed for reflection (or "crystallization") in between. This enabled the identification of patterns and themes necessary for the correct interpretation of the data under consideration. The research was undertaken while this present investigator maintained a full-time job as an osteopathic manual therapist, allowing for reflection and assimilation of the philosophy and principles being studied. Data thus discovered was systematically annotated in field notes and Excel spreadsheets for analysis, coding, and ultimately writing this report (see Appendix 7: Coding;).

2.2.4. Coding of Data

The coding of the data was done by first assigning different colours to different themes, as they were entered onto an Excel spreadsheet. These themes were then placed within the topics being investigated for each of the three chosen research questions. In Appendix 7: Coding, the topics were originally classified as to three potential research questions, but later was used to identify five key emphases that Dr. Zink taught.

As these themes were consistently repeated in his teaching, the coding highlighted the importance of his key distinctives to the RCM treatments, with their countable repetitions (see Appendix 8: Key Words Counted). This led to the conclusion that the teaching and literature by Dr. Zink contained identifiable nuances unique to his RCM philosophy.

2.2.5. Reliability (external and internal)

Using external and internal reliability checks normally used for a quantitative research (although this is a qualitative research paper), this present investigator did evaluate whether the data collected was adequately or inadequately comprehensive (Flick, 2019) in quantity to furnish qualitative conclusions. This present investigator elicited the help of an external editor (i.e., one not trained in osteopathy) to help ensure that a third-party reader would be able to adequately understand the methods used and described herein, along with the reasoning expressed in the summaries of this present report.

2.2.6. Saturation

Redundancy in research has been defined as: "Sampling to the point of saturation yields a more convincing explanation of events, … [including when the research ends up finding] … a homogenous sample of …disconfirming evidence." (Crabtree & Miller, 2000). This present investigator used his own field notes (with the help of the Otter.ai software) to count the occurrences of significant vocabulary (seen in Appendix 8: Key Words Counted) to determine key themes taught by Dr. Zink. This included themes found in the transcription of his teaching session recordings (see Appendix 9: Otter.ai Transcribing Software), which led to the contrasts and conclusions expressed herein.

2.2.7. Snowball methodology

This terminology refers to finding sources of information for QL research that "snowball" from one person knowledgeable on the topic to another, often leading to broadening the understanding and inclusion of relevant information (Flick, 2019). For this present investigation, it was found that material shared by Dr. Rick Clofine, D.O. (see Appendix 10: Consent to Obtain Data) affirmed the veracity of the same or similar material obtained through the "Collected Works of J. Gordon Zink, DO, FAAO" (Zink & Goldman, 2008) from the library of the American Academy of Osteopathy. Because of restrictions imposed by COVID during the year 2020, this present investigator was not able to travel or contact other sources (like professors known to Dr. Clofine or Dr. Pope). Therefore, there remains the potential for further research for additional scholars who understood and valued the philosophy of Dr. Zink when applying the RCM, using the Common Compensatory Pattern (CCP) that he taught.

2.2.8. Subjectivity Management

Although a QL research is by definition subjective, in that it is the result of personal evaluation by the researcher (Flick, 2019), the results need to be duplicatable by other researchers of the same topic. So, although this present investigator started his research expecting to share the perspectives of Dr. Zink, he also shares the insistence that even his own approach to the RCM needed to be constantly studied and expanded upon (see Chapter 4, section 4.2.3).

2.2.9. Transparency

Transparency (Flick, 2019) for this present research paper was accomplished through documenting the methodology used for discovering each distinction taught by Dr. Zink, and by including appendices on relevant sources – for example: the field notes showing how his key themes were identified are seen in Appendix 7: Coding.

2.2.10. Triangulation

Triangulation is defined as "the use of both multiple data sources and multiple methods" (Crabtree & Miller, 2000, p. 82). The concept of triangulation for this project was retained by comparing three types of sources: facts about the RCM found in published works by Dr. Zink compared to those observed in video recordings of live teaching sessions by Dr. Zink, which were then verified by a actual student of Dr. Zink's: Dr. Rick Clofine, D.O.

2.2.11. Validation and Validity (internal and external)

Validation broadens the research procedure by being transparent in how data was obtained and verified, so that the conclusions and summaries can be seen as being trustworthy (Flick, 2019). This present report on its validation methods in sections 2.5, 2.6, and 2.7, below. Validity is shown by being open to confounding probabilities (internal validity), and acknowledging other possibilities (external validity) for interpreting the data being researched.

There are three types of errors to be avoided int order to validate one's research (according to the book by Kirk and Miller (1986), cited by Dr. Flick (2019). Type 1 errors occur when not asking: 'Does it claim to see "relationships" [between facts] where there are none; or does it identify relationships inaccurately?' Type 2 errors can be avoided by asking: 'Does it reject [valid facts] when they are indeed correct?' And finally, a Type 3 error occurs if: the researcher is asking the wrong questions. This present investigator sought to avoid these errors, by following the road map of procedures described below.

2.3. RESEARCH DESIGN

This qualitative (QL) research used primarily the narrative design, as defined by Flick (2019), since it was based on the works of one osteopathic authority: Dr. J. Gordon Zink, D.O., F.A.A.O. On the other hand, it incorporated certain case study features, in that this present investigator obtained video recordings of Dr. Zink's lectures on osteopathy – as described in Chapter 3.

This research project found that Dr. Zink's perspectives were displayed repeatedly in his teaching and emphasis on the RCM model. His approach to the RCM became apparent in how he taught and practiced osteopathy, as well as in his methods of mentoring fellow OMT therapists. These key perspectives became apparent in this present investigator's field notes, as they were then analyzed in the coding spreadsheet, using the research design pattern found in Crabtree and Miller (2000). Analysis of Dr. Zink's legacy was done after saturation regarding his teaching was determined, so that the key perspectives taught and promoted by Dr. Zink could then be detailed and summarized for this report.

2.4. RESEARCH QUESTION

The methodology described in the Terminology above led to the answers to the question: "What was Dr. Zink's specific teaching about the Respiratory-Circulatory Model (RCM)?". Dr. Zink taught how and when to apply this Model, when seeking to optimize the osteopathic manipulative treatment (OMT) procedures for patient care. He recommended that the RCM be coupled with what Dr. Zink called the Common Compensatory Pattern (CCP).

This research question was answered largely through the process of carefully transcribing Dr. Zink's recorded osteopathic teaching sessions at the Des Moines University, Iowa. There were over 24 hours of video lectures and 29 hours of audio lectures (listed in Appendix 11: Lectures by Zink) that had he had taught there at their College of Osteopathic Medicine and Surgery. Comprehensive coding confirmed the consistency of how he taught his approach to using the RCM, and how he predictably always started any treatment by using his assessment tool, the CCP.

His writings (listed in Appendix 6: Published & Unpublished Articles by Zink) were also reviewed to saturation. Specific effort was put into the review and transcription of his lectures. Even though a software program helped in the transcription of the video and audio recordings of his lectures (see Appendix 12: DVD Ripper), each transcription had to be verified as to correct spelling and contextual wording, to be sure that Dr. Zink's intended meaning was accurately transcribed, by watching and listening to the lectures while following along with the transcribed version (as illustrated in Section 2.5: Sampling, below).

2.5. SAMPLING

Although Flick (2019) lists 12 types of sampling strategies for QL research, this present research was restricted on the teachings of one man, and largely collected from the collection maintained at the American Academy of Osteopathy library (as mentioned in Section 2.2.1 above), so the methodology used for this report might well be called a "complete collection" sampling.

The search for an author who knew or wrote about Dr. Zink and his teaching revealed one such living OMT practitioner: Dr. Rick Clofine, D.O. Correspondence with Dr. Clofine resulted in a prompt, immediately affirmative response, and was followed up with multiple ongoing correspondence throughout the course of completing this present investigation – including his agreement to review of the research proposal for this project. The initial contacts with Dr. Clofine can be seen in the emails copied into Appendix 10: Consent to Obtain Data. Dr. Clofine graciously shared original student material from when he studied under Dr. Zink – and even some personal correspondence and pictures he had collected of his professor who also became his mentor – for this research. Appendix 13: Data Shared shows a picture of Dr. Clofine's study binder, with an envelope addressed to him from Dr. Zink, as well as a note to this present investigator, written on a copy of a page of Dr. Zink's copyrighted material. Other material obtained from Dr. Clofine included an Alumni Newsletter from the University of Osteopathic Medicine and Health Sciences, Iowa, which contained tributes to Dr. Zink, obituary notes about him, and articles by him which were not a part of the official "Collected Works of J. Gordon Zink, DO, FAAO" gathered by Azneer and Clofine (1982).

After both telephone and email correspondence with the appropriate authority at the research department of the American Academy of Osteopathy, a copy of the "Collected Works of J. Gordon Zink, DO, FAAO" was purchased (see Appendix 5: American Academy of Osteopathy Book Order).

The bulk of this present investigation was found in this published and unpublished 350-page collection. Each article was read through, looking for consistency of themes that had been previously noted in the audio and video lectures (as described in Section 2.7.2 below), or for any contradictions or differing concepts that Dr. Zink may have arrived at in the later years of his life, after he was unable to verbally teach anymore (as explained in Chapter 1, section 1.9).

Even after a thorough search of medical, scientific, and scholarly search sites (as explained in more detail in Section 2.6, below), no other relevant samples, by authors who either critiqued Dr. Zink's approach to the RCM, or promoted his approach and teachings, were found. Most references to Dr. Zink found in online searches (listed in Appendix 4: Narrowed Boolean

Search Results) merely mentioned the "Collected Works…" as their source of information – therefore not adding to the samples already personally obtained and reviewed. Therefore, it was determined that the data collected was an adequately complete sampling of the teachings of Dr. Zink on the RCM.

2.6. DATA COLLECTION

The scope of this research was not a review of all known literature on the Respiratory-Circulatory Model (RCM) of osteopathic care. But rather, it dealt specifically with data showing how Dr. Zink taught his approach to the RCM. The main body of data collected came from the library of the American Academy of Osteopathy in Indianapolis, Indiana, at the Des Moines University in Iowa where Dr. Zink had been a professor – where the original "Collected Works of J. Gordon Zink, DO, FAAO" were kept (Azneer & Clofine, 1982). A copy of the written permission to use the purchased copy of the "Collected Works of J. Gordon Zink, DO, FAAO", granted by the American Academy of Osteopathy can also be seen in Appendix 14: Permission for Copyrighted Material.

Valuable data was also collected for this research project from material donated by Dr. Rick Clofine, D.O., who resides in Atlanta, Georgia (see Appendix 13: Data Shared)., He even included hand-written notes from when he had attended Dr. Zink's classroom instruction and copies of first-hand correspondence that he had had with Dr. Zink. Additional data was also collected through searches at the official website of the NCBI/NLM/National Institute of Health, called PubMed, as well as from the libraries of the Wilfrid Laurier University and University of Waterloo, Ontario, Canada. Approvals for using the information collected for this research report were duly obtained, and the resulting data was then reviewed and included in this paper according to protocol established by the Ethics Board of the Canadian College of Naturopathic Medicine (CCNM) in Toronto, Ontario, Canada (see Appendix 15: Ethics Course Certificate and Appendix 16: Ethics Approval).

Therefore, the majority of information found in this report was obtained either from the primary sources contained in the "Collected Works of J. Gordon Zink, DO, FAAO" from the American Academy of Osteopathy, from a reliable secondary source as supplied by Dr. Rick Clofine, D.O., or from citations within reliable tertiary sources in the public domain.

2.7. ANALYSIS BY HORIZONAL PASSES

The data analysis was done according to the prerequisites explained by Crabtree and Miller (2000), which included the justification for a QL researcher to "typically focus in depth on relatively small samples, even single cases (n = 1), selected purposefully." This present investigation fell into such a category, in that one specific osteopathic physician was chosen to be investigated, who was not only an osteopathic manipulative (OMT) therapist, but also an osteopathic physician and a professor of osteopathy. Dr. J. Gordon Zink was evaluated in this report as to the validity of his teaching on the RCM for inclusion in more comprehensive future osteopathic curriculums.

The analysis process used for this investigation started by collecting all the known works by Dr. Zink – including published and unpublished literature by him, as well as actual video and

audio recordings of Dr. Zink's lectures on the topic of the RCM. These were then reviewed until saturation was achieved, using the Horizontal Pass Method as outlined by Crabtree and Miller (2000). This method determined that no conflicting opinions were observed, nor any discrepancies which would challenge, disagreement or contradict the philosophies expressed by Dr. Zink's teaching, other than those described in this report.

The method called Horizontal Passes was used to review the data obtained (and was especially useful for the video and audio recordings). This present investigator first watched the video lectures, or listening to audio recordings, in three passes each, over a period of six months. The initial pass was mostly to gain an overview of what Dr. Zink thought and taught, making brief personal field notes so as to be able to remember important themes expressed, and then entering them into an Excel spreadsheet for coding. After this initial pass, was also followed by having the DVD versions of the video and audio lectures converted to a digital mp4 format, using the DVDFab 11 software (see Appendix 12: DVD Ripper). These digitalized videos and audio lectures were then uploaded into the Otter.ai software for initial transcription of the texts (see Appendix 9: Otter.ai Transcribing Software).

The second "horizontal pass" of these newly digitalized lectures was then undertaken. The specific goal of this second pass was to follow along and compare the text of the original recordings with the digitally-printed version created by the software transcriptions. This pass also enabled the investigator to verify (and sometimes even to correct vocabulary not accurately transcribed by the software) so that the relevant statements by Dr. Zink could be entered into Excel spreadsheets. When teaching points were repeated enough, it affirmed that a key concept was being taught and would therefore be identified as such in this present report. Any statements by Dr. Zink that was annotated was also time-stamped in the Excel field notes, to identify it in the recording file for potential quoting, so that it could be more easily found and reviewed on succeeding passes (including by any future researchers who may want to verify the accurate representation of any citation). The Otter.ai software was able to find the most frequently used words in the digital transcripts, which were exported onto charts like the sample seen in Appendix 8: Key Words Counted. This count was part of identifying the five key themes taught by Dr. Zink.

The third pass, reviewing relevant data, enabled any additional themes or quotations to be entered into the field notes compilation, giving enhanced details to the reoccurring themes already annotated during the first two passes. It was during this third pass that the colour coding for each theme and topic was added, so that they could be organized into the tabs selected for each theme (see Appendix 7: Coding).

During the fourth horizontal pass of the relevant collected data, the themes annotated in the first three passes was extrapolated and written up as a first rough draft for this present research paper. These compiled items were also compared to material written and published by Dr. Zink. This present investigator had previously highlighted vocabulary and themes in his copies of these published materials, inserted sticky notes, and made quick field note scribblings, all of which were now used and compared to the recorded and transcribed lectures. The themes in the written material were all found to be consistent (and certainly not contradictory) to the themes and topics annotated in reviewing the audio and video lectures. The highlighted portions

from the written works were then also sorted and entered into the Excel spreadsheet, under the relevant themes.

The fifth horizontal pass entailed looking specifically for each theme. The color coding in these spreadsheet field notes showed the consistent crossover and blending of themes and nuances, so that the conclusions and summaries presented herein could be trusted as faithfully representing what Dr. Zink taught and expressed in this research report.

2.8. SUMMARY

This five-pass analysis included using the Immersion and Crystallization method, in that several months were dedicated to reviewing the data – including the aforementioned triangulation method – to compare any potential conclusions with data collected from the various sources. This led to conclusive key themes used in Dr. Zink's teaching of his RCM philosophy. This resulting analysis was compiled in this research report, with its observations, findings, and summaries leading to the final conclusions in Chapter 5.

This present investigative report reflects the emphasis, style, and methodology of a narrative-designed qualitative research. Research methodology had been followed, as described above, and saturation had been obtained. The raw material and data had been reviewed through the multiple horizontal passes. A purposive, substantive criterion had been utilized, allowing this present investigator to arrive at significant conclusions concerning each key distinction to the philosophy and teaching of Dr. Zink. These methods, findings and conclusions are further detailed and summarized in the following chapters of this report.

3. CHAPTER THREE: WHAT ZINK TAUGHT ABOUT THE RCM

3. CHAPTER THREE: WHAT ZINK TAUGHT ABOUT THE RCM

This chapter reports on the investigation of the research question: "What was Dr. Zink's specific teaching about the Respiratory-Circulatory Model (RCM)?" It describes Dr. Zink's philosophy and approach to using the RCM, since his nuances to its application are key to his teaching of the science of osteopathic manual manipulative therapy. The RCM is an osteopathic model that approaches healthcare at the vascular delivery level (to enable unrestricted blood flow), and it deals with a body's immune support at a cellular level (to enable unrestricted lymphatic flow). Dr. Zink consistently used the Common Compensatory Pattern (CCP) as a baseline for determining the appropriate osteopathic treatment. He always started by ensuring the integration of the flow of the body's many essential fluids (particularly in the arterial and venous circulation, the lymphatic drainage, the cerebral spinal fluid (CSF) flow, and the free interstitial fluids in the fasciae (Zink, 1977b, 1978e, 1981b, 1981d, 1982; Zink & Contributor, 1982). He felt that a patient's internal and external respiration are both needed to pump the respective fluids throughout the body. Dr. Zink defended his approach to osteopathic treatment as being the result of his focus on the importance of the RCM philosophy. His distinctive approach included five unique aspects, which will be discussed herein: lymphatics, the CCP, Eupnea, the supine position, and history-taking.

3.1. OVERVIEW

Dr. Zink practiced assessing the Respiratory-Circulatory Model (RCM) systems of the body by using the Common Compensatory Pattern (CCP) – which he developed and then taught (Azneer & Clofine, 1982; Pope, 2003; Zink & Contributor, 1982; Zink & Goldman, 2008). This became foundational to his approach to using the RCM in his assessment for any osteopathic manual manipulative treatment. It should be noted that this present investigator did not attempt to prove or disprove the scientific accuracy of Dr. Zink's approach. However, after reviewing his published and unpublished writings, plus the actual recordings of his video and audio lectures, the validity of his focus and philosophy became evident. Dr. Zink systematically emphasized the lymphatics, and the arterial and venous flow at a cellular level, which he considered to be essential parts of a correct understanding of the use of the RCM approach. Dr. Zink's emphasis was affirmed as a valid approach by Dr. Fred Mitchell Jr., D.O., in his paper, "The Respiratory-Circulatory Model: Concepts and Applications" (Mitchell, 1984).

3.2. DR. ZINK'S APPROACH TO THE RCM

While Dr. Zink's conceptual model of the Respiratory-Circulatory Model (RCM), was not accepted by the World Health Organization until 2010, the emphasis that he gave it, within the context of how he used it, certainly added an essential nuance to its application even in the late 1970s and early 1980s (Zink, 1977f). An aspect of his approach to the RCM that is unique is what he developed and called the Common Compensatory Pattern (CCP), a tool to better assess where to apply a needed osteopathic technique, within the RCM protocol. Both in his evaluations and treatments, Dr. Zink utilized the RCM to reach the overall, whole-body "common" patterns of "asymmetry" of each patient (as explained in Section 3.2.2 below), no matter what the patient stated as his felt needs or complaints.

The CCP assessment is not meant to be the solution or sole method of determining or choosing the appropriate treatment by itself. Throughout his published teaching materials, Dr. Zink stressed the need to first improve a patient's ability to receive healthy, nutritious, and oxygen-filled blood, by ensuring the flow of adequate venous circulation and lymphatic return. This would enable an improved immune function, which is needed before a therapist should attempt to pursue any other specific treatments are given to counter the presenting symptoms in a patient. Dr. Zink emphasized that blood arriving at tissues to deliver nutrition is only as good as the health of the blood. The composition of their blood is the patients' responsibility, and its composition is based on what they eat, according to their medical needs. "The composition of blood is not what we eat, but what the kidney keeps." (Zink, 1978g).

Dr. Zink taught that the goal of an Osteopathic Manipulative Therapy (OMT), when applied within the RCM, is to increase external and internal respiration and to remove any physical barriers that inhibit the flow of a healthy nutrients [e.g.: oxygen] to the tissues, or the venous and lymphatic returns, to better support the immune system. Dr. Zink stated: "Faulty ventilation [or oxygen flow] with pulls [or restrictions] on fasciae predisposes one to a disease. Healthy ventilation, with blood flow and venous return, equals an ability for the body to have a fighting chance against disease." (Zink, 1977e). This is consistent with the common understanding in the osteopathic realm, as taught by many former and current osteopathic authorities. For instance, Dr. Still had stated, "A disturbed artery marked the beginning to an hour and a minute when disease began to sow its seeds of destruction in the human body. …The rule of the artery is absolute, universal, and must be unobstructed or disease will result." (Still, 1897, p. 218-219 as cited by Booth, 2006, pp. 52-53). Such a statement is not merely an antiquated saying, or some simple historical perspective or opinion; it is validated in multiple present-day, modern health science studies. An example of how this concept was scientifically evidenced is the 2011 study on how the impedance of blood flow leads to disease; as it appeared in the article entitled: "Effects of Disturbed Flow on Vascular Endothelium: Pathophysiological Basis and Clinical Perspectives". It states:

> Blood flow and associated shear stress, and its dysfunction in response to chemical and mechanical stimuli, can lead to vascular disease. …The flow disturbances that occurred naturally [i.e., physical or chemical stress] or associated with vascular diseases and interventions can lead to neointimal hyperplasia or thrombosis, which result in undesirable vascular consequences and clinical conditions, including …various chronic venous diseases. (Chiu & Chien, 2011)

This sentiment is repeated with almost every lecture Dr. Zink taught. He would say that when fluids are backed up, "You're fighting a war against disease." (Zink, 1978k)

3.2.1. Lymphatics and the Three Diaphragms

While Dr. Zink always took into consideration the concerns or conditions that his patients presented to him, his primary goal with any patient was unequivocally obvious: to treat for the whole-body health by freeing the flow to the tissues at a cellular level. This can be accomplished by first restoring the body's natural structures that act as hydrodynamic pumps, before treating the "function" or symptoms that the patient is complaining about. The human body is comprised of mostly fluid. While some statistics state that the body is between 60-75% fluids, all sources

acknowledge that the vast majority of the human body is either extracellular or intracellular fluidic tissue (Zhou & Chen, 2018). As fluid always moves from a high-pressure to a low-pressure environment, Dr. Zink emphasized that a therapist should never attempt to focus on just the fluids, nor just on structural concerns. Any change to a structure will influence the fluidic environment, and changes to the fluidic pressures can cause changes to the structures which, in turn, house and influence the movement of fluids. In his lecture entitled "The Role of Osteopathy in Your Practice", Dr. Zink stated, "We said … that osteopathic somatic dysfunctions or lesions are comprised of the articular component. The myofascial component was itself maybe the lesion. But then there's another one, of course, I have to mention: there's a fluid component." (Zink, 1978k). This was particularly important to Dr. Zink, because any structural change that causes a stasis or back pressure on the fluids is what is "…fighting a war against disease." (Zink, 1978k). Dr. Zink believed the RCM was a method of not only treating "dys-ease" *[sic]* of a patient (Zink, 1978j), but of treating and preventing that up-coming disease.

It is of interest to notice in the writings and wording of Dr. Zink, that he used wordplays, like the above use of the word "dys-ease", to compare it to the actual word 'disease'. Dr. Zink felt that all patient complaints were valid as "dys-ease". He would teach that a manipulative therapist should use the RCM to treat "dys-ease" in order to prevent disease, since, in most instances, at the very least, the RCM approach would enhance the treatment of that "dys-ease" or disease, no matter which it was (Zink, 1977e).

As such he would say things like: "You may then use a respiratory mechanism as a motor for you to take care of myofascial components of disease." (Zink, 1978k). Dr. Zink consistently focused his initial treatment(s) on evaluating or searching for restrictions in the four key regions of the body (Zink & Goldman, 2008):

1. The cranial base, along with the tentorium cerebelli and falx cerebri;
2. Thoracic inlet;
3. Thoracic diaphragm; and the…
4. Pelvic diaphragm.

The regions listed above, which Dr. Zink would say were listed in no specific order, are all interdependent on one another; but a special emphasis needs to be placed on the thoracic inlet region, when looking at lymphatics. He would always emphasize the need for the thoracic inlet to be optimal in its functional movements, when primarily treating lymphatics. It is apparent that Dr. Zink loved working on a patient who needed a focus on lymphatics. Jokingly, he often stated that the nicknames which people called him were accurate; stating, for instance: "Of course I'm known as the garbage man, fluid freak, and lympho-maniac." (Zink, 1979h)

Dr. Zink felt that the RCM approach was key in treating the cellular health systems of the body, and particularly so for the flow of the lymphatics for immune support. He made statements like: "The function of the lymph is concerned with metabolic processes with a slower cycle." (Zink, 1978d). He explained the hydrodynamic flow of the lymph system by saying:

> The cells, which make up our body, have an internal environment also. The fluid matrix of it must be stable and free of "pollution". Waste products of tissue

> metabolism must be constantly carried away by the veins and the lymphatics. The health and life of the cells, and therefore the whole body, depend upon it (Zink, 1973a, p. 1).

Dr. Zink has often been quoted in articles and lectures on osteopathy as repeating the cliché: "Lymph is life!". That is significant, since Dr. Zink always stressed the importance of treating the structures (in this case, structures that influence the lymphatic valveless vessels) that govern and support the function of the body's natural immune systems. He emphasized the need to find where patients might have a restriction in any of their body "fluid flows", stating repeatedly, "Restriction comes first, to predispose for … disease." (Zink, 1979c). A correct application of the RCM is to remove any restriction within the fluid systems (whether that function is to disburse nutrients or to eliminate wastes), thereby enabling "life" — meaning: the needed health for the affected structure — which then allows that specific "dys-eased" area to be repaired, and thereby prevent potential or progressive disease.

Throughout many of his video and audio teaching sessions, Dr. Zink repeatedly emphasizes: "Lymph is life." (Zink & Goldman, 2008). Yet this present investigator found it interesting to note that, contrary to any assumption that Dr. Zink's teachings regarding RCM would be based largely on lymphatics, his primary concern in determining a patient's health needs was not lymphatics. Yes, he did enjoy researching and teaching on the topic, but lymphatics was not his sole focus, nor even his primary approach to patient care. A fairer summation of Dr. Zink's primary goal with any patient was that he emphasized the body's circulatory system and its external and internal respiration as the true representatives of the all-encompassing philosophy of the RCM. He used the healthy, moving lymphatic tissue as one aspect of affirming that the body was able to do its innate objective of self-regulation toward preventing and healing any condition that might predispose to disease. He often repeated that any back-up or restriction of lymphatic fluids proved that: "You're fighting a war against disease." (Zink, 1978k). So, his coined statement of "Lymph is life" was one of his ways of stating that the body wants to work toward, and maintain, a state of good health.

In a lecture on "Osteopathic Aspects of Renal Function", Dr. Zink stated, "[To only] work in one area would cause further trouble. Lymphatics must be considered as an entirety. And we must work the lymphatic channels, nodes, and ducts, [in order] to reach some specific organ or tissue. Think of it as a unit." (Zink, 1977d). This is typical of Dr. Zink's perspectives on all different aspects of the RCM, and he repeated these key perspectives multiple times, in varying forms, regardless of the topic on which he was lecturing. Dr. Zink did not like teaching only one technique for treating a presenting symptom, but rather, he encouraged his students to think beyond assessments and techniques, toward a more whole-body perspective on human health. "Osteopathy is a philosophy and a science. And what you do at the [treatment] table is the result of the way you think." (Zink, 1978k). He would often use humor, as seen in one of his video-recorded lectures, when he wanted the students to "Think!" For instance, in one of his teaching videos, while a student was palpating the head of a volunteer on his examination table, he said:

> I want you to use 'this' *[pointing to his own head]* and get [these] principles. Then you'll figure out the way you'd like to do it, [according to] the training you've had, and the treatments you have experienced. …Osteopathy may be a science…but when it comes right down to it, it's still an art (Zink, 1979g, *1:56:25*)

In Dr. Zink's lecture on "Osteopathic Principles in Infectious Disease", he quoted an inspirational statement made in Dr. Still's book, "Philosophy of Osteopathy", which said, "This diaphragm says, 'By me you live and by me you die. I hold in my hand the powers of life and death, acquaint now thyself with me, and be at ease.'" (Andrew T. Still, 1899, p. 136; as cited by; Zink, 1977e). Dr. Zink built on this concept in everything that he taught. His view on global (whole-body) health demonstrated the great need to balance out the pressures of the body by directly influencing the diaphragms, with special emphasis on the three "primary" diaphragms: the thoracic diaphragm, the pelvic diaphragm, and the cranial tentorium with the falx cerebri. Another authority that Dr. Zink also referenced in many lectures was Dr. Viola Frymann, D.O. and her work on the "The Core-link and the Three Diaphragms" (Frymann, 1968). Thus Dr. Zink became a third authority, joining the teachings of Dr. Still and Dr. Frymann, in emphasizing the utmost significance and importance of treating of the body diaphragms.

Dr. Zink taught that the first goal is establishing the body's natural hydrodynamic in-and-out motion (or pressure gradients) was to ensure free flow via the three main diaphragms. This, in turn, meant that correct hydrodynamics would be able to continue naturally in the patients, even after they left the treatment room (Zink, 1977). This allowed for further time lapses between successive treatments needed, since a patient would continue to self-repair and even proactively defend against disease, while resting. "If the diaphragm is working continually, fluids are moved while a patient is at rest. The length of time between treatments may therefore be lengthened to give the body a chance to be prepared for the next treatment." (Zink, 1975a). This approach to the RCM treatments proved to be foundational and essential for meeting all other felt needs of the patient. It was a way of…

> …giving the body a push [toward health] ...and then the body was able to take over and do its own job. Because when we apply osteopathic manipulative therapy to an individual, we're applying a stimulus to that individual system. And they respond to the stimulus over a period of time. It's not [only] when they [first] get off the table. It's not all over [yet]. They continue to respond to this [stimulus] over a period of time. And this makes osteopathic treatments cumulative (Zink, 1982a, *2:44*).

3.2.2. Common Compensatory Pattern (CCP)

Dr. Zink was the originator of the assessment tool called the Common Compensatory Pattern (CCP). He used a proprietary questionnaire (described below) and a schematic (as seen in Figure 1 below) to trace commonly found patterns of asymmetrical fascial pulls and flow of body fluids, as they compensate for the function or dysfunction in the soma (the whole-body unit). Dr. Zink defines the "soma" as a myofascial-skeletal unit, with its nerves, that contain all the fluids of the body (Zink, 1969, 1973a, 1978k). The patterns he described in the CCP were alternating somatic (myofascial-skeletal) tensions which impact the body's external respiration, and therefore implicitly, the internal respiration and circulation of the body's fluids. Key anatomical junctions can be delineated between the regions of our body, as they seek to "compensate" for the irregularities, lesions, or restrictions of the fluidic flow hindering the desired state of Eupnea (the free respiratory pattern, as will be explained in Section 3.2.3, below). When there is a blockage in the flow of the body fluids (called a "lesion", as defined below), or if the abnormality produces a diaphragmatic motion, the patient is said to be either in an apparent compensated state of CCP (as seen in Figure 1, below), or completely

"uncompensated" and out of pattern. There is also an acceptable "adaptive" state (as we will discussed further, below) of the CCP.

TART is a classic mnemonic for a four-part assessment of symptoms (sometimes also called STAR) that can help this CCP assessment tool determine when and where a body is "out of pattern". This acronym helps a manual therapist remember to check for: Tenderness (or Sensitivity), Asymmetry, Restriction (of motion), and Tissue texture change (American Association of Colleges of Osteopathic & Educational Council on Osteopathic, 2017). The presence of any of these symptoms can signal a "lesion" – which to Dr. Zink, and commonly in the osteopathic world, refers specifically to an obstruction within any cellular tissue, or an obstruction of a structural movement in a localized point, whether in a larger region, or in the segmental, transitional flow between regions (Liem, 2016).

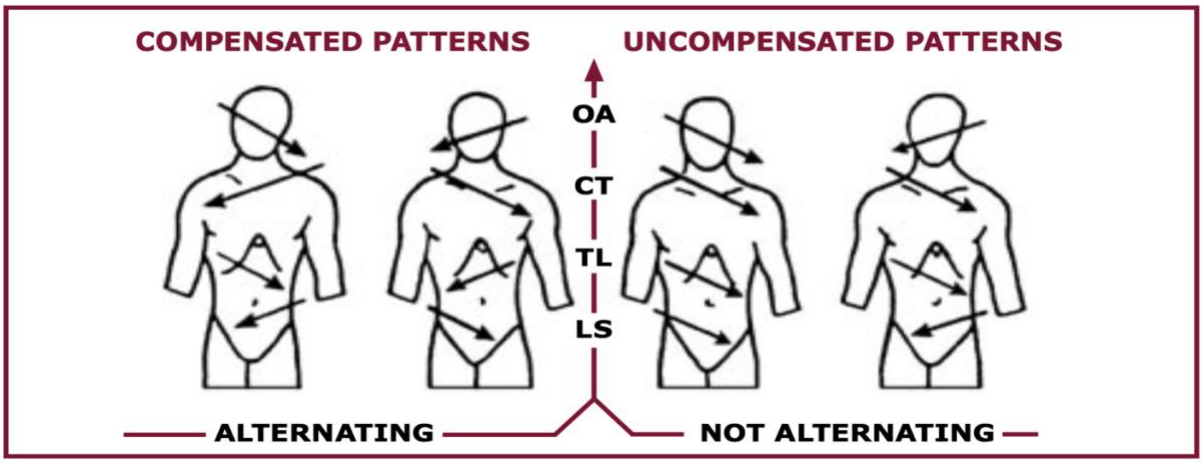


Figure 1: A CCP Illustration. From thesis: "The Common Compensatory Pattern: Its Origin and Relationship to the Postural Model" by Dr. Ross E. Pope, D.O. Used with permission.

As can be seen in the center of Figure 1, there are four key pivotal points of transition between regions, labeled as: the Osteo-axial segment (OA), the Cervico-thoracic segment (CT), the Thoraco-lumbar segment (TL) and the Lumbro-sacral segment (LS). But Dr. Zink would clarify that these labels should not be thought of as labels naming joints or as referring to a singular "segment", but rather, that they are paths of transition between regions. This understanding is crucial to how Dr. Zink used and taught his CCP assessment. The CCP assessment tool was not designed to find (or treat) a segment or a "joint", but rather to be the means of assessing how a body was adapting or compensating in one "region" because of a possible dysfunction or restriction from the alternate region of the body.

In an audio recording of his lecture entitled, "The Osteopathic Holistic Approach to Homeostasis", Dr. Zink warned about emphasizing the named location of the "segments", as presently labeled in Figure 1, by explaining the following differentiation:

> "We've talked about the various segments. It's nice to see segments. It's nice to know all about a lesion here or there or any place. But we must see it as the

> **segmental lesion** with regard to the region. We must see the **region** in regard to the **whole** body *[emphases added]*." (Zink, 1973d, *23:10*)

In Dr. Zink's personal drawing of the most "commonly" seen patterns of the CCP (see Figure 2, below), he placed an "x" on each of the three areas where the spine is linked to the "transitional" flow or movement between the segmental regions. In Dr. Zink's teaching on how to look for a possible lesion in a spinal transitional vertebra, he emphasized that any vertebral lesion was only one part of a potentially larger issue. This present investigator proposes that some of the confusion regarding this aspect of the CCP – where some authors apparently think that identifying these segments indicates a singular spinal lesion – may be due to the "x" markings which Dr. Zink drew on his personally drawn illustration, as seen in Figure 2, below. This "(mis)understanding" of Dr. Zink's perspective is discussed further in Chapter 4, section 4.2.2. Some authors have even redrawn his original drawing, and although they look similar to the original illustrations, they often do not actually reflect a true understanding of what Dr. Zink taught and meant to show in his own drawings. Figure 2 shows a version found in the 1981 yearbook from the Des Moines University (Benzoni, Adelman, Latterman, & O'Shea, 1981) that faithfully portrays Dr. Zink's original key factors.

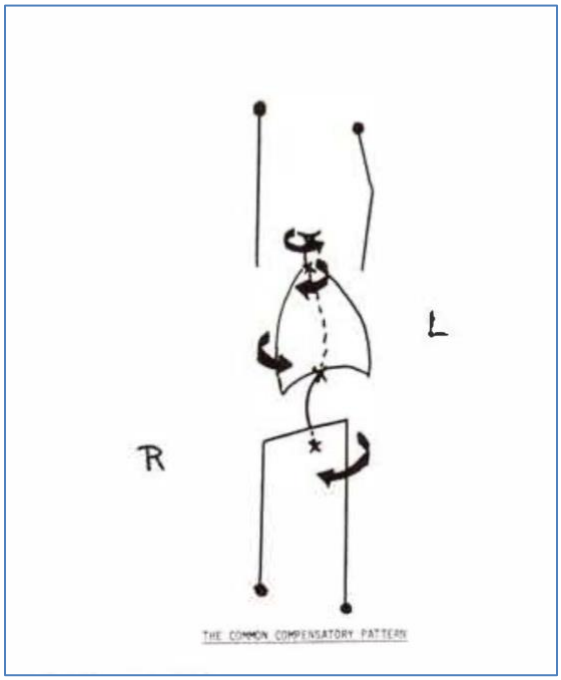


Figure 2: Dr. Zink's drawing of the Common Compensatory Pattern.
Retrieved from the "Pacemaker 1981" yearbook (Benzoni et al., 1981)

To be able to properly use the CCP assessment tool, Dr. Zink taught his students to use an assessment flow chart or questionnaire, like the sample below taken from "An Osteopathic Structural Examination and Functional Interpretation of the Soma" by Zink and Lawson (1979).

The CCP illustration becomes more relevant once a therapist has first taken an adequate patient's health history (discussed further in Section 3.2.5), along with a comprehensive questionnaire, as seen in Appendix 2: The CCP Assessment Tool. A typical CCP assessment would include evaluating all regions (Zink & Lawson, 1979), as follows:

1. Observation for free, relaxed, regular respiration;
2. External examination of the pelvic girdle portion of the thoraco-abdomino-pelvic cavity;
3. Comprehensive examination of the thoracic portion of the thoraco-abdomino-pelvic cavity;
4. Assessment of the relationship between the thoracic cage, pelvic girdle, and lumbar spine;
5. Assessment of the relationship between the pelvic girdle and lower extremities;
6. Survey of the relationship between the trunk and the upper extremities;
7. Examination of the cervical spine;
8. Investigation of the interrelationships of the components of the thoracic cage;
9. Study of the interrelationships of the components of the pelvic girdle;
10. Classic osteopathic evaluation of the components of the lower extremities;
11. Classic osteopathic evaluation of the components of the upper extremities;
12. Assessment of the inter-relationships of the components of the cranium;
13. Examination of the lymphatic system, evaluating any evidence of faulty lymphatic flow globally in the body.

However, Dr. Zink did not box himself in by insisting on any specific order in using this flowchart. He stated repeatedly that a manual manipulation therapist normally needs to treat "distally" (on the opposite, alternate side of the "affected" segmental region), away from the lesion or restriction, before actually treating the patient's symptom or "dys-ease". This distal release enables the affected region to obtain the "ease" (which he often called the "slack") which is the ultimately desired result of the treatment. Dr. Zink stated in one of his lectures on the thoracic inlet, "Sometimes it's indicated that you treat the thoracic inlet first, to prepare the low back; sometimes it's necessary to treat the low back, to prepare slack, so you can do something with the thoracic inlet without hurting [the patient]." (Zink, 1978n). He went on to say, "The more ill [the patients] are, the more out of pattern quote unquote [the regions] are." (Zink, 1978k)

Dr. Zink would always remind his students: "Restore the normal physiology and structure of the whole body, not just a certain segment." (Zink, 1978g). His detailed assessment of how the whole body, as a unit, adapts globally to any restriction(s) in the flow between segmental regions is explained in the article called: "An Osteopathic Structural Examination and Functional Interpretation of the Soma" (Zink & Lawson, 1979). That article contains his step-by-step approach (seen as Table 1 in our Appendix 2: The CCP Assessment Tool) on how to assess whether and/or where this somatic adaptation is being evidenced or hindered.

Dr. Zink taught a unique distinctive that parallels the known four stages of cellular tissue: healthy tissue, adaptive tissue, compensated tissue, and necrotic tissue. He used these four stages with his CCP assessment tool to differentiate between an adaptive pattern and a compensated pattern between regions. Dr. Zink constantly demonstrated how to determine this nuanced difference, which can be seen in many of the video recordings of his lectures, even if he did not

always articulate it as a distinction. If Dr. Zink found a compensated pattern that was "stuck" in a state of lesion, he would proceed to work on releasing it. This seemed to be in contradiction to the perceived and desired goal of the "common compensatory pattern" that he taught as part of his RCM approach. He only left a compensating pattern untreated if it was still in a free-moving state or pattern of compensation, maybe better known as being in "adaptive asymmetry". Addressing this distinction, Dr. Fred L. Mitchell, Jr., D.O., F.A.A.O., F.C.A. sat down with Dr. Zink, shortly before he passed away, to go over his RCM and CCP philosophies. Dr. Zink was able to help Dr. Mitchell in the preparation of the paper entitled, "The Respiratory-Circulatory Model: Concepts and Applications", which was ultimately published in 1984, after his death. Dr. Mitchell stated:

> An important distinction must be made between adaptation and compensation, two terms which are interchangeable in common usage. Adaptation is here defined as an appropriate, sufficient, non-persistent (i.e., spontaneously reversible) response to stress; compensation is not spontaneously reversible; hence, as the character of stress changes, compensation may be relatively inappropriate and insufficient (Mitchell, 1984, p. 31).

Dr. Zink discussed bringing a person "back into pattern", when out of the normal compensatory pattern, before treating the specific symptom or complaint from the patient (Zink, 1978j). But in many of his demonstrations and teaching lectures, he would still treat a patient who seemed to already have been in a compensated pattern (Zink & Goldman, 2008). At first, it seemed as if Dr. Zink were contradicting his own teaching. But upon following his train of thought carefully, the distinction he was teaching was that a compensation may also be the result of a lesion, locally or regionally, where the tissue tension or body fluid flow does not spontaneously correct itself with normal body motion (external or internal respiration). This present investigator suggests that this key distinction might be more readily noticed if an additional title were added to the toolbox of the Common Compensatory Pattern (CCP). The suggested title might be called the: "Common Adaptive Pattern (CAP)", which would indicate this valid variant or pattern which a CCP assessment can indicate.

Such a distinction (and title) is proposed as helpful to clarify what some therapists may find confusing, when studying Dr. Zink's teaching on the use of the CCP, as to why he would sometimes still treat a patient, although in an apparently normal compensated CCP, while at other times, he would say that the compensated CCP was exactly the desired state. The key distinction, as proposed by this present investigator, would be to determine whether the compensation was merely overcoming a restriction or lesion, or whether it was actually a healthy state of adaptation within the body. Such a "Common Adaptive Pattern" (or CAP, as this investigator would choose to call it) is the fluidic pattern that still would allow for or enable a healthy state of Eupnea (as explained below) and would not result in either "dys-ease" for the patient or any other disruption of health.

Normally, when a patient is in a state of compensation (one which is not simply an acceptable state of adaptation), it would be expected to produce pain, with either exaggerated heat or coldness (even a numb sensation) or some other symptom for the patient – which "if allowed to continue will result in frank disease" (Zink, 1979c). The reason why Dr. Zink did not give a special name to this "CAP" state-of-being is possibly because of his intentional teaching

method: trying to motivate his students to understand the "why" within each CCP assessment, and not to be tempted to merely regurgitate another name or label before deciding on an appropriate technique for treatment. Either way, whether a therapist calls it a "freely moving CCP", or "in a state of CAP" (i.e., a "common adaptive pattern"), the end-result is still the endeavour to facilitate arriving at a true, free state of Eupnea (i.e., normal external and internal respiration), which is needed for the body to reach the desired "ease".

The CCP assessment tool was based on Dr. Zink's observation of patients over many years of practicing osteopathic manipulative treatment (OMT) techniques. Dr. Zink found that if patients were in a "common" or an "adaptive" pattern, they would be able to progress toward healing at a cellular level (Zink, 1978d). Zink found that by having patients resting in a supine position (which will be discussed further in Section 3.2.4), it would allow for Eupnea and therefore provide a standard and starting point for further assessment, allowing the therapist to find patterns that were out of normal and needed treatment.

3.2.3. Eupnea, Cough and Respiration Integration

Dr. Zink insisted that proper free respiration included both external and internal respiration (which is what he always referred to when talking about "Eupnea"). Our natural immunity, including the lymphatic return, cannot function or avoid hypoxia when the cell tissues are deprived of adequate oxygen supply. This contrasts with the condition called anoxia, where there is a complete loss of oxygen to the cells. Dr. Zink would say, "Hypoxia is a beginning of dysfunction and anoxia is the only cause of death." (Zink, 1978d).

Dr. Zink noted that if a patient was in an appropriate pattern of adaptability, the body would at least be able to exert itself as a good "hydraulic pump" (Zink, 1973a). The RCM philosophy, as taught by Dr. Zink, enables a therapist to recognize patterns that deviate from the Common Compensatory Pattern (CCP), so that they can then bring that element back into Eupnea, which means: to create the desired compensatory pattern. Eupnea can be best evaluated when patients are in a supine position (i.e., laying on their back), which allows the patient's diaphragmatic expression to be seen all the way down to the pubic symphysis.

Eupnea is essential for the proper exchange of gasses between the cell bodies and the blood. "To think as a [D.O.] physician, you will think in terms of structure and function at the cell level. At the [cell or] tissue level, you'll be finding that external respiration really determines internal respiration." (Zink, 1978j). This is not possible without the proper balance of both internal and external respiration. Dr. Zink stated, "External respiration influences internal respiration; … respiration and circulation are unifiable functions, you cannot separate the two." (Zink, 1978d). Immobility of any of the tissues decreases the movement of fluids of the body, which can quickly result in cellular death, if not treated.

In two of Dr. Zink's lectures on "Internal and External Respiration", given initially between 1978 and 1979, he stated, "Oxygen is the name of the game. The object of normal health is to exhale." (Zink, 1979c). He emphasized that the key to success was not inhalation, but complete exhalation with a goal of "doming the diaphragms" (Zink, 1979c). He described an exercise that he would teach patients to do at home, in which patients should exhale all the air from their lungs, while crouching in a ball, and then they should expel the last of the air,

optionally using a cough at the end of the exhalation. Before inhaling, the patient should stand up as tall as possible, to stretch the "global" body's tissues, and then inhale rapidly. Dr. Zink stated that this exercise would maximally free any loose, unwanted substances in the lungs (through the body's natural exhalation), and allow for a re-doming of the diaphragms, which, in turn, would help integrate some of the soft tissues, fasciae and spine (Zink, 1978d, 1979c). In jest, he would sometimes tell his students, "It takes a little while for this [thoracic] diaphragm to be 'domed'. And if it doesn't, you're somewhat 'doomed'." (Zink, 1978k).

According to Dr. Zink, a body will accept a change introduced by an OMT when the manipulative change is made by replicating the body's natural, innate position(s), thereby re-establishing the free fluidic flow necessary for full health potential (Zink, 1974c, 1977b, 1977f, 1979a). This innate health potential also requires a good supply of oxygen and nutrient-filled blood to all its tissues, combined with adequate venous return and lymphatic drainage from the tissues in that region. In this context, Dr. Zink would often give humorous mnemonic "definitions" [sic] for his title as a "D.O.", saying it sometimes meant to "Deliver Oxygen", or "Doctor of Oxygen", or sometimes: "Dialysis & Osmosis" (Zink, 1978g, 1978j, 1978k; Zink & Contributor, 1982).

The CCP was Dr. Zink's standard for testing to see whether true, complete Eupnea was happening. As needed, he would first apply appropriate osteopathic techniques to enable necessary lateral integration to attain Eupnea. This was his foundational treatment for ultimately reaching the desired relief of the patient's symptoms (Zink, 1977e, 1978k). In the 1973 yearbook of the American Academy of Osteopathy, Dr. Zink wrote a paper entitled "Applications of the Osteopathic Holistic Approach to Homeostasis" in which he stated:

> The osteopathic profession should be ready and able to give to the medical world the standards for Eupnea, which is 'normal' or 'natural' [respiration] when the patient is resting in the supine position. This is important because any deviation from this 'normal' respiration is the beginning of circulatory dysfunction and disease (Zink, 1973a, p. 3).

Integration is the harmonizing of tissues to the surrounding region and whole or "global" body (as Dr. Zink would call it). Whether the "lesion" or restriction is caused by the structure inhibiting free fluidic flow, or by disease within the fluid itself, normalization of the lesion involves integration of all systems of fluidic flow throughout the soma (thereby enabling Eupnea, where both external and internal respiration are at ease). This integration of all fascial tensions and fluidic movement becomes the "glue" (as Dr. Zink called it) that keeps the now-restored region(s) from returning to an undesired state of compensation (Zink, 1969, 1973a, 1974b).

Integration is not unique to Dr. Zink's approach to the RCM. All osteopathic models of treatment use the premise that a local tissue correction cannot have good harmony with the rest of the body without an integration locally, regionally, and globally (Carreiro, 2010). However, for Dr. Zink, this integration was more than just inducing change at the soft tissue (or structure) level. It required a balance of tension within the whole soma, so that tissues would uniformly receive oxygen through nutrient-rich arterial supply, followed by venous and lymphatic drainage, throughout all body regions. This tension enables the body's fluids to flow to properly and therefore to reach to and from any unhealthy (affected) regions that were once "starved" of

nutrition. This balance is the only way to ensure Eupnea – both external and internal respiration – and therefore: whole-body health. (Zink, 1978g, 1978j).

Reassessment, after using any manipulative technique locally, needs to be followed by progressing to global integration. This necessity is one that Dr. Zink taught as "never, never, never" to be skipped (Zink & Goldman, 2008). He especially emphasized that one needed to not only integrate regionally, but actually to first think and treat the soma centrally, before continuing peripherally to the extremities. Dr. Zink repeatedly stated that one of the reasons many patients returned with similar issues after a treatment was due to a lack of integration in the treatment(s) they received. In his videoed lecture on the "Role of Osteopathy in Your Practice", while demonstrating an osteoarticular normalization at the thoracic inlet, Dr. Zink explained how integration needed to follow every technique. He said: "… unless you take care of the myofascial component, that [structure is] not going to stay or won't feel as good; [and] you won't have the maximum effect." (Zink, 1978k).

Dr. Zink felt that integration enabled Eupnea to remain unencumbered and therefore to self-maintain, so that the innate healing potential in the body would be restored, by ensuring both supply and return of the vascular flow and lymphatic drainage. He would say, for instance, that an OMT therapist's job needed to ensure that any tissue, joint or organ (or related system of the body) was able to move "positionally" during external respiration. That, in turn, would allow the body to be able to do its natural internal respiratory processes, as well.

The internal respiration is based on the ability of the various diaphragms of the body to do their jobs, working efficiently through external respiration, allowing internal respiration (for example: healthy cardiac output) to be happening. "The need of adequate oxygen completely dominates the problems of medicine. It is our responsibility as osteopathic physicians to improve the unifiable functions of respiration and circulation so that this key element of tissue metabolism might reach all the cells of the body." (Zink, 1969). To maintain a healthy body, oxygen flow, which is a part of the vascular circulation in the body (with all its pathways), needs to be uninhibited.

Dr. Zink constantly stated that external respiration influences and affects internal respiration, a philosophy that gives weight to the often-stated osteopathic axiom: "Structure governs function." The nuance that Dr. Zink sought to emphasize was that the balancing of this intra-dependant influence one to the other (that is, the external respiration affecting the internal respiration) was key to attaining and maintaining health. "If not recognized and corrected, continued dysfunction may account for the etiology [or cause] of gross pathology." (Zink, 1981a).

But in his article called "Functional Aspects of Circulation", Dr. Zink addressed the need to beware of focusing only on respiration and circulation, because he recognized that our systems are all interrelated. He stated:

> The functional aspects of coronary circulation require a knowledge of the nervous, hormonal, and chemical factors that regulate coronary circulation, but the most important consideration must be given to the laws of hæmodynamics or other circulation of blood. The functional aspects of coronary circulation cannot be

> separated from the pulmonary or the systemic circulation. Therefore we must review the functional aspects of the total circulation to begin to understand the functional aspect of the circulation (Zink, 1974b, p. 1).

Dr. Zink was the originator of the documented Common Compensatory Pattern (CCP) which was developed to be a standard method of assessment, a tool which could help any D.O. or manual therapist know where to begin a treatment plan. Dr. Zink's focus on the Respiratory-Circulatory Model of osteopathy included insisting on the understanding of these normal adaptive patterns (which are actually often asymmetrical and alternating), which allowed for a true state of Eupnea and free fluidic flow. When a patient was not in this asymmetrical, yet mobile, pattern – described by this present investigator as a common adaptive pattern (or CAP) – it meant that there was a restriction in the segmental junctions of his soma creating "dys-ease", which would lead eventually to disease.

3.2.4. Supine for Any Initial Assessment

It is common knowledge that no human is perfectly symmetrical. But Dr. Zink found that there are often common patterns of adaptation that still would allow for Eupnea when patients are lying supine (on their back). "Supine [puts] the least amount of stress on the respirogenic circulation as a whole, allowing us to see what isn't normal; because we have learned to recognize normal." (Zink & Contributor, 1982). Anything out of this pattern would inhibit Eupnea, resulting in a possibility of Dyspnea – a shortness of breath with laboured breathing; or Tachypnea – an increase respiratory speed in order to meet metabolic needs; or Hypernea – an increase in air volume in order to meet metabolic needs ("The Free Medical Dictionary" 2003-2021). Dr. Zink stated repeatedly that any abnormal breathing patterns cause an improper pressure gradient system within the body, if it was not able to quickly return to normal. That, in turn, would result in a loss of nutrition to tissues, improper lymphatic and venous return, "dys-ease" to a patient, and eventually, the possibility of disease (Zink, 1977a, 1977b, 1977e, 1978b, 1978d, 1978k, 1979c, 1982; Zink & Contributor, 1982).

One significant and major advantage to assessing a patient in the supine position is that almost all patients, even infant or geriatric patients, are usually able to lie on their back. Supine allows for the observation of a patient's breathing pattern at rest – which should include the obvious rise and fall of the abdomen, and thereby be more easily seen all the way down to the pubic symphysis. This position gives a consistent, standard starting point for effective whole-body, and even specific, CCP assessment to determine a treatment using the appropriate RCM techniques. Like Dr. Fred Mitchell, Jr. explained:

> Eupnea … is best operationally defined in terms of those observations which can be made with the body lying supine, about which Zink is emphatic. The supine position minimizes the effect of gravity, and therefore is a resting position. The muscles of the limbs are at resting tonus. (Mitchell, 1984, p. 21)

Dr. Zink often repeated the fact that the balance of internal and external respiration is the essence of health, regardless of a patient's age, race, or gender. This balance, which shows itself in a relaxed Eupnea, is most easily observable when patients are supine. This concept of being in a supine position for initial determination of which RCM technique is needed became

foundational in his development of the Common Compensatory Pattern (CCP) standards for assessment. The importance that Dr. Zink placed on the supine position contrasts to what most other osteopathic models recommend, since they often begin their initial assessments with the patient either in a standing position, or sometimes with the patient in a sitting position. But Dr. Zink felt that it was vital to start in a supine position for an initial assessment, to easily see if a patient was able to maintain their compensated or adaptive states, as needed for Eupnea. Having such a standard starting position for each initial assessment helps a therapist to more consistently evaluate the diaphragmatic movements along with other somatic tissues (including fasciae) that influence, or are influenced by, both those diaphragmatic movements and the fluidic pressures (as seen in the list in Figure 3, below). Dr. Zink consistently taught that without Eupnea, internal respiration is hindered, and therefore any manipulative treatment given has the potential to not be sustained, since nutrition at a cellular level was not also first re-established to maintain that correction. The CCP assessment in a supine position allows the RCM assessment (and the consequently recommended treatments) to be evenly applicable to "everyone: young, old, rich or poor, no matter what the color, race or creed, [since we are] all breeds *[sic]* with a diaphragm, when we're lying on our back." (Zink, 1978k).

Dr. Zink always taught his students to think three-dimensionally, and never to think only about a single point of articulation between two structures. For instance, when teaching on the segmental regions (illustrated variously in Figure 1 and 2, in Section 3.2.2), Dr. Zink showed his students the transitional patterns. Figure 3, below, explains how this free movement between regions should be evaluated, showing whether it indicates one of the "common" patterns of compensation. It helps determine whether it is an acceptable "adaptive" pattern (as described in Section 3.2.2, above), or a restrictive compensatory pattern that needs treatment. If the segmental junctions are in a healthy state of adaptation with complete mobility, Eupnea will be present along with free global fluidic movement in the direction common for each. But Dr. Zink would also add that the pattern of adaptation or compensation can sometimes occur in the reverse direction (as seen in the second figurine of Figure 1), which he called an "uncommon", or "less-common" pattern (Zink & Goldman, 2008).

Apparent Arm Length	Right arm apparently longer than left as compared at the thenar eminences
Osteo-axial Segment (OA)	Side bent right with rotation left
Cervico-thoracic Segment (CT)	Side bent left with rotation right
Thoraco-lumbar segment (TL)	Side bent right with rotation left
Lumbro-sacral segment (LS)	Side bent left with rotation right
Apparent Leg Length	Right leg shorter than left, when compared at the medial malleoli

Figure 3: Segmental Regions. Adapted from Dr. Zink's description of the movements in a CCP, From the "Collected Works of J. Gordon Zink, D.O., FAAO" (Zink & Goldman, 2008).

In Dr. Zink's paper on "Applications of the Osteopathic Holistic Approach to Homeostasis" (Zink, 1973a), he explained why in a supine position, the Common Compensatory

Pattern may appear different than when assessed with a classical (biomechanical) osteopathic assessment. Dr. Zink stated:

> It is true that a simple anterior rotation of the innominate bone would make the leg on that side seem longer and a simple posterior innominate bone rotation would make the leg on that side seem shorter; [whereas] in the Common Compensatory Pattern, the opposite is true because of the added fascial stress from the tilted pelvis. … Noting the apparent length of the patient's arms, when they are stretched over his head [if the patient is supine], provides another way to examine the lumbar spine and pelvic girdle before and after treatment. In the Common Compensatory Pattern, the left arm usually seems shorter than the right because of the tension on the latissimus dorsi muscle and related fasciae on the left side (Zink & Lawson, 1979, pp. 3-4).

Dr. Zink taught that knowing what the "common" or "uncommon" patterns are (both shown on the "Compensated Patterns" side of Figure 1), a manual therapist would be able to recognize more easily what was not normal, versus an acceptable adaptive pattern that would still allow transitional movement. This assessment would help him make his decision on whether subsequent treatment(s) would meet the overall need of the patient more consistently. "First understand the normal. And if you understand the normal, you can understand a dysfunction. And that dysfunction, if allowed to continue, will result in frank disease." (Zink, 1978d).

The whole-body (i.e., "global") patterns found during the CCP assessment are not the indication for a specific standard treatment, per se, but rather, they are a way of recognizing what may not be occurring to allow the desired state of health. "The more ill they are, the more out of pattern they are." (Zink, 1978k). "See what you find and treat what you find. There is no way of saying: 'Here's the way you treat something', so there's no standard ['one way only' to treat each] thing." (Zink, 1978d). Dr. Zink emphasized that while many patients may go to an osteopathic therapist for a certain symptom, it is up to that therapist to also help prevent what might happen globally, if whole-body intervention at a cellular level [through internal respiration] is not ensured (Zink, 1977b, 1978m, 1979c, 1979f). Somatic restrictions of internal respiration can be assessed manually by ensuring that the external respiration (as seen in a state of Eupnea) is effective and efficient, which can be seen most easily when starting with a patient in a supine position (as noted at the top of Dr. Zink's CCP Assessment Tool, seen in Appendix 2).

3.2.5. History-taking, plus Various Techniques

Dr. Zink believed that the health history of a patient was foundational to any initial assessment, which, osteopathically, should begin from the time of birth. In a lecture on "Osteopathic Principles in Infection Disease", Dr. Zink said, "You are the sum total of everything that has happened to you." (Zink, 1977e). This same sentiment is reflected in many other lectures, including his lecture on the liver and gallbladder, where he stated, "There's a reason for every symptom that they have. … You're thinking osteopathically, as you go, depending on the patient's history that they give you. Each one is different, because they may have certain patterns they are born with." (Zink, 1973c). In his written material, like in the article "Reasons for Using the Holistic Respiratory Approach" (Zink, 1975a), as well as during

his teaching lectures, Dr. Zink repeatedly emphasized that the patient's history not only gave clues to "reveal the beginnings of dysfunction", but also clues as to how a patient would possibly respond to osteopathic manual treatment – which would then become the "key as to where to start." (Zink, 1975b). An example of a health history questionnaire that Dr. Zink used can be seen in Appendix 18: Taking a Patient's History. One of the points that he considered as key (which he added as number 22 on that questionnaire) states that, as a general rule, a patient receiving osteopathic manual manipulation can expect "…one month [of monthly treatments] for each year of trouble. For example: A patient with low back pain for three years needs three treatments over a three-month period." (Zink, 1979b).

An integral part of how Dr. Zink approached treating a patient, to determine what RCM techniques to prioritize or apply, was how he took a patient's medical history. This topic became an extra-curricular class which Dr. Zink taught, and his notes were fortunately put into written form during his last few years of teaching. Those pamphlet notes were retained and added to the "Collected Works of J. Gordon Zink, DO, FAAO" (Zink & Goldman, 2008). Dr. Zink called that extra-curricular class, "Welcome to Our Seven O'clock Session" (Zink, 1981e). This present investigator was privileged to have been provided with additional handwritten notes, which Dr. Clofine had taken when he had been a student, and had personally participated in those sessions. Although those history-taking sessions were extra-curricular sessions, and not a part of the normal curriculum that Dr. Zink had been asked to teach, this present investigator feels this topic (and Dr. Zink's approach to it) should continue to be made available for all osteopathic therapy students, to better prepare them on how to take a patient's health history.

Dr. Zink taught that it was essential to make a comprehensive investigation of a patient's medical history, before beginning the CCP assessment or any subsequent treatment. Within his teaching notes for that class, there was a copy of a note he had typed to himself, where he had listed four primary goals that an "…osteopathic management should strive [to attain in] a patient." His history-taking was necessarily to have included assessing the patients' current condition relative to the ultimate goals that he was seeking to reach by the end of his treatment(s), including asking if the patient was:

1. Symptom-free;

2. Able to sleep at night and feel rested in the morning;

3. Have a good appetite; and…

4. Have normal bowel movements.

(A copy of his original typewriter-written note is in Appendix 19: History-Taking regarding Four Health Goals.)

Dr. Zink would often joke that the medical degree's acronym "D.O." should mean, "Doing the obvious" (Zink & Contributor, 1982). To him, doing the obvious when trying to re-establish health via the RCM meant to start distally from the point of pain or inflammation. "When we use the Respiratory-Circulatory Model, we can always start treatment far away from the site of congestion, edema, and pain…and decongest them before either examination or treatment, during the first visit." (Zink, 1977f). This principle was repeatedly emphasized, in

multiple lectures and papers throughout his teachings. While Dr. Zink admitted that he sometimes wrestled with whether to start with either internal or external respiration, "because these two things are totally, mutually interdependent", he was consistent in always starting distally, away from the "too hot to handle areas." (Zink, 1977f; Zink & Contributor, 1982). When there didn't appear to be an "obvious" starting point, Dr. Zink would use the axiom: "If you don't know what to do, compress the CV4." — which is a paraphrased quote from what Dr. Harold I. Magoun said in his book entitled, "Osteopathy in the Cranial Field" (Magoun, 1951).

There were some guidelines that Dr. Zink used in determining where to start, depending on the situation, but … "clinical judgement…[was] based on his personal clinical experience…and [on his built-up] palpatory 'vocabulary'." (Zink, 1980). All osteopathic manipulative therapists need to develop their own clinical experience and "palpatory vocabulary" (the ability to palpate, or feel, with greater sensitivity), which grows as they themselves learn to know how, when, and where to start. This even includes being able to explain to a patient why a treatment might begin far away from the sight of their complaint. "There are certain broad basic principles that we can use: certain philosophies, certain ways of thinking. ... Osteopathy is a philosophy and a science, and an art." (Zink, 1973b). Yes, this saying is also often repeated in Dr. Zink's teaching, since he wanted to instill in his students that it was not the technique but the "art" (the restoration of global health) that is so superiorly enhanced by understanding the anatomy with its compensating and adapting patterns, and the philosophy of how the RCM enables the uninhibited body fluid flow to attain global health within a patient. Dr. Zink taught that successful application of the RCM, however, … "will still depend upon practice, then clinical judgment and experience." (Zink, 1974).

Prior to reassessing a patient, to see if a treatment applied globally had been effective, Dr. Zink would look locally and regionally at the blood flow and temperature within the tissues, as evaluated by the use of palpation. Regional warmth was one of the signs that he indicated patients would have if they became able to innately build upon what a manual therapist had done. Also, any cold tissues, or exaggerated heat where a therapist had not worked, would be a "clue to the region" of the body needing to be further addressed (Zink, 1978k). Dr. Zink outlined ten reasons a manual therapist should look for a sensation of warmth. He also outlined a subjective test, with potential responses, in his unpublished paper entitled, "A Subjective Test to Evaluate Pressure Differentials in Body Cavities When Using the Respiratory/Circulatory Concept of Osteopathy" (Zink, 1981c). The entire abdominal test is outlined in Appendix 20: Abdominal Compression and Warmth Test. A few of the key steps within such an evaluation, abbreviated from that paper, and as seen also in his video lectures on the "Role of Osteopathy in Your Practice" and "Osteopathic Aspects of Renal Function" (Zink, 1978g, 1978k, 1981c), would be:

- Prognosis (by the temperature of tissue and by the abdominal compression test).
- Knowing when either a regional technique or a global treatment is complete.
- Patient's confirmation of the desired result or response to the treatment(s).
- If the patient experiences "warmth" only down to the level of about the lower dorsal or upper lumbar area [when applying the abdominal compression test, or] after osteopathic manipulative treatment, it may indicate the need for evaluating supplemental treatments of the urogenital and pelvic diaphragms.

- Evaluation of treatment(s) given, as well as the potential length of optimal intervals before or between subsequent treatment(s).

Once a patient has responded well to a regional treatment, Dr. Zink would then return to a global assessment to see if a patient had achieved Eupnea and was now fitting into the free-moving Common Compensatory Pattern. Regardless of how many times Dr. Zink would see a patient, he would always reassess them for good Eupnea and a normal alternating CCP (Zink & Goldman, 2008). Once these were re-established, following his specific approach to Respiratory-Circulatory Model, Dr. Zink would then assess and treat the liver, spleen, and major lymph node regions of the body, as well as the cranium (if not already treated). This latter would include the falx cerebri and tentorium cerebelli, along with the hyoid bone and infra/supra hyoid fasciae and sublingual fasciae (Zink, 1977e, 1977g).

With subsequent treatments, if evaluating both Eupnea and the CCP showed negative findings, Dr. Zink would go on to treat – sometimes even using assessments and treatment philosophies from other general osteopathic models – in the region of the patient's concern; unless, of course, it was contraindicated for that session. The categories that he demonstrated most frequently in his video lectures do fit within three of the main categories of osteopathic techniques: osteoarticular joint mobilizations, muscle energy techniques and soft tissue techniques. He would pause after each technique that he performed and tell his students to reassess, to see what (if anything) had changed, and to see if that change had produced the intended outcome which had been predetermined as a goal for that patient. After such a re-assessment, he would go on to demonstrate how to integrate that same procedure locally, regionally, and globally on the patient, by following the integration patterns which he always emphasized. Dr. Zink always taught his students to "restore the normal physiology and structure of the whole body, not just a certain segment." (Zink, 1978g).

In almost every video and audio lecture that he taught, Dr. Zink emphasized three areas as being foundational for correctly using the RCM philosophy (Zink & Goldman, 2008). The three fundamental regions to be optimized were:

1. Sacrum – to move freely between the ilia, with the coccyx having free mobility;
2. Thoracic inlet and upper thoracic vertebrae – with corresponding ribs moving freely;
3. The primary three diaphragms: pelvic, thoracic and tentorium/falx – all needing to progressively function freely, as they were each put into "ease".

For instance, in the lecture "Role of Osteopathy in Your Practice", when speaking on the osteopathic cranial application, Dr. Zink said, "Unless you have that sacrum moving and the pelvis balanced, you don't do very much permanently with a head [manipulation]. It may relieve it for a while…but you really haven't accomplished much, unless you make sure everything is balanced." (Zink, 1978k). Years earlier, he had already lectured on the normalization of Chapman's Reflex Points (which are the body's reflexive response to irritation in the nervous system caused by points of inflammation and pain, often because of a restriction and pooling of lymph fluids), saying: "It has been my experience that after the cranio-sterno-sacral mechanism has been re-established, these areas are immediately normalized." (Zink, 1973a).

When Dr. Zink treated biomechanical concerns, he generally worked from inferior to superior structures. However, when fluidic hydrodynamics were involved, he would start from the thoracic inlet and work from proximal to distal (towards the point of inflammation or lymphatic congestion). He defended this apparent contradiction in his approach in many of his lectures. For instance, in his audio lecture on the "Thoracic Inlet", he said:

> Consider the whole body. Start at the foundation, and [then] work upwards. After I say that, I immediately must rush in and say: 'Sometimes the [hydrodynamics] treatment should begin at the thoracic inlet…and sequentially treat down and out along return pathways.' (Zink, 1978k, *43:21*)

Another example of nuances to classical osteopathic techniques which Dr. Zink employed is how he treated localized lymphatic points of tenderness. For instance, when teaching and demonstrating the traditional techniques practiced by Dr. Frank Chapman (known as Chapman's Reflexes), Dr. Zink would progress from this localized myofascial technique to having the patient cough. Often, he would then personally "recoil" from that cough, as part of his nuanced application of Chapman's techniques. He expounded on this distinction with an entire lecture entitled, "Chapman's Reflexes" (Zink, 1978a). In that lecture, Dr. Zink explained that this patient cough (and his own frequent "recoil" movement from that affected abdominal region) helped restore tonus (moderate contraction) of the abdominal muscles, while reducing the unwanted tonus contraction caused by inflammation of its peripheral muscles. This "explosive" cough would help reduce the pooling edema and promote lymphatic drainage, improve circulation, and improve cranial mobility and motility. The cough created a negative pressure in the chest by a sudden vacuum effect of air leaving the lungs, which in turn drew the lymphatics toward the subclavian veins and lungs while freeing up local fascial restrictions.

Another example of how he used this cough is when Dr. Zink used the classical sternal structural-functional technique to manipulate the end of stacked tissue tension while still within the spring of the tissue. He would perform the traditional manipulative technique, and then ask the patient for an explosive cough at the end. No matter which specific area he was treating, Dr. Zink constantly advocated adding an "explosive cough" to aspirate (or introduce) venous and lymphatic fluids to or from the region – although, of course, not if it was contraindicated by other known circumstances involving the problem being addressed. This explosive cough and "recoil" (if needed for tonus restoration) is just one example of the many nuances to classical osteopathic techniques that were practiced and taught by Dr. Zink.

Another key technique that Dr. Zink taught, and which he mentioned in almost every lecture, was the "Meat Hook" technique. Known also as the sterno-axillar balance (or the pectoral traction technique, when only used laterally), it was used for the normalization of tensions of, or on, the thoracic inlet (Zink, 1979h; Zink & Lawson, 1981b; Zink, Lawson, & Fetchik, 1981). Dr. Zink used this technique to prepare tissues for a local treatment application, or as part of his integration procedure, following any other specific applications or techniques. In some cases, the Meat Hook technique became the entire treatment itself. This technique examines the global thoracic inlet, using the sternum, upper thoracic spine, axillar regions and superior glenohumeral joints to normalize soft tissue tension, and to advocate for lymphatic return. The overall purpose of this Meath Hook technique is to "change the chemistry all the way to the capillary level" (Zink, 1978c). Once the soft tissues are "given slack locally" (that is,

allowed to function in a state of "ease"), Dr. Zink would then have the patient cough, while he was administering a recoil off the affected tissues (Zink, 1978k, 1978m, 1978n, 1979h). Dr. Zink found that this integration of soft tissue to the thoracic inlet during the patient's cough resulted in re-establishment of the patient's "natural myofascial pump", and was determined to have been successful by observing the restoration of Eupnea (Zink, 1978d, 1978e, 1978k, 1979a, 1979c, 1979h, 1981a, 1981b, 1981d). "The effectiveness of pectoral traction lies in its ability to create a greater negative pressure in the chest, and to aspirate air, blood, and lymph." (Zink & Lawson, 1981b)

However, Dr. Zink believed the RCM was not just a treatment that happened while "in the moment", on his treatment table. In his lecture on "Osteopathic Principles in Infectious Disease", Dr. Zink said, "It's not what you do when the patient is in your office that counts. It's what you have done to the physiology – which continues when the patient is not here – that counts." (Zink, 1977). "And what you do at the [treatment] table is the result of the way you [the therapist] think." (Zink, 1978k). In fact, Dr. Zink's concern for the whole health of the patient was not restricted to which techniques had been used – whether classic or his nuanced RCM approach – as long as they were safe for the patient and were achieving their intended effect and end result.

At the memorial lecture given at the Des Moines University, College of Osteopathic Medicine and Surgery in Iowa, Dr. Zink's sentiments and approach to osteopathy, and the RCM in particular, were highlighted when the speaker acknowledged that:

> Dr. Zink was not technique-oriented. He was always very disheartened by individuals that would just study technique without, you know, understanding 'why'. He was interested in giving students the big picture in what are they were trying to do? 'What is the physiology behind this? What is the anatomy behind this?' … He taught technique, but he was more interested that people understood concept. (Zink, 1982a, *3:10*)

3.3. OBSERVATIONS

While Dr. Zink sometimes sounded like he contradicted himself, what he said should never be taken out of context. For instance, Dr. Zink is quoted as saying that when treating the lymphatics, "…it's just as essential to have a negative pressure in the chest, as it is to have a positive pressure down [in the] pelvic floor." (Zink, 1978d). At other times, he would often emphasize the principle: "Never, never, never treat the pelvic diaphragm until you've re-established the thoracic pump." (Zink, 1977a). But then, he would encounter a situation which would cause him to also say: "Sometimes it's necessary to treat the lower back [and the pelvic floor] to prepare the slack, so you can do something with the thoracic inlet without hurting [the patient]." (Zink, 1978n). It is important to notice, though, that in either situation, he always included these two diaphragms (and usually his discussion already had included or was about to include the third main diaphragm at the cranial falx and tentorium) which needed to be verified for free function to achieve the needed ultimate and lasting recovery (Zink, 1977b, 1978h, 1978i, 1978m, 1978n, 1979h). Dr. Zink would argue that each patient needed to be looked at uniquely: in relationship to their history, current concerns, and global health. He also stated that while he felt that establishing the thoracic pump was extremely important for establishing health, it did

not mean that a manual therapist should necessarily always start with the thoracic diaphragm. In his paper title, "Applications of the Osteopathic Holistic Approach to Homeostasis", Dr. Zink wrote, "It must be stated that cranial lesions may be primary. … The cranial concept of osteopathy is essential to understand the total structure and functional integrity of the body in health and disease." (Zink, 1973a). In his video-recorded lecture on "Osteopathic Principles in Infectious Disease", Dr. Zink stated:

> I've heard it said … 'now here [goes] Zink again, he did the same thing [again]. He just treats the same way.' Well, if I find something different, then I'll treat it differently. But as long as I'm able to treat, I'm going to have to treat with this basic principle: knowing that the heart, here, is pushing blood out; and the chest, there, sucks it back. I know that the air pump is also a vein pump; and I know it's also a lymphatic pump. And Dr. Still used to say [the same thing] about the five cardinal points that you treat when you treat osteopathically. I'm a little amazed when I read [what] that old man [wrote]. We think we know something new, [but] he had it all back then. He said, "I treat the head, I treat the neck, I treat the thorax, I treat the abdomen, and I treat the pelvis." (Zink, 1977d, *29:05*)

This same sentiment was reaffirmed in the 1982 memorial lecture (that Dr. Zink deliberately helped prepare before he passed away), when his perspective was repeated by the speaker who said, "He often told me that no matter what topic he had to lecture on, 50 to 75% of the lecture was going to be exactly the same, as he always talks about the same thing." (Zink & Contributor, 1982) Many people did criticize Dr. Zink for being a "one-trick pony", but in fact, he always taught that no two people should be treated the same, nor in the same progression, nor with the same technique(s) – not even for the so-called same symptom or pathology. While he was demonstrably repetitive in his lectures and philosophy, Dr. Zink addressed the issue of not being repetitive in treatment application itself, when he stated, "not even the same patient, two different times [should get the same treatment]. That's what makes it so exciting." (Zink, 1978k). He taught that everyone should be treated through the lens of the therapist's philosophy of the science of osteopathy, and then incorporate the art of his touch uniquely for that patient.

The philosophy, science, and art for healing that Dr. Zink taught was to first prioritize establishing where the need of the patient was, and whether the compensated (but non-adaptive) pattern found in that patient needed treatment. The assessment needed to differentiate between a patient who was completely "out of a CCP" (in an uncompensated state), or in a state of CCP that needed treatment, or possibly, in a common adaptive pattern (which this present investigator suggests calling: CAP). He taught that a therapist should start at a region of the patient that was central (when possible), but still distal to (away from) the site of the inflammation. Every osteopathic manipulative treatment should initially begin with freeing the respiratory-circulatory systems to first ensure a relaxed state of Eupnea, which enables the body to optimize good cellular health. This initial state would allow the OMT therapist to proceed to treating at the specific site of the patient's symptom or "dys-ease", so that the properly established hydrodynamic pumping of the freed fluidic flow could participate in the repair of the "site of pain", as well as proactively prevent the onset of (further) disease. "Each [technique and] treatment should continue to improve the patients' posture, respiration, and circulation until they are symptom-free. Then [as needed], further preventative osteopathic treatments are encouraged." (Zink, 1973a).

3.4. SUMMARY

Dr. Zink did not like teaching how to use a technique merely for the purpose of a student or future therapist being able to do that technique. Rather, Dr. Zink constantly advocated and demonstrated how he applied the concepts, and the why of a particular technique. Instead of promoting techniques, he would continually remind his students of why his emphasis on the RCM fit the philosophy of osteopathy. The professor who spoke on his behalf at his memorial added a comment that Dr. Zink had said in the context of technique regurgitation: "'We could probably bring in a champion chimpanzee and teach him to do a lumbar roll technique.' …Dr. Zink was not technique-oriented. He was always very disheartened by individuals that would just study techniques without, you know, understanding why." (Zink & Contributor, 1982; Zink & Goldman, 2008).

While Dr. Zink did not advocate techniques that were totally unique to himself, when he did teach techniques, he often added his own nuance(s) as to how and when to use them. He felt that the RCM was the model of osteopathy that comprehensively dealt with the whole body, since essential body fluids circulate throughout the whole body – whether arterial supply with its venous return, lymphatic drainage, cerebral spinal fluid, or interstitial fluids in the fasciae – all essential to promote good health. He standardized the assessment of how to evaluate of body's diaphragms and their effect on fluidic flow, through developing the assessment tool called the Common Compensatory Pattern (CCP).

Dr. Zink's philosophical thought process and approach to the RCM made his CCP assessment tool essential for systematically determining which specific techniques were needed to facilitate that patient's respiratory and circulatory systems. His perspective was to assess whether the patient's CCP was in or out of pattern due to a restriction or lesion, or whether it was in an acceptable, adaptive pattern (which one could call: CAP). Dr. Zink would always start his evaluation of a patient with a comprehensive history-taking. He believed that a therapist's approach to treatment always "… depends on what the patient presents. And everyone is different. There is not anyone treated exactly the same [for the 'same' symptom or condition]. ... It's all dependent upon [the patient's] history." (Zink, 1978c).

While no two patients were treated the same, Dr. Zink's 40 years of applying the RCM resulted in a philosophical application of the RCM that followed a predictable pattern of assessments and osteopathic manipulative treatment(s). He showed that a patient's need was most easily assessed by starting in a supine position to find the patient's status of Eupnea, to determine if or where the internal respiration (which includes "circulation") was being restricted. Dr. Zink's treatments would not usually start at the point of a painful restriction. He would first evaluate the "ease" of the opposite or alternate region – and usually of the whole soma – to ensure that nutrients (like oxygen in the blood system) and the lymphatics would all be able to continue their free circulation once the point of restriction was put at "ease".

It was evident from all of Dr. Zink's published and unpublished works, as well as from the video and audio lectures in the series "Collected Works of J. Gordon Zink, DO, FAAO" (Zink & Goldman, 2008), that the CCP was only one of the ways in which Dr. Zink would assess where and how to treat a patient. Yet he repeatedly stated that he preferred to use the CCP as his first approach to global, whole-body assessments.

4. CHAPTER FOUR: CRITIQUING ZINK'S APPROACH TO THE RCM

4. CHAPTER FOUR: CRITIQUING ZINK'S APPROACH TO THE RCM

Research for literature by other authors, concerning the Respiratory-Circulatory Model (RCM), did not reveal any actual critique or discussion of the distinctives that Dr. Zink contributed to this model of osteopathy. Three research projects were found that contained somewhat relevant material, but lacked any critique of the teachings of Dr. Zink. These were conducted, respectively, by Thomas Meyers in "Anatomy Trains"; by Richter and Hebgen in "Trigger Points and Muscle Chains in Osteopathy"; and by Vladamir Janda in "The Janda Approach" (Myers, 2011; Page, Frank, Lardner, & Human, 2014; Richter & Hebgen, 2009). These three projects were often referred to, in the context of doing a generic search regarding different forms of myofascial patterns, but did not lead to significant information about Dr. Zink's approach to osteopathic assessments and treatment. Nor were any research studies found comparing those three therapists' different approaches to Dr. Zink's teaching on the fasciae, which was an integral part of his CCP assessment and questionnaire, which he used to determine the appropriate RCM treatment for each patient.

Online search for the possible use of the CCP by other professionals such as paediatricians or chiropractors, revealed that there have been other researchers who have written papers mentioning the use of the CCP within their own profession's research and methods of treating. But a more complete comparison of Dr. Zink's teachings in relationship to any relevant later scientific findings (especially those occurring after the early 1980s), including practices other than only osteopathic models, needs to be investigated further for accuracy, and for potential affirmation of Dr. Zink's approach to the RCM and his use of the CCP assessment tool.

4.1. OVERVIEW

Dr. Zink created the CCP assessment tool to help standardize his nuanced approach to using and teaching the RCM. The CCP is unique in being able to evaluate the health of the respiratory and circulatory processes of the whole body. Dr. Zink used the CCP as a baseline for finding dysfunctional regions that were out of a "common" pattern globally. (Section 3.2.2 explains how Dr. Zink's definition of "common" was not the same as "symmetrical", but referred rather to asymmetrical and alternate patterns and regions.) This CCP tool enables a therapist to determine which other classic osteopathic techniques or assessments might then need to be used to evaluate local or global areas of body fluid internal respiration and circulation. Osteopathic writers thought that Dr. Zink's method of RCM deviated from these distinctives. Whereas, his actual practice and usage of the RCM was very much within normal osteopathic philosophy or thought processes. Dr. Zink applied the relevant osteopathic techniques to the whole body – to first facilitate the return to whole health on a fluidic and pressure gradient level (which can also be called: on the cellular level), before what he would call: "chasing a symptom". Even though the RCM is one of five models of osteopathy, the RCM became Dr. Zink's preferred model for the initial treatment on a patient, using the CCP as a baseline for assessment to determine which the osteopathic manipulative techniques were needed.

Even though Dr. Zink became an expert on the topic of the RCM – largely because of his method of standardizing patient evaluation through the use of his CCP assessment tool, as well as his accompanying method of using a flowchart-type questionnaire – Dr. Zink stated often that he wanted his work to be further researched and tested. He would say this because … "He

wanted to be sure that his work would live on." (Zink & Goldman, 2008). His legacy for the osteopathic community – specifically his method of using the RCM – needs to be more widely understood, practiced and taught as part of comprehensive osteopathic evaluation, treatment and care. The validation of his CCP assessment tools were acknowledged by many other osteopathic authorities, and particularly by Dr. Ross E. Pope (2003) in his lecture on the importance of understanding the CCP for human posture and fascial patterns.

4.2. CONTRASTIVE APPROACHES TO THE RCM

Even though Dr. Zink is known to be the originator of the CCP, there were many versions of its illustration that did not faithfully replicate Dr. Zink's hand-drawn version. They would sometimes actually differ from his drawing (seen as Figure 2 in Chapter 3, section 3.2.2) or contrast with the faithful illustration of his teaching regarding the CCP. Various versions of the CCP illustrations were sometimes used, without identifying the actual source of the illustration, and even varying from the accurate meaning of the illustration (as correctly used by Dr. Pope in Figure 1, seen in Chapter 3, section 3.2.2).

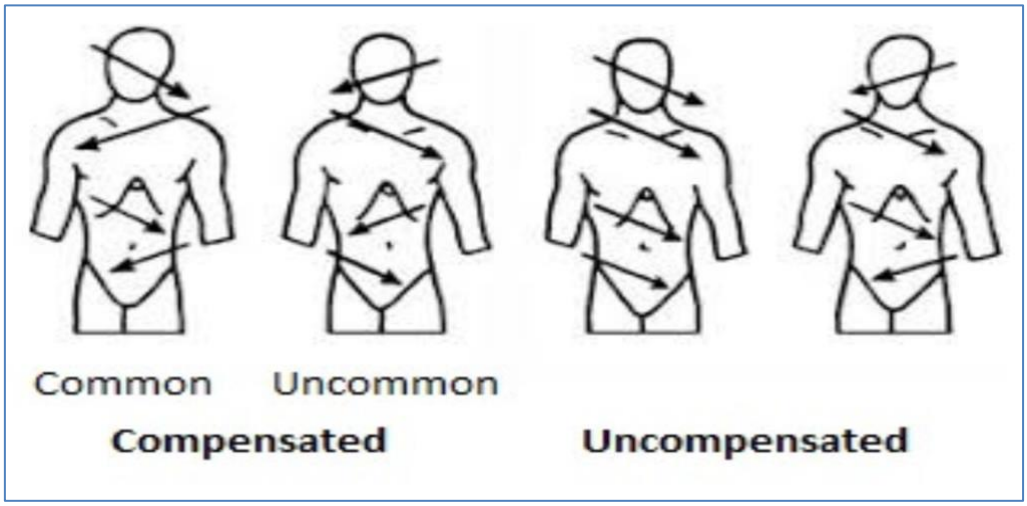


Figure 4: An interpretation of the "Common Compensatory Pattern" Retrieved from a Google search, as credited to J. Gordon Zink | castlebodywork. (Original Source Unknown)

Figure 4 is an example of such a misunderstanding, used by Dr. John Castle, Ph.D., LMT, FMS in his article entitled "J. Gordon Zink" (www.castlebodywork.com). Dr. Castle's internet article claimed that Figure 4 showed Dr. Zink's subjective determination of the most common compensated pattern (on the far left). Although the second figurine was labeled correctly as "uncommon", Dr. Zink's definition was not mentioned – and seemingly misunderstood – that Dr. Zink's taught that the opposite or alternate pattern could potentially be seen or assessed, but was "less common". The next two figurines were also correctly labeled as being "uncompensated" – but not understood to be examples of two persons "out of pattern", who needed manipulative intervention. Dr. Castle's article on "J. Gordon Zink" incorrectly stated, even using all boldfaced font *[although only the contrastive phrase is boldfaced in my quote]*: "Zink's studies indicated that healthy adults normally present with a **balanced symmetrical pattern** of fascial strain predictably located throughout the body." (Castle, 2019). Whereas, Dr. Zink actually addressed this type of misunderstanding regarding the different patterns and

transitions between regions. He stated that his CCP was not meant to emphasize joints or segments, and certainly not to show symmetry, but rather that it illustrated the most common relationships between alternate, asymmetric regions. While Dr. Zink did encourage treatments that might lead towards a more symmetrical anatomy, he always emphasized that the body was never totally symmetrical. He taught that the CCP assessment should be used to determine if the asymmetry that was found would still allow for global health at a cellular level within that patient (Zink, 1978j, 1978k). If patients were stuck in a "lesion-held" pattern, or if they were completely "out of pattern", the CCP assessment tool would indicate this unacceptable state of compensation which was inhibiting the state of Eupnea, restricting fluidic movement, or the overall balance needed in the rest of the soma (Zink, 1973d). However, this should not be confused with a state or pattern where a person presents with an apparent "compensated" CCP is, in fact, in an acceptable "adaptive" pattern – which this investigator would submit could rather be called a Common Adaptive Pattern (CAP) – even though this compensation is caused by pulls on the fascia which are "in lesion". Dr. Zink often demonstrated this adaptive, though compensated, distinction.

4.2.1. Parallel but Different to Zink

The late Robert Rousse, D.O., originally from France and who was practicing in Quebec taught many courses and techniques on the use of fluid flow and pressure within the body to correct lesions. In his book entitled, "Functional Emergency Osteopathic Techniques", Dr. Rousse stated that he used a breath, particularly an inhalation, as a final parameter to correct a lesion (Rousse, 2012). It is interesting to note that Dr. Rousse's approach used respiration and that Dr. Zink's approach used a cough, which is a form of respiratory exhalation. This shows that a respiratory action is an essential technique in correcting a restriction or a particular lesion in the body, although it is used differently within different models of osteopathy. Although Dr. Rousse's inhalation may appear to be a parallel action to Dr. Zink's cough (as explained in Chapter 3, section 3.2.3) neither the respiratory movement nor function are the same. The movement of the lymphatic fluids was a main reason why Dr. Zink emphasized this full and forced exhalation versus an inhalation. He knew that this exaggerated and deliberate exhalation (the cough and recoil) helped diffuse the lymphatics by dispersing fluids that were stagnated. It also freed up any local fascial adhesions, so that the body wastes that needed elimination could be fully pumped towards the subclavian veins (Zink, 1979d). Dr. Rousse's seemingly parallel perspective claimed that using both inhalation and exhalation would either disperse fluids or draw fluid into that local lesion, depending on how the given osteopathic manipulative technique was applied. Dr. Rousse taught that this "breath" technique was a parallel osteopathic approach to affecting fluidic flow, which would have an impact on "molecules". But in actual fact, an inhalation is very different, even if comparable, to the cough procedure which Dr. Zink used consistently and almost exclusively in his approach to the RCM.

Dr. Zink, in one of his teaching notes, even stated that he pondered whether what he taught as the "RCM" should in fact be called "Orthomolecular Osteopathic Medicine" (Zink, 1981b). That comment was a reaction to a conversation that Dr. Zink had had with Dr. John Cusack, D.O., who had expressed the novel concept that the "RCM" should really be considered "Molecular Osteopathy" (which sounds more like what Dr. Rousse was advocating). This difference in philosophy emphasizes the definite merits of further research and follow-up on the use of Dr. Zink's methods and perspectives – with more quantitative research needed into how

long-lasting the results of these parallel but different treatments, respectively, would typically maintain the patients' desired global health. A fuller understanding of the difference between these two seemingly parallel approaches to osteopathic treatment would benefit the whole osteopathic community. This kind of ongoing research would also affirm why these two legendary experts within the osteopathic community both put so much emphasis on respiration – and thereby, enhance the validity and importance of the Respiratory-Circulatory Model (especially Dr. Zink's approach to the RCM) for osteopathic practice as a whole.

Another area for further comparative research could be on how Dr. Zink's assessment and treatment of infants compared to Dr. Rousse's research on paediatrics. Dr. Rousse was the founder and president of the CROIR centre in Montréal, Québec, Canada, "whose mission is to develop research in paediatric osteopathy." (Rousse, 2012). But Dr. Zink also taught many lectures on paediatric care, as seen in many of his published and unpublished works. Already since the early 1970s, he was studying the efficacy of using the RCM for treatment and prevention of SIDS: Sudden Infant Death Syndrome (Zink, 1974e, 1978f, 1979g). Dr. Zink's passion for paediatrics can be traced all the way back to his high school years where he was a member of the paediatrics club (see Appendix 21: 1935 High School Yearbook). Their "respiratory primary" approach to infant health would seem to be very parallel, even if different, and would merit subsequent future research.

4.2.2. (Mis)understanding Zink

In an article entitled "Let's Think Zink" (found at: https://leonchaitow.com), Dr. Leon Chaitow, N.D., D.O. describes his understanding of a CCP assessment, that he claims is "according to Dr. Zink". But his statements concerning the CCP are only partially accurate, since much of it is not at all what Dr. Zink taught. Dr. Chaitow only cited one article by Dr. Zink, from which he claimed have gotten his description of the CCP. But upon reviewing that source article, which Dr. Zink had entitled "An Osteopathic Structural Examination and Functional Interpretation of the Soma" (an extract from which can be seen in Appendix 2: The CCP Assessment Tool), this present investigator did not find the supposed justification for many of Dr. Chaitow's claims. Nor did any other of the publications, video-ed lectures or audio tapes by Dr. Zink express the perspective that Dr. Chaitow claimed to have come from Dr. Zink.

One example of this misrepresentation by Dr. Chaitow is that he stated that Dr. Zink used the CCP assessment tool on a patient in a "prone" position. This is a direct contradiction to Dr. Zink's actual teaching and practice of always using only the "supine" position. While future research might indicate that a CCP assessment can also be done while a patient is in a prone position, this is the exact opposite of what Dr. Zink consistently taught.

A second example of Dr. Chaitow's apparent misunderstanding about Dr. Zink's approach was when he repeatedly claimed that the CCP tool was to be used as an assessment of the "levels of the spine" (Chaitow, 2018). But Dr. Zink's article which he claimed to be following directly contradicts that assertion. Dr. Zink had included a short reference to the possibility that a lesion could be present at a particular spot on the spine, but he then quickly went on to explain that assessment should then be done of that whole region, including any anatomy attached to that spot, or the joint affected by or even causing the lesion in the first place. In his recorded lecture on the "Thoracic Cage", Dr. Zink emphasized this point when he stated:

> So, we may be interested in a vertebral lesion because of a local trauma or because of a local finding. But **never forget** that which is inside this dorsal cavity, or the things in front of the dorsal cavity, where the viscera are. It's the viscera, they keep the machinery of life, the musculoskeletal system working *[emphasis added]*. (Zink, 1978l, *3:46*)

Dr. Zink would teach that it was not the single vertebra that was the primary problem (and therefore, finding a location or "level" in the spine was not meant to be the primary function of the CCP assessment tool). Even if the CCP assessment did indicate a region where a vertebra could be in lesion or restriction and causing possible "dys-ease", it was not the primary purpose of the CCP. According to all the literature that this present investigator has reviewed, Dr. Zink would dispute the idea that the CCP was to be used for finding locations on the spine (as misunderstood or mis-claimed in the above-mentioned 2018 article by Dr. Chaitow).

The above examples of both a seemingly parallel concept, and an apparently adequate understanding of Dr. Zink's approach to the RCM, emphasize the need to understand this osteopathic model and philosophy as Dr. Zink taught it, in order to be able to correctly apply the his RCM philosophies and nuanced techniques. Otherwise, an osteopathic student or even a practicing therapist might wonder:

- Can the CCP assessment be done with accuracy in any other position besides supine, as Dr. Leon Chaitow mistakenly understood? But according to every CCP demonstration by Dr. Zink that this present investigator watched, read and/or listened to – including the last known document by Zink entitled "Method" (Zink, 1982) – Dr. Zink consistently stated that all patients should lie on their "back", if not contraindicated, for both their assessment and re-assessments.
- Will a positive assessment of the CCP, if tested after a normalization treatment has been applied, stay permanently in place if only the position of a joint were corrected? Dr. Zink states that it would not, unless the whole or alternate affected region were treated (or better still: until a global integration within the body was reached). He actually declared (referring to treating only the point of restriction): "I don't believe that works, because I practiced that for years, not knowing any better." (Zink, 1973c, *19:26*).

While some osteopathic therapists may want to challenge Dr. Zink's approach to the RCM, and the validity of the CCP to evaluate all patients, the explanation from Dr. Ross E. Pope, D.O., F.A.A.O. (who assisted Dr. Stephen I. Goldman, D.O., F.A.A.O., in collecting and analyzing the "Collected Works of J. Gordon Zink, D.O., FAAO") shows that a right understanding of Dr. Zink would answer most of their questions or differences. In Dr. Pope's thesis on the origins of the CCP (Pope, 2003), he defended several objections to Dr. Zink's "common" patterns, by speaking of the origins or reasons for this asymmetry. Dr. Pope offered three possible origins or causes for the patterns that Dr. Zink had spelled out and labelled in his CCP (as to why the patterns are so demonstrably asymmetrical) yet continue to contribute to the integration and health of the whole body.

Dr. Pope's thesis (2003, p. 181) asked the following three-point question with his understanding of Dr. Zink's perspective:

Did the CCP alternating "asymmetry" come from…:

1- Genetic potential, …
2- Developmental influences, or…
3- Structural asymmetries

If one or all of these potential origins of asymmetry could be proven as valid or as inaccurate, it may reveal whether (or when) Dr. Zink's normal, yet asymmetrical, CCP presentation in a patient would in fact be something that could be permanently made more symmetrical or not. But in fact, the use of the CCP as the assessment for the RCM, as taught by Dr. Zink, makes it applicable regardless of the origin of the asymmetry.

If, as Dr. Pope suggested, the uncompensated pattern's origin were epigenetic (i.e., hereditary changes that did not cause alterations to the DNA code itself), with traits that were not adjustable through osteopathic manual manipulation, would there then be any permanent benefit after treatment? Dr. Zink's insisted that the RCM, with its CCP findings, did not depend on whether the origin is epigenetic or not, since the concept of Eupnea applies to anyone and everyone. Dr. Zink's statements include affirming that the functions of the body, while able to be manually manipulated at times, are more interrelated than merely a situation here one joint, lesion or tissue could be treated at any one location (Zink, 1978j).

Part of the legacy that Dr. Zink wanted to leave with us was his particular understanding of the philosophy and science of osteopathy. This affected how he applied the RCM within his flowchart approach to the CCP assessment (see Appendix 2: The CCP Assessment Tool). Although some osteopathic therapists across North America have thought that Dr. Zink had a "controversial" reputation, Dr. F.L. Mitchell Jr., D.O. – one of Dr. Zink's supporters – would say that it was most probably due to the fact that Dr. Zink had not been fully understood (Mitchell, 1984).

4.2.3. Zink Responds to Differences

Questions as to the value of different approaches or osteopathic models were often addressed by Dr. Zink. Research on Dr. Zink shows that he himself was constantly challenging himself and searching for a more complete understanding of the human body. Nor was he afraid to challenge others about the reasons for their approaches. In some of his own literature, Dr. Zink proposed differing opinions or questions, and then proceeded to state how and why he would respond to practices with which he might disagree. Dr. Zink studied, asked questions, and even challenged his own teachings – right up to the end of his life. This constant willingness to learn and grow, was evidenced throughout his entire professional career. It started while he was an assistant to Dr. Harold L. Stem, D.O., and continuing throughout the multiple conventions that Dr. Zink attended, both as a student and then also as an educator. In an email discussion about this characteristic of Dr. Zink, Jane Stark, D.O.M.P., MS, D.Sc.O. stated:

> "Gordon Zink was familiar with the who's-who of the original cranial osteopaths. He attended at least three cranial classes with Dr. Sutherland, the first in October of 1944 in Des Moines. Also in attendance at that course were osteopathic physicians, Rollin Becker, Beryl Arbuckle, Thomas Schooley, and Alice Paulsen. In April of 1945 his classmates

> included Reginald Platt, Rebecca Lippincott, Thomas Northup, and Alice Paulsen again. In October of 1945 he attended Sutherland's cranial course, again held in Des Moines. This time his intent was to study anatomy more in-depth. With the course held in Des Moines he had the advantage of studying under Paul Kimberly DO – who taught a week of anatomy before the cranial portion of the course began. This time fellow attendees included Harold Magoun, Beryl Freeman, and Alan Becker.
>
> Beryl Arbuckle, DO, for reasons that are not entirely certain, broke away from Dr. Sutherland's way of understanding and teaching 'cranial osteopathy' and started teaching 'cranial therapy' (as she called it), much to Dr. and Mrs. Sutherland's disgust. The break occurred sometime in the mid-forties. Arbuckle being from PCOM taught the courses in Philadelphia. Whether it was for the convenience of no longer having to travel to attend cranial courses, or whether Zink preferred Arbuckle's teaching to Sutherlands, Zink seemed to have associated himself the 'Phila' group, as Adah Sutherland (the second wife of Dr. Sutherland) called Arbuckle and her 'followers'. According to Adah, in either late 1949 or early in 1950, Gordon Zink was an assistant for Beryl Arbuckle, DO, in one of her cranial courses. Unfortunately, he was forced to withdraw his service due to, according to Adah, a "break down". The nature of the breakdown was not revealed. How many more courses he might have attended is not known." (Stark, Jane, personal communications with permission, June 1, 2021).

This constant searching and seeking for answers is consistent with what Dr. Zink stated in multiple lectures, as well as in much of his published and unpublished material (Zink & Goldman, 2008). In an unpublished work discovered by the Des Moines University staff, Dr. Zink had written out his thoughts regarding the "Advantages of the Respiratory-Circulatory Model" (Zink, 1981a, pp. 1-2). Dr. Zink explained some of the answers he had found to some of the claims that he questioned, such as:

- "Is internal respiration perhaps directly proportional to external respiration?"
- "Perhaps the axial skeleton should be treated before the appendicular skeleton, for the best results which last."
- "The laws of hydrodynamics can be employed to advantage to prepare the tissues so that otherwise difficult or 'impossible' lesions can be corrected and would not be expected to repeatedly occur."
- "Old, 'chronic' conditions – and very old patients – can be approached by this [RCM] method and results may surprise the patient as well as the physician where the 'Neurological Model' and the 'Postural-structural Model' failed."

Another example of Dr. Zink's willingness to defend his approach was seen in an issue he took with what Dr. William Garner Sutherland, D.O. taught as being key to understanding the primary respiratory mechanism (PRM). Dr. Zink challenged the starting point of that concept, when he wrote: "[Sutherland says that the PRM] happens in uterus before the person breaths, therefore [it is a] 'primary' [function]; …but there is movement of respiration even in the uterus, so who's to say it's 'primary'?" (Zink, 1977b). He continued in the same lecture to challenge Dr. Sutherland's perspective of the straight sinus being the apex and primary driver of the PRM. Dr. Zink stated, "I think it's the other end. At the sacrum." (Zink, 1977b).

4.3. FINDINGS

Osteopathy has three main principal tenets according to the World Health Organization, that Dr. Zink adhered to, but to which he added his nuances (Carreiro, 2010):

1. The body is a single functioning unit;
2. [The body uses] innate self-regulation toward healing;
3. [There is] direct interrelationship between structure and function.

The American Association of Colleges of Osteopathic Medicine, stated a fourth commonly repeated tenet and many websites add a fifth (American Association of Colleges of Osteopathic & Educational Council on Osteopathic, 2017):

4. [Osteopathy uses the] Rational Treatment Approach.
5. The rule of the artery is supreme and paramount.

Yes, Dr. Zink's approach to the RCM meets all the above five tenets. He felt that the body needed to be treated holistically. He focused on treating the global pumping mechanisms and fluidic flow to specifically enable both the distribution of nutrition through the arteries, and the return of wastes through their respective venous and lymphatic returns. Dr. Zink felt that using the RCM method of care as his primary focus – by using the CCP to assess lesions, compensations, adaptations, and Eupnea – was an "obvious" way to evaluate which treatment should be applied to meet the patient's "dys-ease", and to prevent disease. His perspective affirmed that the function of our body systems should be treated by the manipulation of the affected (or blocked) structures, which was why he offered his mnemonic definition of a 'D.O.' as meaning: "Doing the Obvious" (Zink, 1981e; Zink & Contributor, 1982), or "Doctor of the Obvious" (see Appendix 22: Mnemonics of the D.O.).

Although Dr. Zink had become a leading expert on the RCM, and was particularly acknowledged as so during the years that he taught osteopathy, he never felt that his work was complete. He knew that his passing away was fast approaching due to ALS, so he worked vigorously at getting his philosophies and methods written down, as much as he could, right up until the end (Azneer & Clofine, 1982; Zink & Contributor, 1982). His written work demonstrated constantly that he felt he was still learning and growing, right up to his final days. In those last years, Dr. Zink even started to investigate the impacts of his work in relationship to more and more fields, like: cardiac management, kidney function, neurological and central nervous systems, working with infants, hormonal management, and many more. He was particularly looking at his assessment and treatment of the thoracic inlet in relationship to the impact on the thyroid function and management of cardiac patients after a trauma, a surgery, or a disease (Zink, 1972a, 1972b, 1973c, 1977d, 1979a, 1979h, 1981d; Zink & Lawson, 1981a).

An example of his learner's attitude is in his inquiries about whether his CCP assessments could be done on patients in varying positions, including asking himself: "Can prone work as effectively as supine?" But Dr. Zink did provide valid answers to the contrary, even though his rationale has apparently not yet been widely taught or understood. Dr. Zink was always challenging what he had been taught, researching and then teaching the new significant

findings that he discovered (Zink & Goldman, 2008). It behooves present osteopathic practitioners to follow his example, by continually researching how to apply or contrast differing elements of his approach. One such investigation (as discussed in the above Section 4.2.2) might be on whether the potential different origins of asymmetry – as outlined by Dr. Pope (2003) – could lead to different outcomes of permanency in change, after manipulation of the affected region(s). Dr. Zink encouraged such ongoing qualitative and quantitative studies.

4.4. SUMMARY

This research did not find other authors or researchers who specifically critiqued Dr. Zink's approach to the RCM, so the conclusions expressed in this qualitative research are necessarily subjective. They are based mostly on the value found in the claims written by Dr. Zink himself or expressed by him in lectures that were able to be reviewed. This present investigation, done within a narrative design of a qualitative research, did not therefore include any field testing or comparative studies to attempt to prove or disprove the efficacy of Dr. Zink's approach to the RCM. On the other hand, like Dr. Mitchell Jr., D.O. wrote, Dr. Zink himself admitted often that his nuanced approach to the RCM needed "…to be laboratory tested; [even though] practical validity of [his approach] has been, and can be, demonstrated in clinical applications." (Mitchell, 1984).

There is a difference between one's reputation and one's legacy. Dr. Zink had a reputation for being a "one-trick pony". For instance, he was often cited in literature as having developed the Common Compensatory Pattern (CCP) assessment tool. But even those that cited him often did not really understand the correct usage of that tool (as was discussed in Section 4.2.2 above). When doing an online Google search on the CCP, this present investigator found several misquotes, misconceptions and even contradictions to what Dr. Zink taught, in various articles by various authors – for instance: regarding the virtues of the supine position for a CCP assessment; how he approached treating his patients with the RCM; or his true teaching on targeting a spot on the spine. Dr. Zink never taught or practiced what some authors erroneously claimed was "bone crunching" or a "joint specific" treatment. To the contrary, he taught his students how to use the segmental transition pathways to discover where a restriction might be hindering external and internal respiration or the circulation of the body's nutrients.

By reviewing all known samples of his teaching – particularly enhanced by access to video recordings of his lectures – this present investigator was able to understand more clearly what Dr. Zink actually did teach. That is why this report was able to recognize and identify where these types of misinterpretation occurred, even when Dr. Zink was cited in relevant literature.

A constant of the true legacy of Dr. Zink's focus on the RCM is that the CCP was his primary and baseline method for patient assessment because it provided a tool for evaluating the respiratory and circulatory systems of the body to more consistently know how to provide somatic applicability of any osteopathic RCM treatment.

5. CHAPTER FIVE: CONCLUSION

5. CHAPTER FIVE: CONCLUSION

This research on the teachings of Dr. J. Gordon Zink, D.O., F.A.A.O. regarding his unique approach to implementing the Respiratory-Circulatory Model (RCM) of osteopathy has validated the rationale and need to incorporate his distinctives into all osteopathic curriculums and training, particularly for those practice will include Osteopathic Manipulative Treatments (OMT). Dr. Zink's unique approach to the RCM – which includes his proprietary Common Compensatory Pattern (CCP) method of patient assessment – enhances his whole-body health philosophy, which in turn would maximize the effectiveness of any and all OMT practices.

Investigating Dr. Zink's teaching and practice regarding the RCM showed that osteopathic literature mentioning Dr. Zink had often misrepresented his perspectives – because of not fully understanding its distinctives – and therefore had not been widely promoted in the osteopathic world. This present research report describes and validates the importance of Dr. Zink's approach to the RCM, and gives a concrete basis for why this approach can maximize the effectiveness of enabling and maintaining the global health in a patient.

5.1. OVERVIEW AND SCOPE

The scope of this present research investigation was to give a narrative-designed report on what Dr. J. Gordon Zink contributed to the osteopathic world, through his expertise and focus on the model of osteopathy known as the RCM. It was found that his university lectures on the topic had been collected and a copy was made available for purchase from the library of the A.A.O. (see Appendix 5: American Academy of Osteopathy Book Order). This collection, called the "Collected Works of J. Gordon Zink, D.O., FAAO", included not only his published and unpublished writings, but also video and audio recordings of his lectures at the Des Moines University's College of Osteopathic Medicine and Surgery (Zink & Goldman, 2008). Obtaining and reviewing this material allowed for a comprehensive understanding of Dr. Zink's philosophy and approach the RCM, and of his assessment tool: The Common Compensatory Pattern (CCP) which Dr. Zink developed, with its accompanying flowchart questionnaire (see Appendix 2: The CCP Assessment Tool) to be used as the baseline to determine a patient's treatment needs. This assessment tool – both the understanding of the alternate, asymmetrical patterns (see Figure 1: A CCP Illustration) and the flowchart checklist – enables a therapist to make an informed choice on which osteopathic technique is needed for consistently appropriate and efficacious manual manipulation to meet that particular patient's needs, using viable treatment options within the philosophy of the osteopathic RCM.

The use of Dr. Zink's specific RCM treatment methods allows this model to be a means of helping the whole body (the soma) arrive at and maintain overall good health. This present investigation and immersion into the teachings of Dr. Zink, not only through his published writings, but also by having watched video recordings (and audio files) of him teaching, resulted in a deep appreciation for Dr. Zink's perspectives. It affirmed that he was not only an authority on the topic of the RCM, but also a relevant leader and lecturer for the osteopathic teaching community.

This present qualitative research was done after completing the course material required for the Ph.D. program at the National University of Medical Sciences. This was not a

quantitative research project, so no attempt was made to find actual case studies or documented results of Dr. Zink's approach to using the RCM for resolving patients' presenting complaints or actual ailments. On the other hand, because many of his lectures were video recorded, seeing his teaching as he taught them, and while he was demonstrating his procedures, did serve as *quasi* case studies on how he taught his philosophy and the practice of the RCM. By narrowing the focus of this investigation to a narration style, this report has comprehensively reported on a fuller understanding of Dr. Zink's perspective on the RCM. This narrowed focus limited this present report to describe almost exclusively what Dr. Zink himself taught about RCM-related topics; very few other research papers or authors were even found to amplify, critique, or evaluate his approach.

Dr. Zink lectured on many other osteopathic topics not dealt with within the scope of this present research paper. Some of those topics or even different osteopathic models might potentially be benefited by a more comprehensive understanding of Dr. Zink's approach to the RCM, since Dr. Zink used his CCP assessment tool in a wide variety of applications, whether in his treatment of infants, geriatric patients, or even animals. He actively conducted ongoing research into the application of RCM to many different medical conditions, such as cardiac and auto-immune disorders. Those areas were outside of the chosen scope for this present paper, so they could become topics to further investigate and research. The legacy of Dr. Zink, left to the osteopathic community, certainly involves more than just the topic of the RCM, dealt with by this present investigation. Other related topics, many of which have been only briefly mentioned herein, certainly would benefit from further research, so as to become an integral part of the vast understanding of osteopathic philosophy and science which can be learned for Dr. J. Gordon Zink, D.O.

5.2. FINDINGS FROM INVESTIGATING ZINK'S RCM APPROACH

Dr. Zink became known as the leading authority on Respiratory-Circulatory Model, and as a passionate professor who emphasized that whole-body health and disease prevention is obtainable through his approach to the RCM. His focus was on facilitating the adequate free function of the internal and external respiration systems to enable full circulation of the body's fluids, to include the interstitial fluids, cerebral spinus fluids and arterial distribution of oxygen and nutrients, plus waste elimination, through the venous and lymphatic systems (Zink, 1977b, 1978d, 1978k, 1979c, 1981a; Zink & Contributor, 1982). Dr. Zink became a fervent promoter of the RCM model of osteopathic care because he found it to be a predictably sure way to apply the appropriate OMT techniques to obtain effective whole-body health (Zink, 1981a, 1982; Zink & Contributor, 1982). Through systematic use of the CCP assessment tool that he developed, he felt that his approach to RCM procedures offered a proactive way to give "superior care" (Zink, 1974d) for patients' complaints, because it not only dealt with their "dys-ease" – a word Dr. Zink used consistently, when referring to a patients' symptoms (Zink, 1973b, 1978g, 1978k) – but prevented those symptoms from becoming a medical crisis and potential disease.

The investigation concerning how Dr. Zink taught the RCM, revealed at least five main themes that he emphasized in his osteopathic teaching: lymphatics, CCP, Eupnea, the supine position, and history-taking (see Chapter 3, sections 3.2.1 through 3.2.5). He emphasized that the goal of an osteopathic therapist should never be only to determine which osteopathic techniques would best alleviate the presenting symptom(s), but to enable the whole body to maintain health.

Dr. Zink felt strongly enough about the need to do careful initial inquiry into the patient's medical history (see sub-section 3.2.5) before doing any other assessment procedure or treatment that he held extra-curricular classes on the topic when he was teaching osteopathy at the university.

Part of the body's mechanism for maintaining health is its internal and external respiration, enabling the body to pump its healing fluids all the way through the body – particularly as they traverse via the three major diaphragms: pelvic, thoracic and tentorium/falx (as discussed in Chapter 3, section 3.2.1). His teaching on the role of the lymphatics within the RCM was part of his unique approach to ensuring that the body's hydrodynamics allowed for unrestricted circulation throughout the soma to maintain a maximally functioning immunity potential (Zink, 1977a, 1978e). Dr. Zink stated that due to the valveless and passive movement of the lymphatic systems which rely on effective functions of other systems (such as the respiratory and circulatory systems), its consistent movement would indicate that all the other fluidic systems had the physical potential to flow freely, as well (Zink, 1981a, 1981b; Zink & Goldman, 2008). Dr. Zink would then often add, "Lymph is life." (Zink & Contributor, 1982; Zink & Goldman, 2008).

His baseline assessment tool was the questionnaire (see sub-section 3.2.2) that he developed to determine the patient's needs relative to the standard Common Compensatory Pattern (CCP). The CCP allows for a whole-body evaluation of the patient's fluidic systems, including the three diaphragmatic pumping mechanisms, to see if an offending point of restriction is hindering viable, global health. Releasing this restriction (which he called putting a lesion "at ease") should re-establish free circulation (Zink, 1973a, 1974a, 1977f, 1982). By starting out with a CCP evaluation, a therapist will be able to distinguish the difference between an acceptable "adaptive" pattern of asymmetry from a body's undesired "compensatory" pattern. This latter pattern indicates a lesion or restriction in some fluid flow that needs to be released to ease the patient's "dys-ease" – whereas, the "adaptive" pattern of asymmetry does still allow unhindered fluidic movement. This distinction keeps an osteopathic therapist from striving for symmetrical balance – which actually is almost never present, and usually impossible to achieve, in a healthy human body.

This present investigator suggests that the "adaptive" aspect of Zink's CCP that better be served by using a contrastive label, such as the Common Adaptive Pattern (CAP). Dr. Zink taught this "adaptive" compensatory pattern without giving it a label, since it fell within by what he would call a "commonly seen, common compensatory pattern" (Zink & Contributor, 1982; Zink & Goldman, 2008). The proposal to give this acceptable, asymmetrical adaptive state a label would highlight the distinction of knowing when a "compensated" pattern did not need treating (being an adaptive pattern, or CAP), versus the common compensated pattern that Dr. Zink felt usually did need an osteopathic manipulative treatment (OMT).

A clearly uncompensated, or non-alternating, pattern would show up as contrasting with both of the above asymmetrical patterns, so indicating an "obvious" issue to be corrected through an appropriate OMT treatment (Zink & Contributor, 1982). If the patient presented with anything other than an "adaptive" CCP (or 'CAP'), Dr. Zink would call it "out of pattern" and typically instruct his students to first: "Put [the patients] back into the [common compensatory] pattern and then treat them." (Zink, 1978h).

Eupnea is that state of uninhibited movement (see sub-section 3.2.3). Dr. Zink assessed a patient's state of Eupnea with a patient always supine, so that he could clearly see any evidence of motion all the way down to the pubic symphysis (Zink, 1979b, 1981c, 1981e; Zink & Contributor, 1982). Dr. Zink also insisted on starting his assessment with a patient in a supine position (see sub-section 3.2.4). He usually had the patient return to a supine position again after applying his corrective procedure(s), to evaluate the immediate efficacy of that manipulative treatment. Dr. Zink was convinced that "supine" optimally allowed for determining whether a patient was in a state of Eupnea (Zink & Contributor, 1982), a state where the body is effectively using its own mechanisms of external and internal respiration. Dr. Zink would ask a patient to cough (see sub-sections 3.2.4 and 4.2.1) as part of his nuanced approach to several classical osteopathic techniques, not used only when using Chapman's Reflexes, whether he was treating general issues or specific cases. This unique addition is described in Appendix 23: "Principles for the Normalization of Fluids". The goal of asking for this "explosive cough" was always to rid the soma of unwanted waste and to free up local fascial adhesions.

For all five of these assessment factors, each treatment techniques needs to be followed up by verifying and confirming that it has produced a central balanced release of the body's respiratory and circulatory systems. If at all possible, this check should precede continuing the treatment peripherally, to ultimately treat the site of the lesion or restriction (Zink, 1978e, 1981d, 1982). However, if a patient was in acute pain, Dr. Zink would make an exception to this "from central to peripheral" approach, when the site of the problem was within the context of the axial skeleton and its contents. Dr. Zink would then treat such a patient by starting at the corresponding points, distally to (away from) the restriction that seemed to be causing the pain or the relevant symptom about which the patient had complained (Zink, 1978e, 1978k, 1981d, 1982). He had found that this approach would produce enough "slack" on the local painful tissues to allow the patient to relax and permit the actual lesion to be treated at the point of restriction (Zink, 1978k). It would also prevent a lesion from wanting to return to its "compensated" position, and rather, allow the body to maintain unrestricted fluidic flow throughout the soma (Zink, 1978i).

The chosen techniques for releasing the restrictions or lesions identified would only be fully effective if and when the therapist understood why they were being performed. Dr. Zink stated that with any OMT, regardless of which model of osteopathy is chosen, a therapist should start with a singular goal: "…to restore effective pressure differentials in the body cavities." (Zink, 1978i). Any restriction to movement or bodily fluid flow may be the probable reason why a patient feels "dys-ease" (regardless of the apparent location of the discomfort of which they may be complaining). Dr. Zink's perspective was that every dys-ease or dysfunction was a sign that something needed to be "corrected so it doesn't become gross pathology." (Zink, 1977a). The ultimate goal of any procedure is to enable the body to maintain good health, even when no longer in the treatment room.

Dr. Zink's approach to the RCM needs ongoing research to be able to be fully understood and perpetuated. This present investigator found that the legacy that Dr. Zink left us can and should lead to furthering the advancement not only of osteopathy but potentially of many other disciplines within the medical community. Dr. Zink's approach to patients' health was always to deal with the body globally, and to never simply treat the point of complaint or symptom noticed by the patient (Zink, 1978e, 1981d, 1982). He would challenge any therapist to

ask the question: Did I succeed in seeing my patient not only healed, but arrive at a place where that healing can be maintained over the long haul? Dr. Zink surely felt that his osteopathic treatments did accomplish exactly that, since he literally taught and focused on his approach to the RCM right up to his last dying days, even after realizing that he would die prematurely due to ALS. In fact, he requested that his perspectives on the RCM be mentioned in the memorial lecture at his funeral, and that request was honored, as per the details that he dictated ahead of time (Zink & Contributor, 1982). As more therapists use these five key elements that Dr. Zink promoted, and as the results of his unique approach to the RCM become more known, more data will become available for affirming the essentialness of understanding, practicing, and teaching this model of osteopathy, and particularly Dr. Zink's RCM approach.

5.3. IMPLICATIONS FOR OSTEOPATHIC MANIPULATIVE TREATMENTS

This present report supports the conviction that the virtues of the RCM, as taught by Dr. Zink, need to be more widely adopted and expanded upon across the osteopathic medical community. This research paper does not claim to be an exhaustive study of all of Dr. Zink's teachings. It focuses only on how Dr. Zink taught the model of osteopathy called the Respiratory-Circulatory Model (RCM). Nor is it a description of how other osteopathic therapists use or teach the RCM treatment procedures. But this report does present a complete exposition of Dr. Zink's approach to the RCM, thanks largely to the comprehensive collection of material compiled by Dr. Stephen I. Goldman, D.O., F.A.A.O., at the library of the American Academy of Osteopathy (Zink & Goldman, 2008). The evaluation of that collection and all other available data and literature on the RCM led to this present write-up. Dr. Zink's teaching describes his unique understanding on how to apply the RCM as a "…philosophy, science and an art" – a statement he repeated often (Zink, 1977e, 1978h, 1978i, 1978l, 1978m, 1978n, 1979h; Zink & Contributor, 1982).

The humble opinion of this present investigator is that the rationale presented by Dr. Zink certainly does merit ongoing research, teaching, and practice, particularly in order to gain further documentation of actual results. This confirmation of its efficacy and success will encourage other OMT (osteopathic manipulative therapists) to incorporate these distinctives as a more comprehensive way to gain and maintain full body health for their patients. Such follow-up reporting would affirm that patients who achieved Eupnea (which Dr. Zink taught as desired position of "ease", best seen as the patient was supine) would indicate that the respiratory and circulatory systems of the body had been freed up to retain good, long term, global health (Zink, 1978h, 1978i, 1979d, 1979e, 1979f, 1982; Zink & Contributor, 1982). Such a quantitative study would be valuable in verifying (and affirming) that patients treated with Dr. Zink's approach to the RCM produces healthy patients who remain able to fight off any disease that would otherwise likely have been caused by the restriction or lesion initially presented as the patient's 'dys-ease'.

This research on how he taught the RCM did not reveal any new or proprietary techniques that were uniquely developed by Dr. Zink. What was found were nuances that he added when using standard osteopathic techniques, including the use of a forced exhalation in the form of a cough (see subsection 3.2.4 and 4.2.1). His practice of the RCM always included the CCP assessment, to determine how "out of pattern" a patient might be, balanced by evaluating a patient's state of Eupnea (to determine the desired function of free external and

internal respiration), undertaken while a patient was in a supine position to ensure that there were not any extraneous restrictive factors impeding the body's free fluidic circulation (Zink & Goldman, 2008).

The most significant addition to a classical RCM approach is Dr. Zink's assessment tool, called the Common Compensatory Pattern (CCP), which is explained in Chapter 3, section 3.2.2. The accompanying Figure 1, in that section, illustrates the different patterns to look out for. But that illustration was not found to have been totally self-explanatory. It shows different potential directional patterns, it didn't readily show how to differentiate between both unacceptable and acceptable patterns of movement and fluidic flow within the body. It requires an understanding and usage of the flowchart-type questionnaire which Dr. Zink developed to accompany his CCP illustration. Then a therapist would be able to evaluate whether the compensated patterns are indicating a dysfunction or disease, or are merely within an acceptable asymmetry of the body. This point of uniqueness to Dr. Zink's approach to the RCM was not found to have been meant as a new technique that he used, but rather, his way to assess which osteopathic technique was needed or appropriate for a given lesion or complaint by a patient.

One distinction that was not clearly enunciated by Dr. Zink (although picked up by Dr. Mitchell Jr., D.O., as mentioned in Chapter 3, section 3.2.2) is the lack of a given label when referring to an aspect of the "common compensatory pattern" (CCP) as being what this present investigator feels could be called the "common adaptive pattern" (CAP). This would more easily distinguish between patterns that are the body's compensation for lesions that need to be released, versus adaptive patterns that do not cause "dys-ease" or restriction of fluidic movement. This present investigator would highly recommend incorporating the "CAP" label and distinction, with an accompanying explanation of the distinction it expresses, for all teaching and curriculums explaining the correct use of Dr. Zink's CCP assessment tool.

Within the scope of this present research, very few other OMT therapists were found who openly and accurately taught or presently teach Dr. Zink's RCM approach. Two doctors in the United States, who both knew and worked with Dr. Zink – and who do speak highly of Dr. Zink's methods – are Dr. Ross Pope, D.O., and Dr. Boyd Bruser, D.O. This present investigator feels that the fact that Dr. Zink's works and philosophies are not more widely taught with accuracy in modern day curriculums, however, are for more circumstantial reasons. With Dr. Zink's premature passing due to ALS, while his research and writings were truly at their infancy, he himself was left with many questions still to be answered (Zink, 1981a, pp. 1-2). And then there was a 26-year gap between when he passed in 1982 until his teachings were completely compiled, and stored in the library of the American Academy of Osteopathy, Indianapolis, IN (Zink & Goldman, 2008). Dr. Zink's death was prior to the internet information boom, which began in the 1990's (Couldry, 2012). The adage of "out of sight, out of mind" seems applicable to the fact that Dr. Zink's research and methods were not immediately followed up on or aggressively pursued. These two important factors, which apparently contributed to this lack of widespread acknowledgment of his teachings and philosophies, are most likely the main reasons why there is also a lack of accuracy in properly citing Dr. Zink's works.

Any future teaching about the RCM model of osteopathy needs to include the unique features incorporated by Dr. Zink. He has given us a unique emphasis on the value of evaluating cellular health first, before addressing the presenting symptom(s) or compensations possible

needed. He also consistently stressed his conviction that, to have a permanent resolution and global health, a patient needed proper nutrition obtained through richly oxygenated blood to the tissues, followed by proper drainage (both venous and lymphatic) (Zink, 1981a; Zink & Contributor, 1982; Zink & Goldman, 2008). Any teaching on the RCM needs to emphasize Dr. Zink's nuanced understanding of the external and internal respiration – as well as his use of a forced exhalation, or 'cough' – in conjunction with any application of other osteopathic manipulative techniques (OMT). This would include how to use the CCP assessment tool, while doing the evaluation with a patient in a supine position (which allows for the assessment of fluidic impedances within a broad demographic, from newborn patients right up to geriatric patients).

Since no quantitative evaluation was done for this present qualitative research, and since no statistics on such results of the application of Dr. Zink's approach on actual patients were found, further research and documentation of patient care would need to be done to fully, and scientifically, prove the value of his perspective. But the quality of his writings and teaching already affirm that Dr. Zink needs not only to be remembered as a successful osteopathic physician who became an authoritative professor – in the osteopathic specialties unique to himself – but remains a valid mentor to be emulated by any OMT therapist. This research paper was written to substantiate and promote the need for his legacy to be remembered, honoured, and perpetuated through ongoing research, within osteopathic practices, and through being systematically and thoroughly taught as part of all osteopathic curriculums – wherever osteopathy is taught.

There are various other technique usages, methods, and concepts where Dr. Zink nuanced his osteopathic practice, but this present investigation was focused specifically on Dr. Zink's approach to the RCM. Ongoing research into the systematic application of his CCP assessment tool (including understanding the difference between an adaptive pattern, which could be called CAP, and an undesired compensated pattern), and a continued emphasis and striving for Eupnea to enable the balanced external and internal respiratory-induced circulation, will enable future osteopathic therapists to use the respiratory-circulatory model with confidence. This understanding, with further documentation of the same, would enable osteopathic curriculums to better promote the practice and ongoing development of Dr. Zink's model and methods.

5.4. SUMMARY

This research paper has attempted to summarize the legacy that Dr. J. Gordon Zink taught and developed for all osteopathic manipulative treatments and its OMT therapists, specifically his unique approach on how to apply the Respiratory-Circulatory Model (RCM) of osteopathy. Although Dr. Zink has been often cited as the authority on the RCM, he has also been misunderstood, or not fully understood. This is probably why there is a lack of literature or research on his approach, which in turn has not been consistently taught. This present investigator learned of Dr. Zink when he was a student of osteopathy, during classes where the somatic effects of the respiratory and circulatory systems of the body were briefly mentioned. No further in-depth study on this RCM option of treatment was offered. The topic became available as a research project and was encouraged by Dr. Shawn Pourgol, MBA, DC, DO, DN, PhD. The research investigation of this model, and of Dr. Zink's methods of using it, led to this present

qualitative research offering a clearer understanding of a valid option of primary focus for patient care.

Sufficient data was made available for comprehensive research, not only from the published literature by Dr. Zink which had been collected at the library of the American Academy of Osteopathy, but also from video and audio recordings of him teaching the RCM approach at the Des Moines University's College of Osteopathic Medicine and Surgery. This collection of the teachings by Dr. Zink – the "Collected Works of J. Gordon Zink, DO, FAAO", (Zink & Goldman, 2008) – are of course available to any future researcher wishing to pursue research on other points that Dr. Zink taught as part of his all-encompassing understanding of osteopathy. This present investigator was also able to obtain supplementary data from Dr. Rick Clofine, D.O. – who was a former student and mentee of Dr. Zink's – which personalized and authenticated what was found through other research avenues used for this present report (see Appendix 13: Data Shared).

Dr. Zink's approach to the RCM became a more functional and repeatable process, especially by incorporating his Common Compensatory Pattern (CCP) assessment tool, which also evaluated a patient's Eupnea – which Dr. Zink defines as the external and internal respiration and fluidic circulation needed for whole-body health. As documented results of using Dr. Zink's nuanced approach to RCM – like the application of a "recoil" with a patient's deliberate cough (as described in Chapter 3, section 3.2.3) – become more known and valued within the osteopathic community, it will add weight to the need to teach it more fully in all osteopathic curriculums.

Dr. Zink would always do his initial evaluation of a patient's global health with a thorough history-taking session (see the questionnaire in Appendix 18: Taking a Patient's History). Dr. Zink's approach to whole-body health history needs to be taught in all osteopathic curriculums, but particularly for OMT therapy students. This, of course, would include Dr. Zink's CCP assessments through his questionnaire (seen in Appendix 2: The CCP Assessment Tool). Immediately following would be the initial evaluation of the patient's true condition done with the patient in a supine position. This allows for anyone, young or old, to be assessed for cellular health lesions or impedances. This supine evaluation avoids seeing symptoms or compensations exaggerated or altered entirely by gravitational forces in a classic manual assessment done while standing or sitting. One of the first things Dr. Zink would look for was the free fluidic flow induced by the movement of the three "primary" diaphragms: the thoracic diaphragm, the pelvic diaphragm, and the cranial tentorium with the falx cerebri. He felt that global health could be facilitated by "balancing out the pressures of the body" as lymphatic and sanguine fluids are pumped by these three diaphragms.

Dr. Zink's unique RCM approach included the assessing the lymphatics as part of the necessary circulation system –including the oxygen and nutrition distributed in the arterial and venous circulation – to arrive at cellular health by finding the proper balance of unrestricted external and internal respiration. In his osteopathic teaching sessions, Dr. Zink always wanted his students to understand how to perform the various osteopathic techniques, which would then be assessed as to relevance for relieving the "dys-ease" of the patient; but he always emphasized that understanding the why of a technique was even more important (Azneer & Clofine, 1982; Zink & Contributor, 1982; Zink & Goldman, 2008). And the why answers needed to include how

any given technique would help the whole body maintain the "ease" that a given manipulation sought to promote, so that it would be able to produce a lasting effect and stop any disposition toward disease that the lesion (or restriction) could induce (Zink, 1977a, 1977b, 1977c, 1977e, 1977f, 1977g, 1978d, 1978e, 1978k, 1979c).

Already in 1969, Dr. Zink had stated, "In order for us to revitalize osteopathy as a profession, we must pool our efforts in terms of structuring a foundation on which to build our specializations." (Zink, 1969). Dr. Zink was always researching, learning, and challenging science. In today's osteopathic community, it should be no different. We must continue to research Dr. Zink's understanding and methods, as he taught them. These principles and practices need further laboratory testing, and more quantitative studies on the results of using his approach and philosophy of the RCM, so that his legacy as an expert in the RCM (and as the originator of the CCP) become part of a regularly practiced specialty within osteopathic therapy models. His legacy must be honored in the way Dr. Zink would have wanted it to be honored – by studying and challenging what he taught, and then teaching osteopathic manipulative therapists the models and methods that are shown to be relevant by being scientifically tested and proven successful.

Some of the key contributions from Dr. Zink, pertaining to the development of the Respiratory Circulatory conceptual model of care, build upon Dr. Still's original definitions of Osteopathy. These are now known as the RCM (respiratory-circulatory model). This model is characterized by:

- An emphasis on using the RCM as a foundational first approach for all OMT, before proceeding to other models of Osteopathy for patient care.
- The use of the Common Compensatory Pattern (CCP), with its accompanying flowchart questionnaire as a foundational method of assessing the internal and external respirational movements to find fluidic restrictions within the patient.
- Nuances such as the use of a cough to displace fluids (to enhance a manipulative technique); and decreasing a patient's discomfort by starting distally from the site of pain to prepare slack in the soma (see Chapter 3, section 3.2.2).
- The restoration of Eupnea (while a patient is in a supine position), with confirmation of lymphatic return to the subclavian veins, to establish the readiness of a patient for the pursuit whole-body health.

The approval and support given to this investigation by both the Canadian College of Osteopathy and the National University of Medical Sciences resulted in research that convinced this present investigator of the validity of Dr. Zink's perspectives, and of the need to further promote this understanding of the RCM. It also produced a personal longing for more practical insight and experience in the application of the principles and practices taught by Dr. Zink. A proposition presented herein, for example, is that Dr. Zink's CCP assessment tool – which is so central to his evaluation of the patient's true needs – could benefit by adding a bit more clarity in the teaching on an acceptable "adaptive" pattern of fluid flow in a human body, which could be called the Common Adaptive Pattern (CAP) – to contrast more explicitly with an unacceptable CCP which is found to be "stuck" or "compensated" in an asymmetrical pattern, and therefore usually produced negative symptoms. Such a distinction is therefore proposed as being complementary to the essential teaching of Dr. Zink's approach to the RCM.

Even though the philosophy of the RCM now makes more sense to this present investigator, actual patient histories (or case studies) showing lasting effectiveness, and the chronicling of the validity of Dr. Zink's claims on how it prevents or helps treat disease, all need ongoing research and affirmation. Having completed the write-up of this present research paper does not mean that this present investigator has finished researching the concepts taught by Dr. Zink. To the contrary, it has become the motivation to continue this pursuit, in what personally appears to be, and is hoped to remain, a lifelong journey. This report was written because of a felt need, and has assured this present investigator that the legacy that Dr. J. Gordon Zink, D.O. offers the osteopathic community should not be disregarded, should no longer be inadequately noticed, seldom taught, and thus not even widely practiced. Understanding Dr. Zink's contribution to osteopathy will enhance the successful practice of all osteopathic manipulative therapists, and it will broaden the lasting effectiveness for all patients who then receive such RCM treatments.

BIBLIOGRAPHY

BIBLIOGRAPHY

American Association of Colleges of Osteopathic, M., & Educational Council on Osteopathic, P. (2017). *Glossary of Osteopathic Terminology* (Third Edition ed.).

Azneer, J. L., & Clofine, R. (1982). College Of Osteopathic Medicine And Surgery Alumni Newsletter. *Volume III*(Jan/Feb 1982), 6.

Benzoni, T., Adelman, F., Latterman, M., & O'Shea, N. (1981). *Pacemaker 1981*. Des Moines, Iowa: College of Osteopathic Medicine and Surgery Des Moines.

Booth, E. R. (2006). *History of Osteopathy*.

Buser, B. (2010). *Dr. Zink's Respiratory/Circulatory Model And The Common Compensatory Pattern*.

Carreiro, J. (2010). World Health Organization: Benchmarks For Training In Osteopathy. Retrieved from https://www.who.int/medicines/areas/traditional/BenchmarksforTraininginOsteopathy.pdf

Castle, J. (2019). J. Gordon Zink. Retrieved from https://castlebodywork.com/2019/02/24/j-gordon-zink-do-faao/

Chaitow, L. (2018). Let's Think Zink.

Chiu, J.-J., & Chien, S. (2011). Effects of Disturbed Flow on Vascular Endothelium: Pathophysiological Basis and Clinical Perspectives. *Physiological reviews, 91*(1), 327-387. doi:10.1152/physrev.00047.2009

Couldry, N. (2012). *Media, Society, World: Social Theory and Digital Media Practice*. Oxford: Polity Press.

Crabtree, B. F., & Miller, W. L. (2000). *Doing Qualitative Research*. Thousand Oaks, Calif.; London: Sage Publications.

Flick, U. (2019). *An Introduction to Qualitative Research*.

The Free Medical Dictionary. (2003-2021). Retrieved from https://medical-dictionary.thefreedictionary.com/

Frymann, V. M. (1968). The Core-link and the Three Diaphragms. *Academy of Applied Osteopathy*, 13-19.

Hendryx, J. T., D.O. (2014). The Bioenergetic Model in Osteopathic Diagnosis and Treatment: An FAAO Thesis, Part. *AAO Journal, 24*(1), 13-20.

Liem, T. (2016). A.T. Still's Osteopathic Lesion Theory and Evidence-Based Models Supporting the Emerged Concept of Somatic Dysfunction. *The Journal of the American Osteopathic Association, 116*(10), 654. doi:10.7556/jaoa.2016.129

Magoun, H. I. (1951). *Osteopathy in the Cranial Field*. Kirksville, Mo.: Journal Printing Co.

Mitchell, F. L. (1984). *The Respiratory-Circulatory Model: Concepts and Applications*, Berlin, Heidelberg.

Myers, T. W. (2011). *Anatomy Trains: Myofascial Meridians for Manual and Movement Therapists* (2nd ed.). Edinburgh [etc.: Churchill Livingstone/Elsevier.

Page, P., Frank, C. C., Lardner, R., & Human, K. (2014). *Assessment and Treatment of Muscle Imbalance : The Janda Approach*. Champaign, IL; Windsor, ON; Leeds: Human Kinetics.

Pope, R. (2003). *The Common Compensatory Pattern: Its Origin and Relationship to the Postural Model.* (13).

Richter, P., & Hebgen, E. (2009). *Trigger Points and Muscle Chains in Osteopathy*. Stuttgart; New York: Thieme.

Rousse, R. (2012). *Functional emergency osteopathic techniques* (3 ed.). Montréal: Editions Spirales.

Seffinger, M. A., King, H. H., Ward, R. C., Rogers, F. J., & Patterson, M. M. (2003). Osteopathic Philosophy. *Foundations for osteopathic medicine, 2*, 3-18.

Still, A. T. (1899). *Philosophy of Osteopathy*. Kirksville, MO: LULU COM.

Still, A. T. (2015). *Autobiography of Andrew T. Still (classic reprint)*. [Place of publication not identified]: Forgotten Books.

Zhou, S. G., & Chen, W. (2018). Human Body Water Composition Measurement:Methods and Clinical Application. *Zhongguo Yi Xue Ke Xue Yuan Xue Bao, 40*(5), 603-609. doi:10.3881/j.issn.1000-503X.10661

Zink, J. G. (1969). *The Osteopathic Holistic Approach to Homeostasis* (Vol. Year Book 1969). Indianapolis, IN: American Academy of Osteopathy.

Zink, J. G. (1972a). Osteopathic Management of the Patient with Chronic Cardiac Disability. *National News*.

Zink, J. G. (1972b). Osteopathic Management of the Patient with Upper Respiratory Disease. *National News*.

Zink, J. G. (1973a). *Applications of the Osteopathic Holistic Approach to Homeostasis* (Vol. Year Book 1973). Indianapolis, IN: American Academy of Osteopathy.

Zink, J. G. (1973b). Infectious Endocarditis. *Collected Works of J. Gordon Zink, DO, FAAO*. Indianapolis, IN: American Academy of Osteopathy.

Zink, J. G. (1973c). Liver and Gallbladder. *Collected Works of J. Gordon Zink, DO, FAAO*. Indianapolis, IN: American Academy of Osteopathy.

Zink, J. G. (1973d). The Osteopathic Holistic Approach to Homeostasis. *Collected Works of J. Gordon Zink, DO, FAAO*. Indianapolis, IN: American Academy of Osteopathy.

Zink, J. G. (1974a). Biological "Energy Crisis" (Sump Pump). In *Collected Works of J. Gordon Zink, DO, FAAO* (pp. 1). Indianapolis, IN: American Academy of Osteopathy.

Zink, J. G. (1974b). *Functional Aspects of Circulation*. American Academy of Osteopathy. Indianapolis, IN.

Zink, J. G. (1974c). The Osteopathic Edge. In (pp. 23). Indianapolis, IN: American Academy of Osteopathy.

Zink, J. G. (1974d). The Patient's History. In (pp. 23). Indianapolis, IN: American Academy of Osteopathy.

Zink, J. G. (1974e). *The Sudden Infant Death Syndrome*. American Academy of Osteopathy. Indianapolis, IN.

Zink, J. G. (1975a). Reasons for Using the Holistic Respiratory Approach. 23.

Zink, J. G. (1975b). *Reasons for Using the Holistic Respiratory Approach*. Insight Publishing Co Inc. Des Moines, Iowa.

Zink, J. G. (1977a). Applied Physiology of The Lymphatic System. *Collected works of J. Gordon Zink, D.O., FAAO*. Indianapolis, Ind.: American Academy Of Osteopathy.

Zink, J. G. (1977b). Diaphragms of the Body. *Collected works of J. Gordon Zink, D.O., FAAO*. Indianapolis, Ind.: American Academy Of Osteopathy.

Zink, J. G. (1977c). Osteopathic Care of the Obstetrical Patient. *Collected works of J. Gordon Zink, D.O., FAAO*. Indianapolis, Ind.: American Academy Of Osteopathy.

Zink, J. G. (1977d). Osteopathic Concepts in Renal Function. *Collected works of J. Gordon Zink, D.O., FAAO*. Indianapolis, Ind.: American Academy Of Osteopathy.

Zink, J. G. (1977e). Osteopathic Principles in Infectious Disease. *Collected works of J. Gordon Zink, D.O., FAAO*. Indianapolis, Ind.: American Academy Of Osteopathy.

Zink, J. G. (1977f). Respiratory and Circulatory Care: The Conceptual Model. *Osteopathic Annals*, *5*(3), 108-112.

Zink, J. G. (1977g). TMJ/Hyoid Bone/CV4. *Collected works of J. Gordon Zink, D.O., FAAO*. Indianapolis, Ind.: American Academy Of Osteopathy.

Zink, J. G. (1978a). Chapman's Reflexes. *Collected works of J. Gordon Zink, D.O., FAAO*. Indianapolis, Ind.: American Academy Of Osteopathy.

Zink, J. G. (1978b). Circulation and Respiration. *Collected works of J. Gordon Zink, D.O., FAAO*. Indianapolis, Ind.: American Academy Of Osteopathy.

Zink, J. G. (1978c). CNS and the Dura. *Collected works of J. Gordon Zink, D.O., FAAO*. Indianapolis, Ind.: American Academy Of Osteopathy.

Zink, J. G. (1978d). Internal and External Respiration 1. *Collected works of J. Gordon Zink, D.O., FAAO*. Indianapolis, Ind.: American Academy Of Osteopathy.

Zink, J. G. (1978e). Lymphatics. *Collected works of J. Gordon Zink, D.O., FAAO*. Indianapolis, Ind.: American Academy Of Osteopathy.

Zink, J. G. (1978f). Osteopathic Approach to the Neonatal Patient. *Collected works of J. Gordon Zink, D.O., FAAO*. Indianapolis, Ind.: American Academy Of Osteopathy.

Zink, J. G. (1978g). Osteopathic Aspects of Renal Function. *Collected works of J. Gordon Zink, D.O., FAAO*. Indianapolis, Ind.: American Academy Of Osteopathy.

Zink, J. G. (1978h). The Pelvis: Part 1. *Collected works of J. Gordon Zink, D.O., FAAO*. Indianapolis, Ind.: American Academy Of Osteopathy.

Zink, J. G. (1978i). The Pelvis: Part 2. *Collected works of J. Gordon Zink, D.O., FAAO*. Indianapolis, Ind.: American Academy Of Osteopathy.

Zink, J. G. (1978j). Posture and Balance. *Collected works of J. Gordon Zink, D.O., FAAO*. Indianapolis, Ind.: American Academy Of Osteopathy.

Zink, J. G. (1978k). Role of Osteopathy in Your Practice. *Collected works of J. Gordon Zink, D.O., FAAO*. Indianapolis, Ind.: American Academy Of Osteopathy.

Zink, J. G. (1978l). Thoracic Cage. *Collected works of J. Gordon Zink, D.O., FAAO*. Indianapolis, Ind.: American Academy Of Osteopathy.

Zink, J. G. (1978m). Thoracic Inlet 1. *Collected works of J. Gordon Zink, D.O., FAAO*. Indianapolis, Ind.: American Academy Of Osteopathy.

Zink, J. G. (1978n). Thoracic Inlet 2. *Collected works of J. Gordon Zink, D.O., FAAO*. Indianapolis, Ind.: American Academy Of Osteopathy.

Zink, J. G. (1979a). Cardiovascular System. *Collected works of J. Gordon Zink, D.O., FAAO*. Indianapolis, Ind.: American Academy Of Osteopathy.

Zink, J. G. (1979b). History. In (pp. 23). Indianapolis, IN: American Academy of Osteopathy.

Zink, J. G. (1979c). Internal and External Respiration 2. *Collected works of J. Gordon Zink, D.O., FAAO*. Indianapolis, Ind.: American Academy Of Osteopathy.

Zink, J. G. (1979d). Lumbar Spine 1. *Collected works of J. Gordon Zink, D.O., FAAO*. Indianapolis, Ind.: American Academy Of Osteopathy.

Zink, J. G. (1979e). Lumbar Spine 2. *Collected works of J. Gordon Zink, D.O., FAAO*. Indianapolis, Ind.: American Academy Of Osteopathy.

Zink, J. G. (1979f). Lumbar Spine Review. *Collected works of J. Gordon Zink, D.O., FAAO*. Indianapolis, Ind.: American Academy Of Osteopathy.

Zink, J. G. (1979g). Osteopathic Approach to the Newborn. *Collected works of J. Gordon Zink, D.O., FAAO*. Indianapolis, Ind.: American Academy Of Osteopathy.

Zink, J. G. (1979h). Thoracic Inlet. *Collected works of J. Gordon Zink, D.O., FAAO*. Indianapolis, Ind.: American Academy Of Osteopathy.

Zink, J. G. (1980). Clinical Judgement. In (pp. 23). Indianapolis, IN: American Academy of Osteopathy.

Zink, J. G. (1981a). *Advantages of the Respiratory/Circulatory Model*. American Academy of Osteopathy. Indianapolis, IN.

Zink, J. G. (1981b). *Molecular Osteopathy*. Collected Works of J. Gordon Zink, DO, FAAO. American Academy of Osteopathy. Indianapolis, IN.

Zink, J. G. (1981c). A Subjective Test to Evaluate Pressure Differentials in Body Cavities When Using the Respiratory/Circulatory Concept of Osteopathy. In (Vol. Year Book 1973, pp. 23). Indianapolis, IN: American Academy of Osteopathy.

Zink, J. G. (1981d). *Thoracic Inlet Dysfuction*. American Academy of Osteopathy. Indianapolis, IN.

Zink, J. G. (1981e). Welcome to Our Seven O'clock Session. In. Des Moines, Iowa: College of Osteopathic Medicine and Surgery.

Zink, J. G. (1982). *Method*. Collected works of J. Gordon Zink, D.O., FAAO. American Academy Of Osteopathy. Indianapolis, Ind.

Zink, J. G., & Contributor, A. A. (1982). Memorial Lecture. *Collected works of J. Gordon Zink, D.O., FAAO*. Indianapolis, Ind.: American Academy Of Osteopathy.

Zink, J. G., & Goldman, S. I. (2008). Collected Works of J. Gordon Zink, D.O., FAAO. Indianapolis, Ind.: American Academy Of Osteopathy.

Zink, J. G., & Lawson, W. B. (1979). An Osteopathic Structural Examination and Functional Interpretation of the Soma.

Zink, J. G., & Lawson, W. B. (1981a). *The Diagnosis and Manipulative Management of Hydromanic Disorders of the Central Nervous System*. American Academy of Osteopathy. Indianapolis, IN.

Zink, J. G., & Lawson, W. B. (1981b). The Role of Pectoral Traction in the Treatment of Lymphatic Flow Disturbances.

Zink, J. G., Lawson, W. B., & Fetchik, W. D. (1981). The Posterior Axillary Folds: A Gateway for Osteopathic Treatmetn of the Upper Extremities.

APPENDICES

APPENDIX 1: W.H.O.'S FIVE MODELS OF OSTEOPATHY

[The excerpt below is quoted from (Carreiro, 2010)]

1.2 Structure-function relationship models

Five main models of structure-function relationships guide the osteopathic practitioner's approach to diagnosis and treatment. These models are usually used in combination, to provide a framework for interpreting the significance of somatic dysfunction within the context of objective and subjective clinical information. The combination chosen is adapted to the patient's differential diagnosis, co-morbidities, other therapeutic regimens, and response to treatment.

1.2.1 The biomechanical structure-function model

The biomechanical model views the body as an integration of somatic components that relate as a mechanism for posture and balance. Stresses or imbalances within this mechanism may affect dynamic function, increase energy expenditure, alter proprioception (one's sense of the relative position and movement of neighbouring parts of the body), change joint structure, impede neurovascular function, and alter metabolism (5-7). This model applies therapeutic approaches, including osteopathic manipulative techniques, which allow for the restoration of posture and balance and efficient use of musculoskeletal components.

1.2.2 The respiratory/circulatory structure-function model

The respiratory/circulatory model concerns itself with the maintenance of extracellular and intracellular environments through the unimpeded delivery of oxygen and nutrients, and the removal of cellular waste products. Tissue stress or other factors interfering with the flow or circulation of any body fluid can affect tissue health (8). This model applies therapeutic approaches, including osteopathic manipulative techniques, to address dysfunction in respiratory mechanics, circulation, and the flow of body fluids.

1.2.3 The neurological structure-function model

The neurological model considers the influence of spinal facilitation, proprioceptive function, the autonomic nervous system, and activity of nociceptors (pain fibres) on the function of the neuroendocrine immune network (9-15). Of particular importance is the relationship between the somatic and visceral (autonomic) systems. This model applies therapeutic approaches, including osteopathic manipulative techniques, to reduce mechanical stresses, balance neural inputs and reduce or eliminate nociceptive drive.

1.2.4 The biopsychosocial structure-function model

The biopsychosocial model recognizes the various reactions and psychological stresses which can affect patients' health and well-being. These include environmental, socioeconomic, cultural, physiological, and psychological factors that influence disease. This model applies therapeutic approaches, including osteopathic manipulative techniques, to address the effects of, and reactions to, various biopsychosocial stresses.

1.2.5 The bioenergetic structure-function model

The bioenergetic model recognizes that the body seeks to maintain a balance between energy production, distribution, and expenditure. Maintaining this balance aids the body in its ability to adapt to various stressors (immunological, nutritional, psychological, etc.). This model applies therapeutic approaches, including osteopathic manipulative techniques, to address factors which have the potential to deregulate the production, distribution, or expenditure of energy (6,7,16).

[The above W.H.O. excerpt is discussed in this present report in Section 1.2].

APPENDIX 2: THE CCP ASSESSMENT TOOL

TABLE 1 OSTEOPATHIC

Patient remains

I. Observation of respiration
A. *Type*
* 1. Diaphragmatic—"eupnea"
2. Costal?
** 3. Mixed?
B. *Motion of the abdominal wall*
* 1. Down to the symphysis pubis
** 2. Down to the umbilicus
C. *Rate*
* 1. Slow (12-15/min.)
** 2. Rapid
3. Count before and after treatment
D. *Duration of the cycle*
* 1. Inspiratory phase (about one second); expiratory phase (about three seconds)
** 2. Inspiratory and expiratory phases are about equal in duration
*** 3. Inspiratory phase is larger than expiratory phase
*** 4. Nares dilate during inhalation

II. Gross examination of the pelvic girdle — the pelvic portion of the thoracicoabdominopelvic cavity
A. *Crests of the ilia*
1. Vertical plane
The hands of the physician are pushed into the flank and then moved caudad to rest on the uppermost portion of the iliac crests.
* a. Should be level
** b. Left side more cephalad
*** c. Right side more cephalad
2. Horizontal plane
a. Static
The physician's hands, held level in the horizontal plane with the palms downward, are placed to rest on the anterosuperior iliac spines of the ilia.
* i. Should be level
** ii. Right side more posterior (closer to the table)
*** iii. Left side more posterior (closer to the table)
b. Dynamic
The hands of the physician are placed around the lateral aspect of the pelvis. The left side of the pelvis is rotated medially, and as the rotation is begun the physician also begins to lift the pelvis. The procedure is then repeated on the right side.
* i. The pelvis should be rotated medially and then lifted with the same effort on both sides
** ii. Moves more easily to the right, resists motion to the left, and feels heavier when lifted from the right
** iii. From above, the pelvic girdle is rotated clockwise
*** iv. Moves more easily to the left, resists motion to the right, and feels heavier when lifted from the left
*** v. From above, the pelvic girdle is rotated counterclockwise

III. Gross examination of the thoracic portion of the thoracicoabdominopelvic cavity
The hands of the physician are placed on the lower lateral aspect of the thorax.
A. *Contour—static palpation*
* 1. Should be bilaterally symmetric and tapered
** 2. Flared to the left
*** 3. Flared to the right
B. *Resiliency—dynamic palpation*
First one hand, then the other, compresses the lateral aspect of the thoracic cage.
* 1. Should yield equally in both directions
** 2. Moves easily to the left, resists movement to the right
** 3. From above, the thorax appears to be rotated counterclockwise
*** 4. Moves easily to the right, resists movement to the left
*** 5. From above, the thorax appears to be rotated clockwise

IV. Assessment of the relationship between the thoracic cage and the pelvic girdle—lumbar spine
*A. *Flat to the table (static)*
**B. *If arched*
1. Note height
2. Extent
3. Locate apex
C. *Test for motion (dynamic)*
The fingertips of the physician's hands are placed under the spinous processes of the lumbar vertebrae. The spine is lifted slightly from the table and tested for motion.
* 1. Each segment will have motion
* 2. Segments will not be tender to touch
** 3. Motion of the lumbosacral junction is restricted
** 4. The lumbosacral junction will be sensitive to touch

V. Assessment of the relationship between the pelvic girdle and the lower extremity
A. *Measure and compare the apparent length of the legs by placing the thumbs just beneath the medial malleoli*
* 1. Same
** 2. Left leg seems longer
*** 3. Right leg seems longer
B. *Observe the angles formed by the feet with the table*
1. Static
* a. Should be comparable
** b. Right foot is more flared
*** c. Left foot is more flared
2. Dynamic
Apply a very light pressure to the medial side of both feet, thereby rotating them externally, and then compare the two sides.
* a. Should yield equally to very light touch
** b. Right leg more externally rotated
*** c. Left leg more externally rotated
C. *Observe the attitude of the legs*
1. Legs should not be crossed
2. Right leg crossed over the left
3. Left leg crossed over the right

VI. Survey of the relationship between the trunk and the upper extremity
A. *Using the styloid process of the radii or thumbs,*

Table 1a – *From* "An Osteopathic Structural Examination and Functional Interpretation of the Soma by Zink & Lawson (1979).

[This CCP tool is first discussed in Section 1.4 of this report.]

STRUCTURAL EXAMINATION

supine for the entire evaluation

measure and compare the apparent length of the arms over the head
* 1. Arms appear to be the same length
** 2. Left arm seems shorter
*** 3. Right arm seems shorter

B. *Compare the angles that the arms form with the table*
* 1. The angle appears to be the same distance from the top of the table in both arms
** 2. Left arm appears to be higher than the right arm
*** 3. Right arm appears to be higher than the left arm

C. *Compare the angles formed by the upper arms and forearms*
* 1. The angles formed by the arms and forearms should be bilaterally symmetric
** 2. The angle on the left side is less obtuse
*** 3. The angle on the right side is less obtuse

VII. Examination of the cervical spine

A. *Conduct a classic osteopathic diagnosis of cervical somatic dysfunction*
*B. *No somatic dysfunctions will be present*
**C. *Second cervical vertebra rotated to the left*

VIII. Investigation of the interrelationships of the components of the thoracic cage

A. *The infraclavicular-parasternal areas*
1. Static
Palpate the contours and compare the two sides.
* a. Convex bilaterally—should be rounded or full
** b. Concave on the right and convex on the left
*** c. Concave on the left and convex on the right
2. Dynamic
With the pad of a finger from each hand, lightly apply pressure over the synchondrosis formed by the cartilage of the first rib and the manubrium.
a. Resilience
* i. Both sides should spring under light pressure
** ii. Springs on the right, rigid on the left
*** iii. Springs on the left, rigid on the right
b. Sensitivity
* i. Should not be tender or sore to light touch
** ii. Tender or sore to light touch on the left side
*** iii. Tender or sore to light touch on the right side

B. *Examination of the sternum*
1. Long axis of the sternum
a. Static palpation
The physician's hand is gently placed over the sternum with the fingers directed toward the jugular notch, the palm over the body of the sternum.
* i. Midline of the sternum is in the midline of the body
** ii. Long axis of the sternum is deviated to the left
*** iii. Long axis of the sternum is deviated to the right
b. Dynamic palpation
The physician's hand is placed on the midline of the sternum with the middle finger on the manubrium, just below the jugular notch. The physician moves the chest to and fro. The movement of the sternum—to either side—should be equal in terms of extent, ease, and time.
* i. Moves equally in both directions
** ii. Moves easily to the left and resists motion to the right
iii. From above, the thorax is rotated counterclockwise
*** iv. Moves easily to the right and resists motion to the left
*** v. From above, the thorax is rotated clockwise
2. Transverse axis of the sternum
The pads of the physician's index or third fingers are used in these procedures. The fingers are placed side by side over the part to be palpated.
a. Manubrium
* i. Level
** ii. Is one side more anterior?
b. Sternal angle (the articulation between the manubrium and the body)
* i. Definite angle
** ii. Decreased angle (flattened)
c. Body of the sternum
* i. Level
** ii. Is one side more anterior?
d. Xiphoid process
* i. Level
** ii. Is one side more anterior?

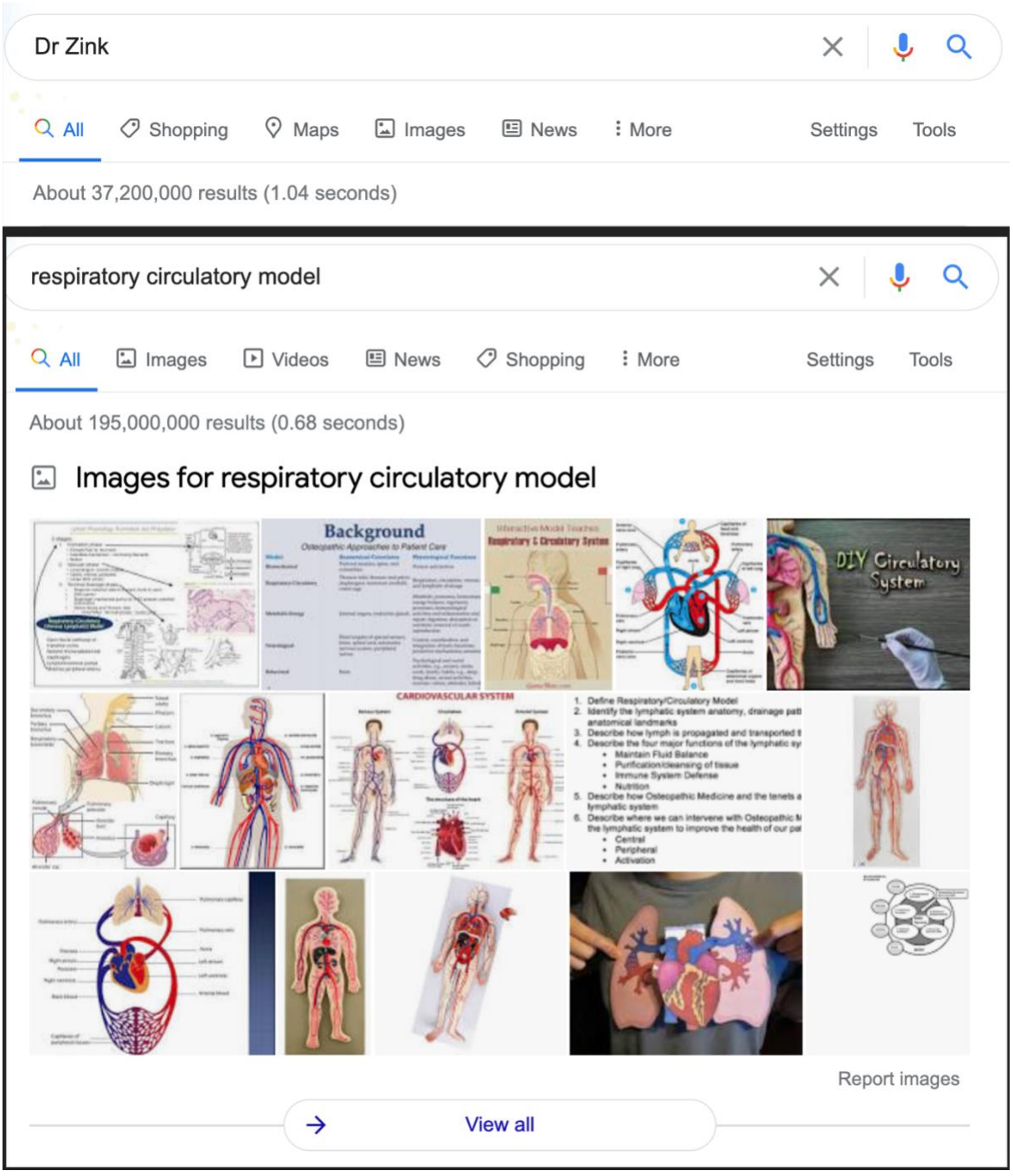
C. *Palpate and compare the cartilages of the second through the sixth ribs*
1. Resiliency
* a. Both sides should spring under light pressure
** b. Is one side more rigid than the other?
2. Sensitivity
* a. Should not be tender or sore to light touch
** b. Is one side tender or sore to touch?
3. Intercartilaginous spaces—anterior division of the intercostal nerves
* a. Should not be edematous
** b. Should not be tender or sore
*** c. Is there any edematous or tender area?

D. *Palpate and compare the costal margins*
1. Contour
* a. Should be the same
** b. Is there an anterior or lateral flare?
** c. Left side is more apt to be flared anteriorly
2. Resiliency
The hands of the physician are placed over the costal cartilages. One side, then the other, is lightly and slowly compressed and suddenly released. Note the energy needed to compress and the ability of the tissues to rebound.
* a. Should be the same
** b. Is there more resistance to movement on one side?

Table 1b – *From* "An Osteopathic Structural Examination and Functional Interpretation of the Soma by Zink & Lawson (1979).

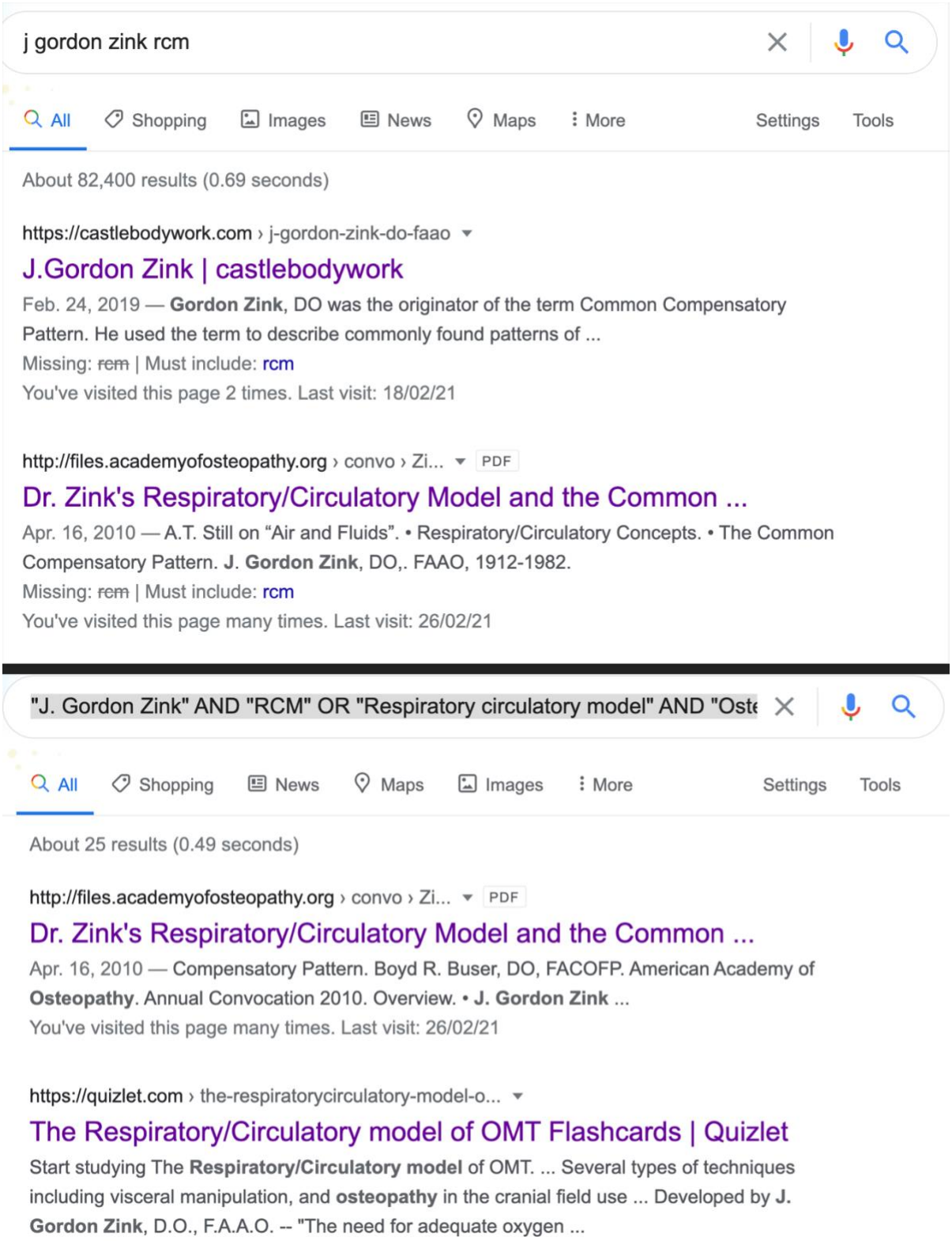
[This CCP tool is first discussed in Section 1.4 of this report.]

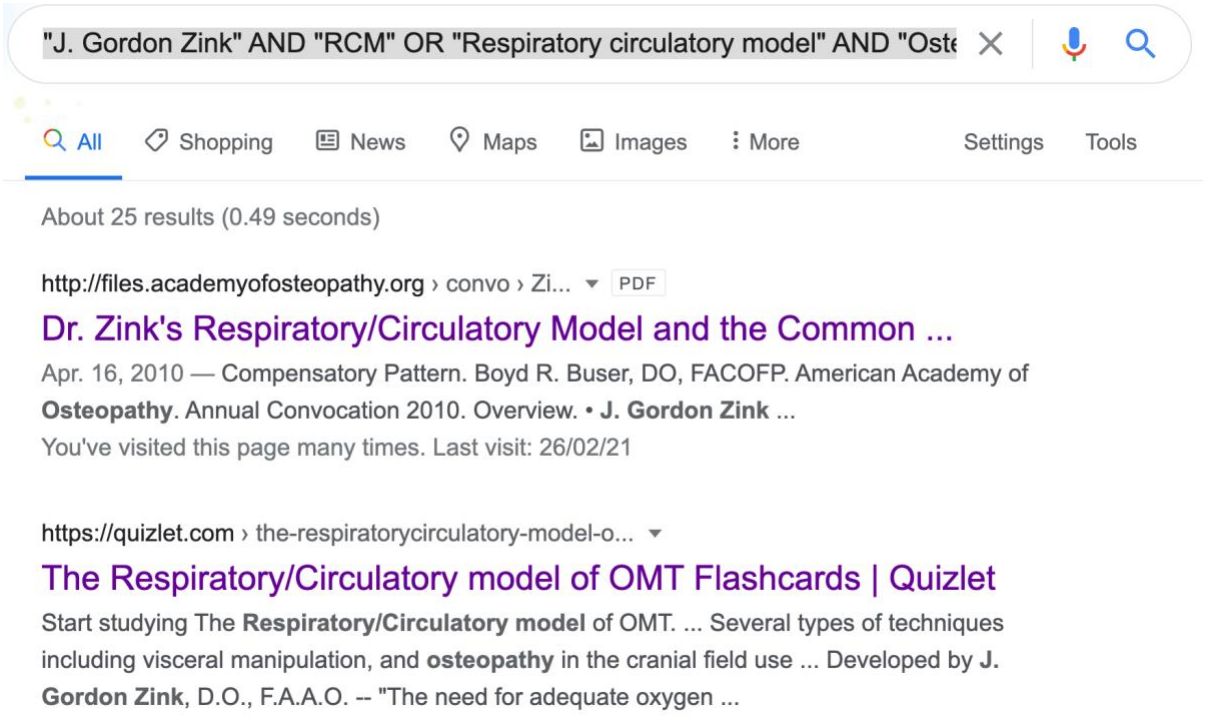
APPENDIX 3: COMPARING GOOGLE SEARCH RESULTS



[Screen shot of a Google search for "Respiratory Circulatory Model" is first mentioned in Section 1.6.1 of this report.]

APPENDIX 4: NARROWED BOOLEAN SEARCH RESULTS





[This 3-page screenshot of Google searches is mentioned in Section 1.6.1 of this report.]

APPENDIX 5: AMERICAN ACADEMY OF OSTEOPATHY BOOK ORDER

American Academy of Osteopathy®

3500 DePauw Blvd., Suite 1100, Indianapolis, IN 46268-1136
(317) 879-1881 • Fax: (317) 879-0563
www.academyofosteopathy.org

Name Nathanael D. Enns

Street address 28 Jacob Cressman Drive

City Baden State Ontario ZIP N3A4K9 Country Canada

Telephone number 226-808-4529 Fax number

By releasing your fax number or email address, you give the AAO permission to send marketing information regarding courses by fax or email.

Email address ndenns@gmail.com Are you an AAO member? ☐ Yes ☒ No

Book store discounts: 15% on 1-29 items; 20% discount 30+ items.

AAO members receive a 10% discount on AAO publications.

U.S. POSTAGE & HANDLING

Rates apply to U.S. orders only.
Orders cannot be shipped to P.O. Boxes.

Contact the AAO office for international shipping rates.

$1 - 25	$8
$26 - 50	$9
$51 - 75	$10
$76 - 100	$11
$101 - 125	$14
$126 - 150	$16
$151 - 175	$18
$176 - 200	$22

For orders over $200, add $1 shipping for every additional $25.

For shipment outside the U.S., the Academy incurs additional expenses as a result of regulations imposed on shippers by U.S. Customs and the U.S. Postal Service. Hence, the Academy assesses a minimum of $5 in addition to the actual shipping cost for these orders. This base fee may increase for larger orders or for orders in countries which impose additional charges. For further details, customers should contact the AAO prior to placement of international orders.

METHOD OF PAYMENT

All orders must be prepaid

☐ Check/MO ☒ Visa ☐ MasterCard ☐ Discover

Card no. 4516 0760 0265 5123

Expiration date 02/21 CVV No. 694

Name on card Nathanael D Enns

I hereby agree to charge the above card for the total book order.

Signature

Billing address 28 Jacob Cressman Drive
Baden, ON, Canada, N3A 4K9

Purchase order number WPCD05

Subtotal of book orders ..... $ 125

Shipping ..... $

Total book order ..... $

RETURN POLICY

1. A restocking fee of $5 per book is charged for all returns.
2. Refunds are allowed if item is returned within 30 days of the date of the invoice and pre-authorized by the Academy. After 30 days, if approved for return by the Academy, a credit for the amount on the invoice will be issued for a future purchase.
3. Product must not have been damaged (no barcode stickers on book).
4. The item must not have been removed from its shrink wrap.
5. Shipping is not refunded.
6. Item must be returned at customer cost.

APPENDIX 6A: PUBLISHED … ARTICLES BY ZINK

Published Writings: 63 pages	**Authored by**	**Year (if known) / (+ other info)**
An Osteopathic Structural Examination and Functional Interpretation of the Soma	J. Gordon Zink, DO, and William B. Lawson, Ph.D.	
Applications of the Osteopathic Holistic Approach to Homeostasis	J. Gordon Zink, D.O.	FAAO Canton, Pennsylvania American Academy of Osteopathy – Yearbook 1973
Osteopathic Management of the Patient with Chronic Cardiac Disability	J. Gordon Zink, D.O.	Canton, PA
Pressure Gradients in the Osteopathic Manipulative Management of the Obstetric Patient	J. Gordon Zink, D.O., and William B. Lawson, Ph.D.	
Respiratory and Circulatory Care: The Conceptual Model	J. Gordon Zink, D.O.	
The Osteopathic Holistic Approach to Homeostasis	J. Gordon Zink, D.O.	1969 Academy Lecture Canton, PA
The Posterior Axillary Folds: A Gateway for Osteopathic Treatment of the Upper Extremities	J. Gordon Zink, D.O.,	

	William D. Fetchik, D.O., and William B. Lawson, Ph.D.	
The Role of Pectoral Traction in the Treatment of Lymphatic Flow Disturbances	J. Gordon Zink, D.O., and William B. Lawson, Ph.D.	

Published articles in the "Collected Works of J. Gordon Zink, D.O., F.A.A.O."

- see Appendix 6B for "Unpublished Articles by Zink" –

[This list is first mentioned in Section 2.2.2 of this report.]

APPENDIX 6B: …UNPUBLISHED ARTICLES BY ZINK

Unpublished Writings: 261 pages	**Authored by**	**Year/other info**
Poem he wrote regarding A.L.S.	J. Gordon Zink, D.O., F.A.A.O., D.Sci.Hon., A.L.S.	
A Subjective Test to Evaluate Pressure Differentials in Body Cavities When Using the Respiratory/Circulatory Concept of Osteopathy	J. Gordon Zink, D.O.	3/12/81
Abdominal Evaluation of Obstetrical Patient	J. Gordon Zink, D.O.	5/14/81
Advantages of the Respiratory/Circulatory Model	J. Gordon Zink, D.O.	

Unpublished articles in the "Collected Works of J. Gordon Zink, D.O., F.A.A.O."

[This list is first mentioned in Section 2.2.2 of this report.]

APPENDIX 7: CODING

Q1-Q3	Key Noted Themes (Global Observation)	# of Times		
1	RCM Promotes Health First to tissue & often resolves symptoms by removing barriers to fluidic blocks using a combination of MSK techniques			**He Himself Experienced**
1	Life of Flesh in the Blood			
1	**ALS Dx**			
1	Prevention of Disease/Injury &/Or Tx Augmentation of Disease/Injury			
	Physiology First, then Symptoms			
2	Health First, then models of care & symptoms			**Physiology First, Then Symptoms**
2	Philisophical Thinking, Scientific Research, Art of Hands			**RCM Phillosophy, Then Osteopathic Models**
2	Treat the Physiology First to Restore Health by Removing What Blocks It (see if symptoms left over)			
2	Learn What is Healthy and You'll Recognize What Isn't			
3	Goal of Any Osteo = Health			**Case Studies, Examples, Other People's Take on his teaching.**
3	Rule of Artery Absolute			
3	Fundamentals of Osteopathic Phillosophy			
3	RMC meets all Above			

a) Sample field notes classified (color-coded) as to developing themes.

- continued on nest page -

		LECTURE 2: Internal and External Respiration 2	Time	Notes	KEY Words
25			VTS 1.2 @ 22:30		
26		Start Lecture: RCM	VTS 1.3 Start 22:35	Mentions Topic	
27	Q1	RCM Ostepathic Philosophy		RCM Defined? as Lungs & Blood; Homeostasis of the body	Diaphragm: 18
28	Q3	RCM Zink Quote Health	0.35	Zink Quote: "First understand the normal. And if you understand the normal, you can understand a dysfunction. And that dysfunction if allowed to continue will result in frank disease."	Respiration: 14
29	Q1	Medicine "3 Rs"	1:01	3 Rs of Medicine: Relieve, Remove, Repair Osteopathicly: Zink "Resting, Respiratory Return of Lymph while on their back"	Lungs: 9
30	Q2	RCM Health	5:17	Zink quote: "object of normal health is to exhale" Exhale key to proper respiratory health Bend over and exhale everything, then stand up straight and breath deep & tall	Breathe/Breathing: 25
31	Q2	Oxygen Requirements for proper brain function	6:15	Oxygen to brain requirements	
32	Q3	Cold Shower: start your day	7:00	Sailors & Indians did the same thing for health	
33	Q1	Disease restricts motions	8:53	Quotes: "restriction comes first to predispose for the disease"	
34	Q2	Oxygen Requirements for proper brain function	17:32	"Oxygen is the name of the game" brain requires 20% of body oxygen but weighs 2% of the body's wgt? Also gets 20% of the body's blood supply	
35	Q1	RCM Zink Quote Health	18:39	Zinke Quote: "So I think our aim should be to recognize what is normal. Therefore to know the normal is to recognize dysfunction. We have which you can do something do something about it by way of prevention. And that is unique to the osteopathic physician."	
36	Q2	Questions from students	19:16	Manipulation of a baby	
37	Q2	Key Anatomical Structures	22:30	C2-C3, L5, Sacrum between iliums	
38		Cont w/ baby respiratory health	VTS 1.4 Start		
39	Q2		0:18	Zink Quote: "almost all children are bilaterally locked"	
40	Q2	Cranial Sternal Sacral Mechancism	0:30	Cranial Sternal Sacral Mechancism "One is dependent upon the other you can't separate those systems."	
41	Q2	Quadratus Lumborum & T/D		Zink Quote: "the quadratus lumborum for all practical purposes is a continuation of the diaphragm."	
42	Q2	Baby "tick tock" test	1:39	equal swing bilat	
43		Technique: Tx of baby SB to one side	2:30	Picking up	
44	Q2	Zink Quote: no single Tx protocol	5:55	no single answer to a problem	
45	Q1	Zink Quote: what he was taught vs understands	6:05	Zink was told that if he new the nervous system, he could treat anything, but found it not to be true	
46	Q2	Zink Quote: no single protocol: Tx what you find	7:06	Zink quote: "See what you find and treat what you find there is no way of saying here's the way you treat something so there's no standard classical thing."	
47		Zink Example of Tx case: smokers	8:13		
48	Q2	CV4 "aka balb compression"	9:44	cites magoun again at 11 mins NOTE: transcription called it "Bob Compression"	
49	Q2	CV4 influence on RCM	11:18	Zink Quote: "control and depth of respiration."	
50	Q1	Zink cites Russian Dr 1930s	11:55	Needle in spine to extract and re-insert CSF up to 40x per min to pump CSF Zink Quote: "Now we think with a closed method, we can do about the same thing and we get some spectacular results"	
51	Q2	Next Question: If Vein Removed	14:47	if leg, stay away from it while acute & Tx systems toward limb of concern	
52	Q3	Zink Quote: Pun on D.O.	18:58	Zink Quote: "Don't forget D.O. might stand for the privilege of you're delivering oxygen to the tissues."	

b) Sample field notes classified (color-coded) as to developing themes.
[This coding is first mentioned in Section 2.2.4 of this report.]

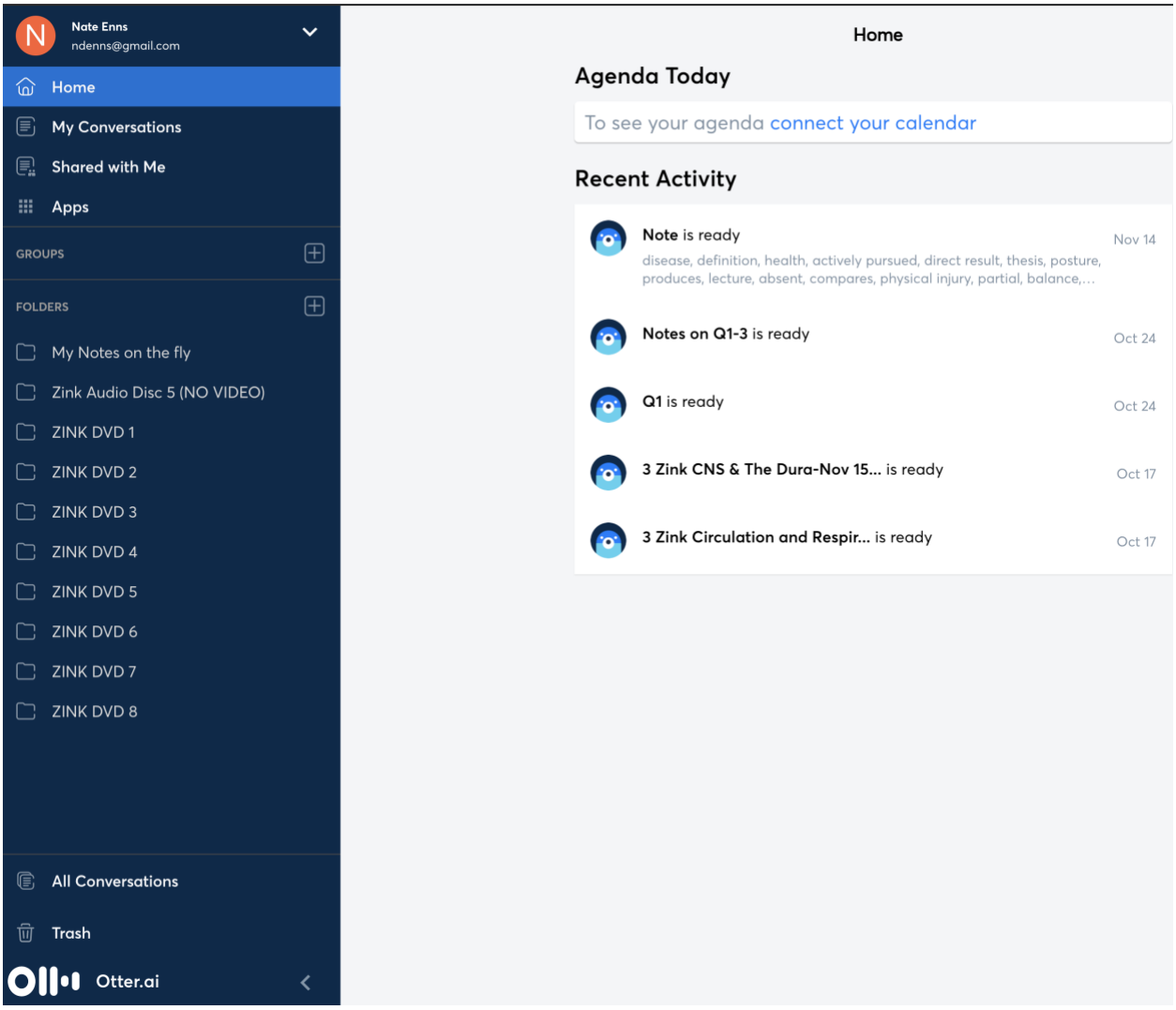
APPENDIX 8: KEY WORDS COUNTED

Key Words from DVDs 1-3	**# of Times**
Rotate/Rotation	199
Diaphragm(s)	145
Motion/Move/Movement	127
Respiration	111
Fluid(s)	98
Pressure(s)	65
Veins/Vessels/Venous	50
Chest	45
Pattern(s)	42
Lymphatics	39
Drain/Drainage	31
Pump	29
Breathe/Breathing	25
Blood	24
Air/Oxygen	23
Lung(s)	20
Rest/Resting	13
Fulcrum:	11
Fourth (4th) Ventricle	8
Fascia	8
Compensatory (CCP)	5

Partial chart, showing word count from Zink's lecture DVDs #1 - #3

[This list is first mentioned in Section 2.2.6 of this report.]

APPENDIX 9: OTTER.AI TRANSCRIBING SOFTWARE



Screen shot of the app used to transcribe DVD recordings.

[This list is first mentioned in Section 1.6.1 of this report.]

APPENDIX 10: CONSENT TO OBTAIN DATA

On Sat, Sep 22, 2018 at 12:05 PM Aumdoc <aumdoc@gmail.com> wrote:

Hello Nate,

I might be able help you and very willing to try. Having retired from clinical practice 7 years ago, those files are in storage.

Happy to dig them out and share with you whatever I can find which will be articles from the Osteopathic Literature around the time I worked with Dr Zink (1979-1982).

I also will have a some of my personal communication with him.

It may take a few days.

Thanks for asking,

Aumdoc (Rick Clofine, D.O.)

On Fri, Sep 21, 2018 at 6:20 PM Nate Enns <ndenns@gmail.com> wrote:

Hi,

I am a Thesis writer at the Canadian College of Osteopathy in Toronto Canada. I'm currently doing a qualitative study on the Respiratory-Circulatory Model as defined by J. Gordon Zink, DO. I can find a lot of secondary sources on the topic, but not any primary journal articles or even any peer-reviewed journal articles outlining his theory and application. I'm writing in hopes that you, as a mentee of his, may have some of his work or possibly point me in the right direction to be able to better dive into this topic.

Thank you SO much in advance for your time,

Nate Enns

[This correspondence is first mentioned in Section 2.2.7 of this report.]

APPENDIX 11: LECTURES BY ZINK

Collected Works of J. Gordon Zink, DO, FAAO
DVD/Audio Discs Table of Contents

Lecture Name	DVD Disc #	Audio Disc #	Video Length	Audio Length
Lab Lecture	1	1	34:49	37:58
Lumbar Spine	1	1	46:52	51:10
Lumbar Spine	1	1	55:07	1:00:10
Lumbar Spine Review	1	1	1:01:45	1:06:36
Thoracic Cage	2	1	40:08	43:48
Thoracic Inlet	2	1	34:55	38:03
Thoracic Inlet	2	1	47:44	52:00
Diaphragms of the Body	2	1	42:16	46:19
Head and Neck	2	1	36:14	39:33
Internal and External Respiration	3	2	40:43	44:29
Internal and External Respiration	3	2	44:57	49:10
Applied Physiology of The Lymphatic System	3	2	46:36	49:53
Lymphatics	3	2	48:26	53:50
Cardiovascular System	4	2	25:07	27:55
Memorial Lecture	4	2	51:15	55:55

Snapshot of the first page of the three-page list of lectures …

[This list is first mentioned in Section 2.4 of this report.]

Collected Works of J. Gordon Zink, DO, FAAO
DVD/Audio Discs Table of Contents

Lecture Name	DVD Disc #	Audio Disc #	Video Length	Audio Length
Osteopathic Aspects Of Renal Function	4	2	32:18	34:40
Role of Osteopathy in Your Practice	4	2	55:57	1:01:00
Osteopathic Principles in Infectious Disease	5	3	48:19	48:15
Landmarks and Palpation	5	3	23:21	23:25
TMJ/Hyoid Bone/CV4	5	3	34:28	35:14
Osteopathic Concepts in Renal Function	5	3	41:19	38:41
Osteopathic Care of the Obstetrical Patient	6	3	53:53	1:00:35
Osteopathic Management of the Obstetrical Patient	6	3	47:32	51:51
Osteopathic Approach to The Neonatal Patient	6	3	46:07	50:17
Osteopathic Approach to the Newborn	6	3	39:25	42:58

Snapshot of the second page of the three-page list of lectures …

[This list is first mentioned in Section 2.4 of this report.]

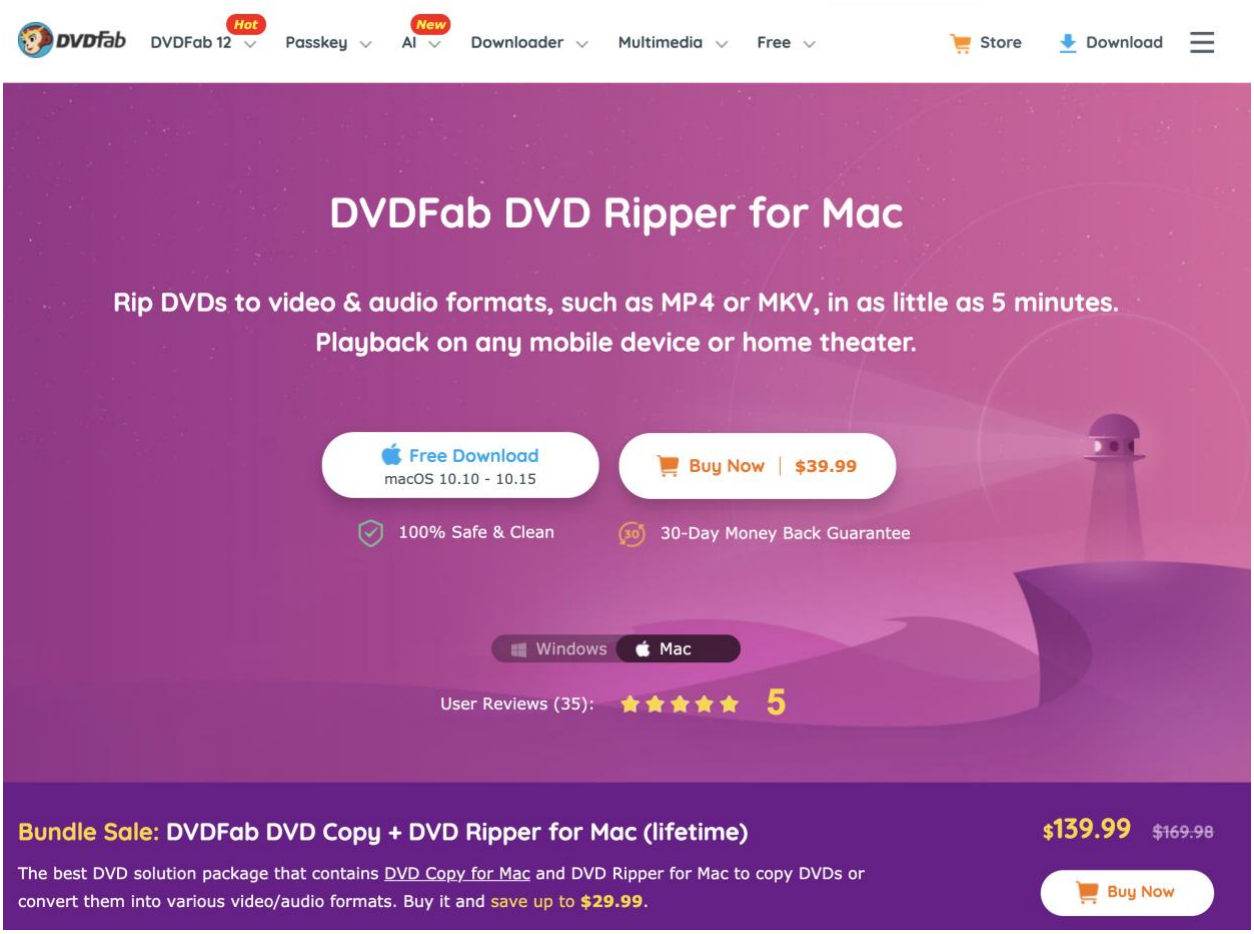
Collected Works of J. Gordon Zink, DO, FAAO
DVD/Audio Discs Table of Contents

Lecture Name	DVD Disc #	Audio Disc #	Video Length	Audio Length
Chapman's Reflexes	7	4	51:42	56:14
Posture and Balance	7	4	42:59	46:30
Circulation and Respiration	7	4	55:37	1:00:37
The Pelvis: Part 1	8	4	51:44	56:38
The Pelvis: Part 2	8	4	47:03	47:59
CNS & The Dura	8	4	56:38	56:42
Thoracic Inlet	8	4	54:34	54:34
Cardiology	--	5	--	45:12
Diaphragms	--	5	--	41:50
Infectious Endocarditis	--	5	--	47:03
Liver and Gall Bladder	--	5	--	41:30
Obstetrics	--	5	--	51:17
Pediatrics	--	5	--	51:05
The Osteopathic Holistic Approach to Homeostasis	--	5	--	39:24

Snapshot of the last page of the three-page list of lectures.

[This list is first mentioned in Section 2.4 of this report.]

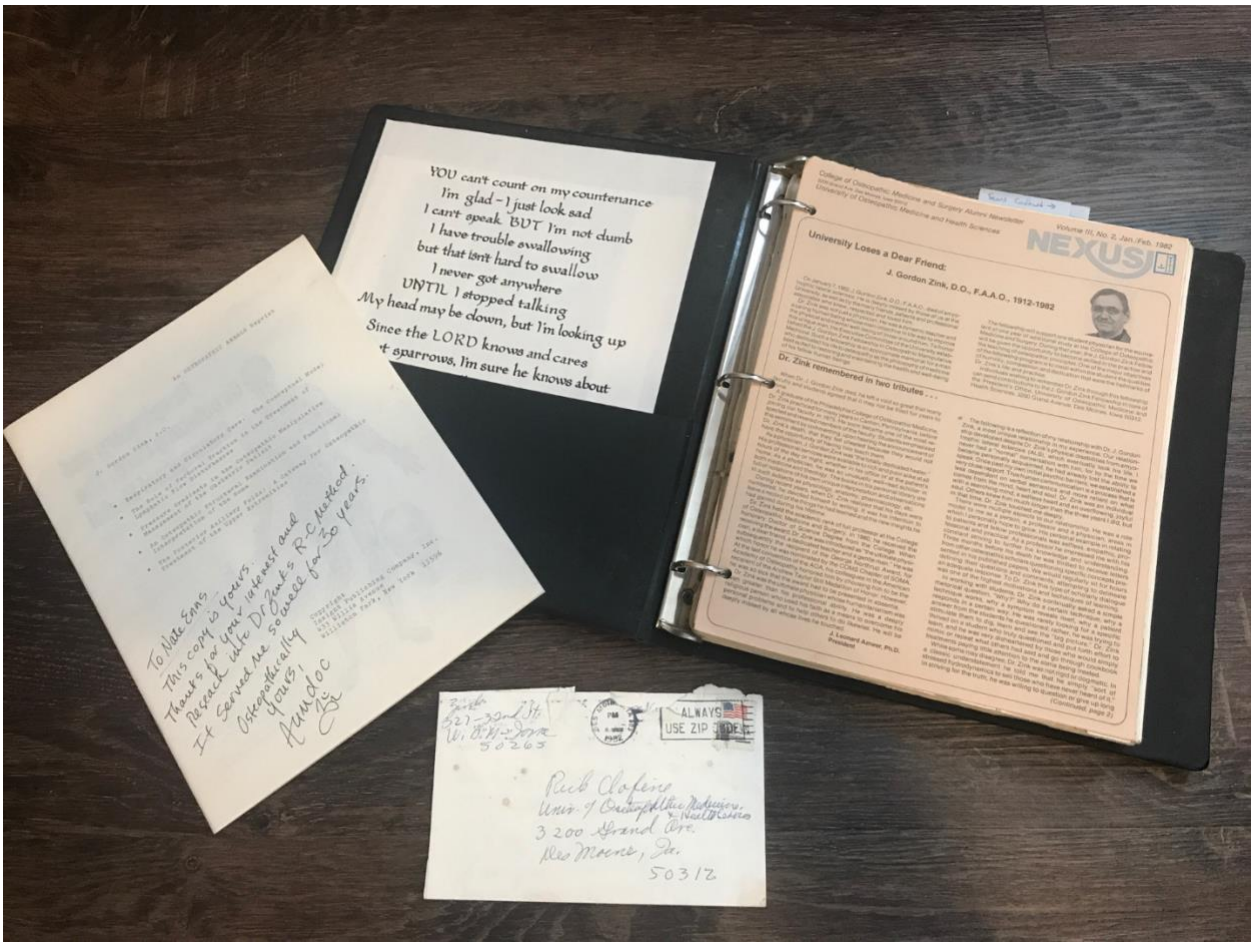
APPENDIX 12: DVD RIPPER



Screenshot of the app used to digitalize a video recording.

[This app is first mentioned in Section 2.4 of this report.]

APPENDIX 13: DATA SHARED



Items about Zink shared by Dr. Clofine

[These personal items were first mentioned in Section 2.5 of this report.]

APPENDIX 14: PERMISSION FOR COPYRIGHTED MATERIAL

From: Lauren Good <LGood@academyofosteopathy.org>

Date: Monday, November 25, 2019 at 9:23 AM

To: Amber Rausch <arausch@academyofosteopathy.org>, Nate Enns <nate@alignedhealth.ca>

Cc: Bev Searcy <bsearcy@academyofosteopathy.org>

Subject: RE: Thesis

Thank you for contacting us to request permission to use portions of the Zink DVD set in your thesis. Generally, if you're quoting or citing a source, you do not need permission from the copyright holder because the complete information should be provided in the reference list. If you plan to reproduce whole sections of the DVD set, you will need to submit a Permission to Reprint form (attached) for each article.

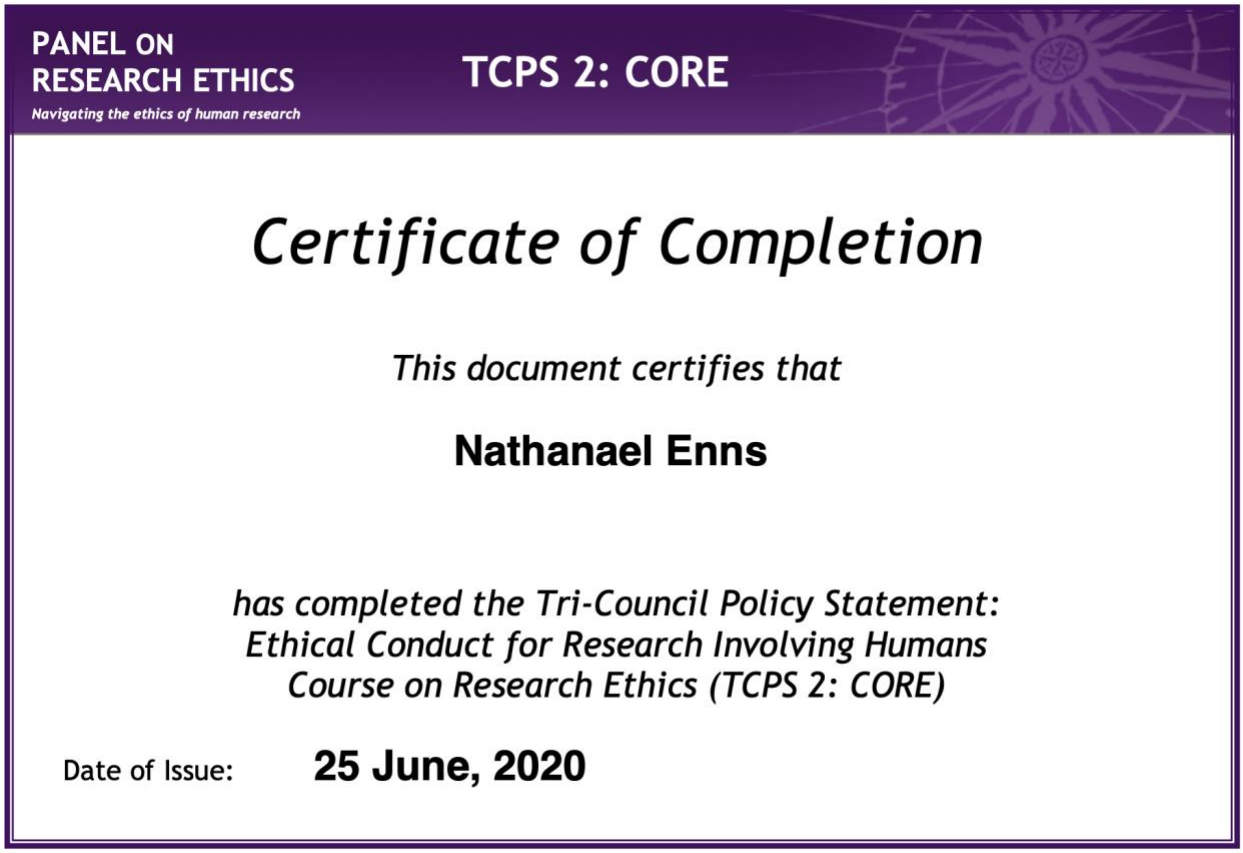
Thank you and best wishes,

Lauren Good, Communications Specialist

American Academy of Osteopathy

[This correspondence is first mentioned in Section 2.6 of this report.]

APPENDIX 15: ETHICS COURSE CERTIFICATE



PANEL ON RESEARCH ETHICS
Navigating the ethics of human research

TCPS 2: CORE

Certificate of Completion

This document certifies that

Nathanael Enns

has completed the Tri-Council Policy Statement:
Ethical Conduct for Research Involving Humans
Course on Research Ethics (TCPS 2: CORE)

Date of Issue: **25 June, 2020**

[This certification is first mentioned in Section 2.6 of this report.]

APPENDIX 16: ETHICS APPROVAL

From: Kieran Cooley <kcooley@ccnm.edu>

Date: Monday, May 31, 2021 at 8:04 AM

To: Jane Stark <janestark@on.aibn.com>, Craig McNair <craig_chelle@rogers.com>

Cc: Catherine Cabral-Marotta <catherine@motionhw.ca>, Nate Enns <ndenns@gmail.com>

Subject: Re: About Nate Enns's research

Hi all,

On behalf of the REB, I can attest that Nate was diligent in submitting and attempting to followup on obtaining ethics approval. We were neglectful in getting him a timely response to his submission, and for that I'm terribly sorry. We have let Nate down. I can provide a letter that outlines this if it would be helpful to the jury.

Without the interviews that Nate proposed (but appropriately did not conduct) his submission did NOT require ethics approval. If helpful, I can provide a letter attesting that non-human participant activities of his research are exempt from ethical review and oversight.

We could also follow through on the elements of thesis-based hypothetical research during COVID and expect Nate to provide a full response to the requests for revisions from the REB and subsequent edits to his protocol (but not actually conduct interviews). This exercise is, as Jane points out, consistent with the expectations for other students during these strange times.

Hopefully this helps.

~k

[This letter is first mentioned in Section 2.6 of this report.]

APPENDIX 17: CONSENT FOR USE OF COMMON COMPENSATORY PATTERN ILLUSTRATION

Friday, April 9, 2021 at 12:17:51 Eastern Daylight Time

Subject: Re: Permissions
Date: Tuesday, April 6, 2021 at 1:58:17 PM Eastern Daylight Time
From: Ross Pope
To: Nate Enns

To: Nate Enns
From: Ross E. Pope, DO, FAAO

Dear Nate

You have my permission to use the "A CCP Illustration" for figure 1 in your paper paper titled, *Dr. Gordon Zink, D.O., F.A.A.O.: His contribution to Osteopathy through the Respiratory-Circulatory Model.*

Sincerely,
Ross E. Pope, DO, FAAO

Sent from my iPad

> On Apr 5, 2021, at 6:47 PM, Nate Enns <Nathanael@alignedhealth.ca> wrote:
>
> Hi Dr Pope,
>
> Thank you for writing back to me! So much appreciated.
>
> Below is a screenshot of what I hope to use from your thesis as it would be captioned in my paper.
> <image001.png>
>
> My thesis is entitled, "Dr. J. Gordon Zink, D.O., F.A.A.O.: His contribution to Osteopathy through the Respiratory-Circulatory Model".
>
> My qualitative thesis is answering three questions:
> 1. Why did J. Gordon Zink, D.O. care about the Respiratory-Circulatory Model?
> - Who is the man who became an authority on the RCM?
> 2. What was Dr. J. Gordon Zink's specific teaching about the Respiratory-Circulatory Model?
> - What was the model in which he approached the RCM? Why did he teach the way he taught RCM?
> 3. Why should Dr. J. Gordon Zink's methods pertaining to the Respiratory-Circulatory Model of osteopathic treatment continue to be researched?
> - What was his methods of teaching that need to be continued and researched?
>
> I've seen some seriously mis-representations of Dr. Zink and how/what he taught. I feel that he was a legend and his work needs to continue.
>
> I will absolutely send you a copy of my thesis if you would like it once. I'm currently on draft 4

and hope to finish it by May 2021.

Thank you again!

Stay Healthy,

<image002.png>

Nate Enns
Aligned Health, BSc Ost, DOMP, RMT, FMT RockDoc
<image003.png>

647-496-6775
745 Bridge St West #6
Waterloo, Ontario N2V 2G6
http://www.alignedhealth.ca

From: Ross Pope <pope.ross@gmail.com>
Date: Monday, April 5, 2021 at 2:07 PM
To: Nate Enns <Nathanael@ALIGNEDHEALTH.CA>
Subject: Permissions

Hi Nate
You've asked about getting a permission for one of the illustrations in my thesis. I'm very open to that idea. The original illustrations that I did for the thesis were figures 23, 24 & 30. For which illustration would you like a permission?
Ross Pope, DO

PS - I saw your in your email name an affiliation with posture. I'm interested to see what you've writing. Perhaps you could send me a draft along the way.

Sent from my iPad

[This permission to use the CCP illustration is mentioned in Section 3.2.2 of this report.]

APPENDIX 18: TAKING A PATIENT'S HISTORY

Taken from "History" (Zink, 1979b):

1. Age, Height, Weight (how long), Most weight (When?)
2. Chief complaint, how long? Describe.
3. When did it first bother you? What happened?
4. What have you done for it?
5. Have you been treated osteopathically before? By whom, and for what?
6. Any accidents? Auto, falls, fractures, dislocations, sprains?
7. What infectious disease have you had? Tell me about it. Were you hospitalized? How long? What was done?
8. Operations? When? For what?
9. Do you have to get up at night to urinate? Number of times, how long (months, years)?
10. Do you feel rested when you get up in the morning?
11. How long does it take to get moving in the morning?
12. Do you have cold feet or hands?
13. Do you bruise easily?
14. Do you have headaches? Where? How long (years)? Describe.
15. Pain or backache? Where? How long? X-rays, myelogram(s)?
16. Does it hurt to sit on a hard surface? If it does, do you favor one side?
17. What do you do for exercise? How long? How do you feel if you miss a few days?
18. Menstrual periods? Began? Regular? Pain, how long? Flow heavy or light? Discharge color?
19. Children: how many (ages)? Miscarriages?
20. Habits (alcohol, tobacco, coffee, tea, drugs)?
21. Observation
    - A. Stance, gait, facial expression, handshake, voice, attitude, appearance.
    - B. Crossed legs? (Relieves stress due to somatic dysfunction.)
    - C. Respiration (with patient supine)
        - a. Type – costal, abdominal, mixed
        - b. Depth – umbilicus, pubis
        - c. Rate – rapid, slow
        - d. Nares dilated?
    - D. Note contour of thorax and abdomen
    - E. Does abdomen guard against gentle pressure?
    - F. Lumbar spine arched or flat?
22. Rule of thumb: Treatment takes one month for each year of trouble (e.g.: a patient with low back pain for three years needs three treatments over a three-month period.)

[This questionnaire is first mentioned in Section 3.2.5 of this report.]

APPENDIX 19: HISTORY-TAKING REGARDING FOUR HEALTH GOALS.

10/29/80
"J"

Osteopathic management should strive to have the patient;

1. SYMPTOM FREE

2. Able to SLEEP at might and feel RESTED in the morning.

3. Have a good appitite

4. Have normal BOWEL MOVEMETNS

2,3,&4 I learned from Dr. Paul Kimberly (tape on Lymphatics)

[This memo is mentioned in Section 3.2.5 of this report.]

APPENDIX 20: ABDOMINAL COMPRESSION AND WARMTH TEST

Taken from "A Subjective Test to Evaluate Pressure Differentials in Body Cavities when Using the Respiratory/Circulatory Concept of Osteopathy" (Zink, 1981c).

The goal of osteopathic treatment, when using the respiratory/circulatory concept of osteopathy is to re-establish diaphragmatic respiration when the patient is in the supine position. The application of the principles laid down by Andrew Taylor Still and enlarged upon by William Garner Sutherland, D.O. have made it possible to affect the flow of fluids in the body. The objective test of observation and palpation have been used by the physician to evaluate the patient before and after treatment. The success of osteopathic treatment was sometimes immediate and confirmed by the subjective relief of symptoms, but for the more difficult cases, in which there was no immediate relief or response, there was no way to determine if the osteopathic treatment was beneficial. There was no way to subjectively confirm a physiological response which necessarily precedes a clinical improvement.

Now, at last there is such a test. To perform this test, the patient lies in the supine position with the knees raised. The physician's hand is gently placed transversely on the abdomen just below the costochondral arch so that the thumb and fingers are an equal distance from the midline of the body. A gentle but gradually increasing pressure is exerted downward while the hand is turned as if to push the abdominal viscera upward against the diaphragm. The combination of these forces acts to "raise" or "re-dome" the diaphragm. The "normal" physiologic response is that the patient would experience a "sensation of warmth" in the lower thoracic, lumbar, and sacral areas of the vertebral column.

[continued on next page]

The term "sensation of warmth" is used because an electrical skin thermometer is not able to record any significant change in the actual temperature of the body in the low back. I have thought, with tongue in cheek, that a roast beef thermometer would elicit a temperature change.

Empirical use of this test, over a period of years, has convinced me that the explanation for the "sensation of warmth" elicited in the low back when the abdomen is compressed involves the movement of body fluids, i.e. blood, lymph and cerebrospinal fluid.

Abdominal compression inhibits the action of the diaphragm and increases pressure on the abdominal veins and causes them to drain. The portal system and the inferior vena cava system of veins, which are without valves, are directly affected and would increase the return of blood to the heart. Because of this reaction to this modification of the hepatojugular (or abdominojugular) reflux it is wise not to subject the patient with latent heart failure to this test without caution. However, I have had patients who, when tested before treatment, objected because of the unpleasant reaction that they had, but after the entire body had been treated osteopathically, this same test gave no discomfort.

The sensation of "warmth" in the low back is important for:

1. Prognosis
2. Evaluation of treatment or treatments
3. Time saving factor for knowing when treatments are finished
4. Patient confirmation of response to treatment or treatments
5. Sensation of "warmth" should become progressively

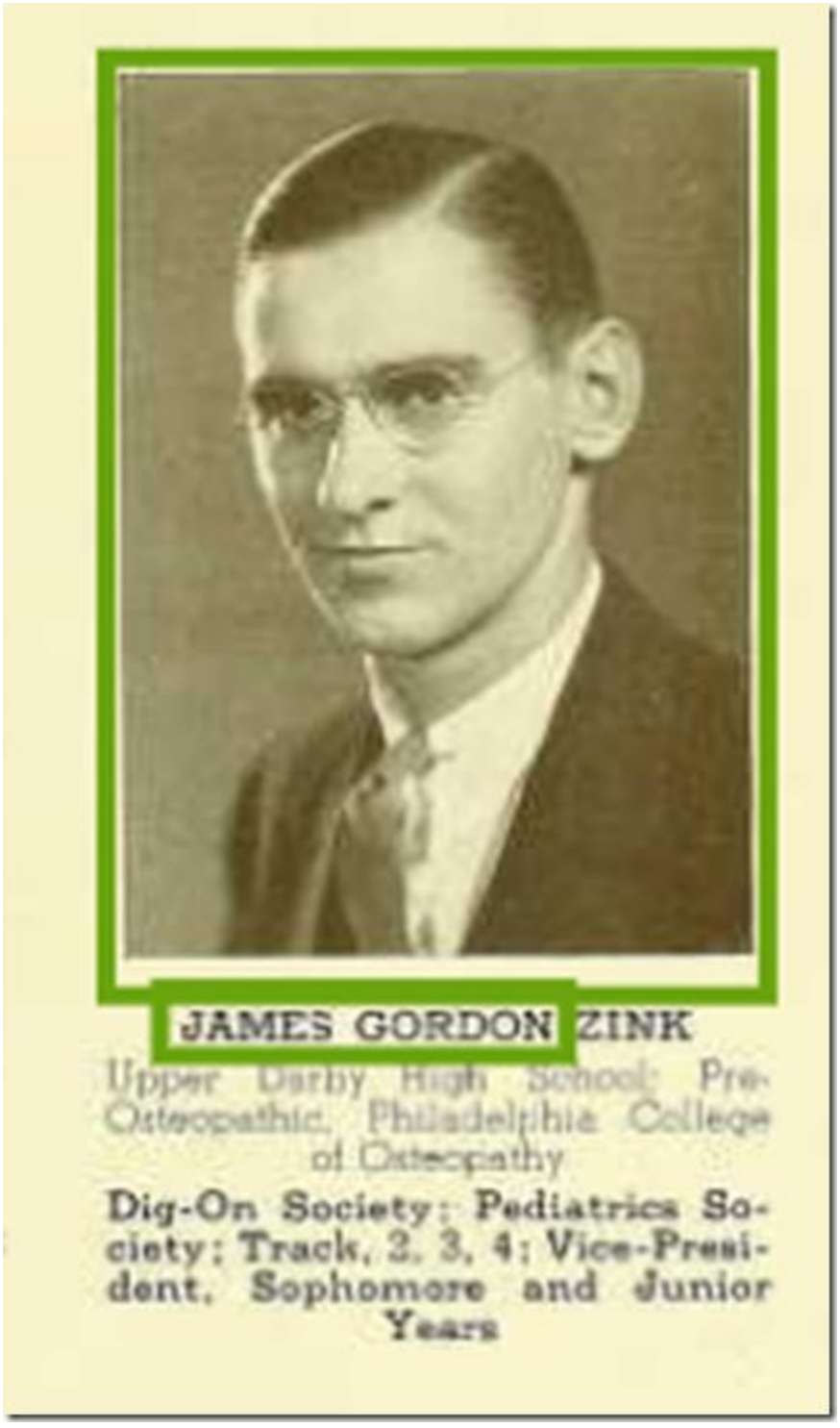
a. "warmer"
b. moves lower down the back and upper thighs c. "warmth" comes in faster.

[continued on next page]

6. Physiological response of "warmth" sensation allows physician to extend treatment intervals
7. About 20% of patients do not experience the sensation of warmth in the low back in response to abdominal compression
8. Once having responded to abdominal compression by the sensation of "warmth" in the low back, the physician should work until he/she is able to elicit at least the same degree, area and speed reaction as the last treatment, and then work to improve these reactions
9. If the patient experiences "warmth" only down to the level of about the lower dorsal or upper lumbar area after osteopathic manipulative treatment, it may indicate the need for evaluating and treatment of the urogenital and pelvic diaphragms
10. If, after "special work" abdominal compression is applied, the patient should have the sensation of warmth come in faster, go down lower, and be increased in intensity.

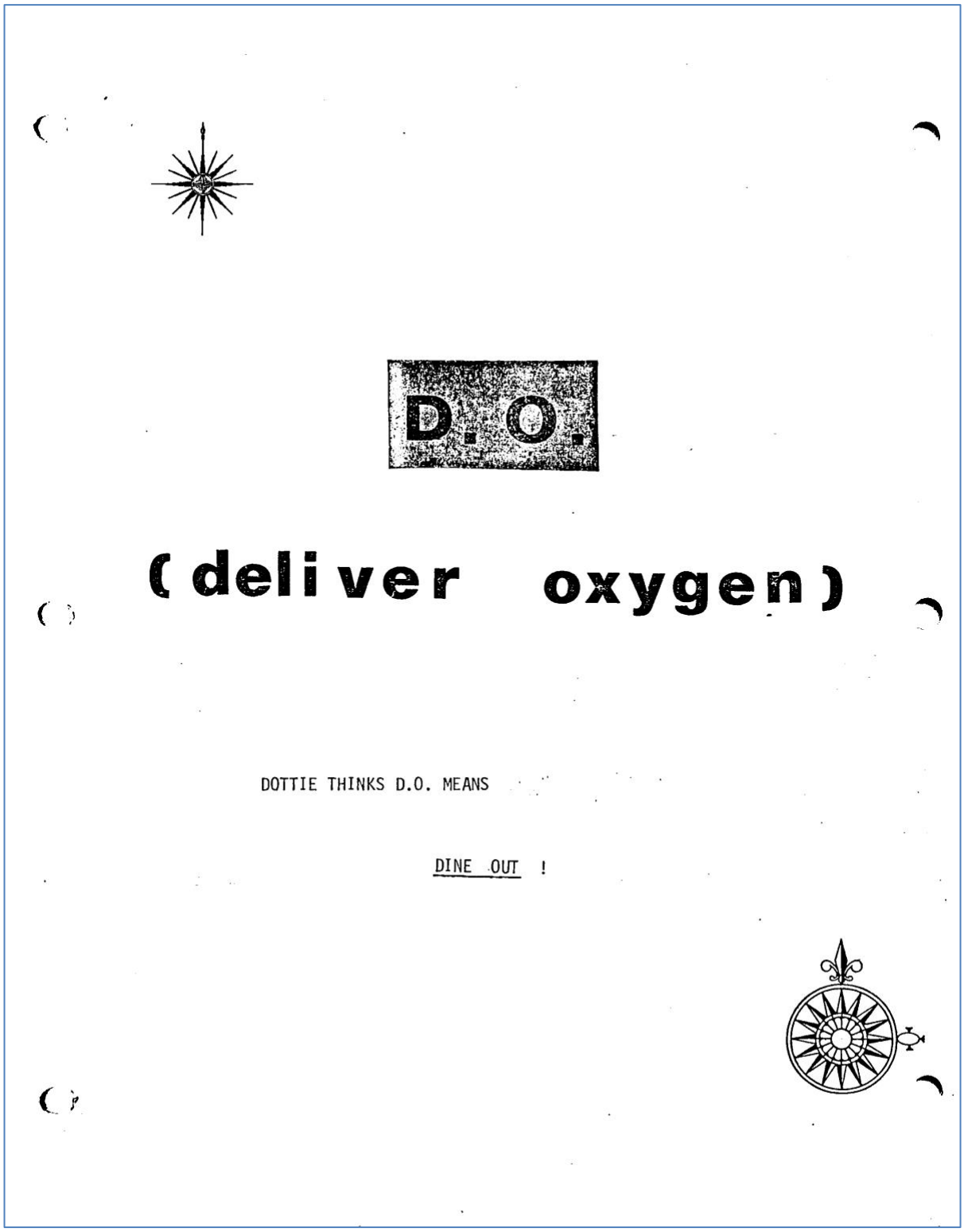
[This three-page article on using 'Warmth' is first mentioned in Section 3.2.5 of this report.]

APPENDIX 21: 1935 HIGH SCHOOL YEARBOOK



[This Yearbook photograph is first mentioned in Section 4.2.1 of this report.]

APPENDIX 22: MNEMONICS OF THE D.O.



DOING
the
OBVIOUS

Lorna Fry, alias: Doctor of the Obvious

Doctor
of the
Obvious

[The two informal pages above are first mentioned in Section 4.3 of this report.]

APPENDIX 23: PRINCIPLES FOR THE NORMALIZATION OF FLUIDS

From "Applications of the Osteopathic Holistic Approach to Homeostasis",

Each patient is an individual and must be dealt with in treatment as such, but general principles apply to the broad spectrum of cases found in general practice, because of this I have chosen to state general principles that are the common denominators to be applied in all cases.

In this Appendix will be found applications of techniques used to establish the normalization of fluids from the pelvis, the upper pelvic diaphragm, upper extremities, the breast and the lower extremities.

a. Pelvic Diaphragm

The involuntary respiratory movement of the sacrum between the ilia is essential for normal muscle tonus and the movement of the pelvic diaphragm. The pelvic diaphragm must be balanced functionally with the abdomino -thorac ic diaphragm to insure movement of the venous blood and lymph from the abdommo-pelvic cavity into the thorax during inspiration, so that venous blood and lymph can be lifted from the lower extremities. The symphysis pubis must be level and the coccyx must be without restrictions and of normal motion. Tonus of the muscles of the pelvic floor can be improved by the following procedure:

The female pelvis:

The physician's gloved index finger and third finger are inserted vaginally. The patient is asked to contract the muscles of the pelvis to see if this is tonus enough to squeeze the fingers. One side is usually weaker and will not be able to contract. The treatment consists of holding the fascia and muscles of the pelvic floor down gently while the patient is asked to take a deep breath and then give an explosive cough. This is done on the right and left sides or about at the "seven o'clock" position and then at the "five o'clock" position. The physician's hand is then turned so that the fingers can hold the fascia cephalward and upward toward the abdominal wall both on the right and the left sides, or in about the "eleven o'clock" position and the "one o'clock" position. Sometimes the patient's position may be altered to allow gravity to aid the decongestion from the area.

The results of the treatment are immediate. The abdomen is no longer "full" or tender to touch. The test the physician uses before the treatment to test for tonus will show more tonus upon re-examination. The circulation will be improved and is confirmed by a greater degree of "warmth" in the lumbar and sacral area.

b. Normalization of fluids in the upper extremity

Appendix A and B (Zink, 1973a).

[This eight-page article is mentioned in Section 5.2 of this report.]

b. Normalization of fluids in the upper extremity

If the patient has responded to treatment, for example, the abdomino-thoracic pump has been started, and the patient has experienced the sensation of "warmth" in the low back, we can proceed with the treatment of the upper extermity. We have insured an effective venous pressure throughout the thorax so that we are assured of aspiration by respiration of the venous blood and lymph vascular drainage to their terminals. Having obeyed these laws of hemodynamics, we can expect to move fluidsfrom the extremity and therefore through the extremity. This will change the bio-chemistry, the bioelectricity, and the thermodynamics of the member of the body being treated.

Now, merely by putting the various joints of the extremity through their full range of motion, many soft tissue lesions, and not infrequently, articular functional lesions are corrected. Without this respiratory hemodynamic preparation, it is more difficult, if not impossible, to relieve pain or tenderness, or to restore limited motion to full range of motion.

The sternoclavicular and the acromioclavicular areas should be considered first, then the shoulder can be carried through its full range of motion, making sure that once the myofascial slack has been taken up, all the slack is-kept throughout the entire range of motion.

The deep, sleeve-like, layer of subcutaneous fascia aids the movement of the muscles to act as "peripheral pumps" to squeeze the venous blood and lymph centripetally. The fascia is continous in the same plane and contiguous in the deeper planes. There are three main layers, between each layer there is, in the same "sheath," two veins, a lymphatic vessel, an artery, and a nerve. One of the important functions of the fascia is to keep the investing sheaths of the neurovascular bundles patent.

The elbow and the proximal radio-ulnar area can be considered next. Then the distal radio-ulnar region and the wrist. The metacarpals and the phalanges must never be neglected because we wish to reduce the resistance to the flow of fluids throughout the entire body, and allow the nerves to function freely.

It has been my experience, that in cases where the elbow, or the radio-ulnar area, or the wrist are in trouble, treatment of the various phalangeophangel joints by traction and circumduction will release myofascial tension in the forearm and allow for better management of the problem areas. Gentle traction, steady or intermittent, will work in many cases.

In long-standing cases, where the "cranio-sternosacral mechanism" (14) has been "locked" for some time, the lymphatic fluid which was

[Page 2 of 8: "Applications of the Osteopathic Holistic Approach to Homeostasis"]

[This eight-page article is mentioned in Section 5.2 of this report.]

moved toward the thorax, was not received into the thorax. We will find a mass "parked" outside of the chest in the loose fascial planes of the posterior axillary fold, near the forward edge of the shoulder blade, just below the head of the humerus. The mass is about the size of the body of the sternum and parallel to it. Some of the most exciting results are obtained in treating the phantom "phenomena" following amputation. The treatment is simple. The edematous mass is grasped between the thumb and the fingers and held steadily. The patient's diaphragmatic respiration will accomplish the r esults. The "lump" soon "melts" and the
soreness disappears. The patient will, many times, breathe even more easily and experience the sensation of "warmth" in the arm. It is advisable to "warm" the shoulder first so that the fluid in the arm can be drained, then it is possible to clear the forearm, then the hand, and finally the fingers. This sequence of treatment, and management is possible by directing the sensation of "warmth" exactly to the area that we wish to affect, by following these simple directions: the patient is supine, the arm to be treated is at the side but away from the body. The elbow is somewhat bent so that the palm of the hand is on the abdomen. The physician will find it convenient to stand at the right side of the table, while treatin g the patient's right arm, and use the left hand for treating. If we visualize a miniature arm, forearm, hand, and fingers on this mass, in the same position as we have placed the patient's arm, forearm, hands and fingers, we can move, as the patient guide s us, to the area we wish to affect. For example, the top of the shoulder would become "warm" when we work on top of the mass, near the thoracic wall. If we move downward and somewhat laterally we will be told, by the patient, that the elbow becomes "warm." By moving father downward and more medially on the mass, the patient will say that the sensation of "warmth" has moved to the forearm and wrist. If we move on the mass farther downward and near the chest wall, the patient will tell us that the fingers feel "warm." The thumb will be affected when we are very close to the chest wall but a little cephalad; the little finger when we are close to the chest wall but more caudad. The response to treatment is faster if the patient is asked to "make" and "break" a fist while the mass is squeezed. In the book Chapman's Reflexes (15) this area is described as a reflex to be used in the treatment of Dupuytren's contracture. It has been my experience that this area is always "full" and tender when the arm is in trouble .

The deltopectoral and/or eiptrochlear lymphatic glands may be enlarged and tender. The arm may be "full" and the skin on either side and above the elbow may be edematous. Sometimes the edema is found in front and/or back of the distal radio -ulnar area, or in the hands. The skin may be sensitive to touch and the patient may say that they bruise easily. The skin may be pale, or mottled, and cold to the touch; the patient may complain that the arm feels heavy and

[Page 3 of 8: "Applications of the Osteopathic Holistic Approach to Homeostasis"]

[This eight-page article is mentioned in Section 5.2 of this report.]

restricted in motion. The arm may "ache" or be "weak." "Numbness" of a portion of the arm or the whole arm may be the chief complaint. The patient may tell us that the symptoms are worse at night, but that they feel better after they are ambulatory. If this is the case, we are certain that the thorax has not maintained the "circuit" of circulation while the patient has been at rest. In fact, these patients usually cannot sleep throughout the night and have to get up and move about, to help their embarrassed circulation. In addition to these "functional complaints" there are those patients who have had fractures and may even be in a cast, who are made more comfortable by this approach. The circulation can also be restored in frost bite cases. Infections and degenerative diseases, dermatitis, could be managed by the same consideration, along with the classical treatment. In children, who have come in for various complaints and have also had warts on their hands or fingers, this special treatment causes the warts to disappear.

c. Normalization of fluids in the breast

As with the upper extremity, the breast should never be treated until the abdomino-thoracic pump has been made to work properly. The object of treatment is to promote elimination of waste products of tissue metabolism, by affecting venous and lymphatic drainage so that capillary circulation is adequate. Oxygen and nutrition will then reach the tissues, and the nerves supplying the area will function normally.

The treatment is as follows:

The patient is supine. The physician cups the breast around the base, near the chest wall, using the thumbs and index fingers. The contact is gentle but firm and applied only to the base of the breast. The rest of the breast is allowed to be free. The physician then lifts the breast cephalward until there is slight resistance by the tissues, then the breast is rotated in one direction with both hands until there is a slight resistance by the tissues. All the slack is taken up and held. The patient is instructed to take a deep breath and give an explosive cough. The breast is allowed to rest a moment and then the breast is rotated in the opposite direction; again the patient is instructed to take a deep breath and give an explosive cough, which immediately aspirates the venous blood and lymph back into the thorax. The breast is reduced in size, and has more mobility on the chest wall. It is also less tender and the patient may notice that her breathing is more easy and deeper than before treatment.

d. Normalization of fluids in the lower extremity

As with the upper extremity and the breast, the lower extremity should not be treated until the abdomino-thoracic pump has been

[Page 4 of 8: "Applications of the Osteopathic Holistic Approach to Homeostasis"]

[This eight-page article is mentioned in Section 5.2 of this report.]

started. Providing that the patient has experienc ed "warmth" in the low back, we can expect to be able to promote better circulation of all the fluids through the lower extremity. The patient can confirm results by the sensation of "warmth" proceeding down the leg, even into the foot.

Again, putting the various joints through their full range of motion will, in most cases, relieve myofascial tensions and even correct functional articular lesions. Whereas, without this hemodynamic preparation by respiration, forceful, active attempts to correct various lesions would either be difficult or impossible. In most cases putting the various joints through a full range of motion will restore good circulation.

In the more difficult cases other means for producing "warmth" and therefore better circulation to the lower extremity are as follows:

1. The patient in the supine position with the leg to be treated, off the side of the table. The knee is allowed to bend. The physician can straddle the leg just above the ankles and grasp the leg with both hands, clasping the fingers together behind and below the knee. The physician then gradually leans backward and maintains traction The forces are directed caudad, upward and outward. Gentle but steady traction is held while the patient's breathing does the work of aspiration. The low back is dropped to the table and the myofascial traction will relax the muscles of the back, pelvis and leg.

Even the quadratus lumborum, which is functionally a part of the diaphragm, as well as the crura of the diaphragm are affected by t his traction. Therefore, there is better aspiration by respiration of the venous blood and lymph so that the arterial blood and nutrition through the nerves may invade the tissues. The patient should experience a sensation of "warmth" down to the knees, an d in about fifteen seconds, down to the calf. In another fifteen seconds, the "warmth" continues to the ankles and then into the foot and all the way down to the toes.

2. Patient is supine. The physician stands at the foot of the table and grasps the pat ient's feet. The legs are then raised from the table and a little traction is applied. Merely steady holding, while the patient's respiration does the work will allow the physician to feel the legs and feet seem to "melt" as they relax because of better circulation.

3. Patient is supine, with the knees raised so that the bottoms of the feet are on the table. The physician may be seated on the opposite side of the table from the leg to be treated. For example, to

[Page 5 of 8: "Applications of the Osteopathic Holistic Approach to Homeostasis"]

[This eight-page article is mentioned in Section 5.2 of this report.]

treat the left leg the physician would sit on the right side of the patient. The physician's right thumb is placed at the lower and lateral part of the arch of the left pelvic bone. Pressure is applied cephaladward and held until the tissues "melt." The thumb can then move higher and more medial to affect the lower portion of the leg and foot and even the toes, as the thumb reaches the top of the arch under the symphysis.

It is good to remember that if there is edema below the calf muscles, around the tendon of Achilles, it will prevent the sensat ion of "warmth" from going down into the foot and toes. Gentle massage at first
and then deeper massage, stroking from the heel upward will move the fluid so that better circulation will be established through the foot.

Appendix B

NORMALIZATION OF FLUIDS IN SPECIFIC TYPES OF CASES

An individual can be different each time he presents himself for treatment, therefore it is also necessary to state general cases as well as general principles.

Appendix B will concern itself with the techniques of application and treatment to specific types of cases.

a. Normalization of fluids in cervical cases

The "whip lash" cases are treated more intelligently when the cranial concept of osteopathy is understood. We can aid the patient by first insuring the respiratory motion of the sacrum between the ilia. Then the pelvis can be leveled and the lumbar spine and the lower dorsal and ribs corrected. It is now possible to treat the mid dorsal area and then the upper dorsal area and the upper ribs ar e treated last. By this time the patient will have less pain and can move the head more easily and to a greater degree. The patient is thus prepared hemodynamically and can now be treated in the cervical area.

It is impossible to treat these cases or any other case without some use of the techniques taught in the cranial concept of osteopathy.

Sometimes there has been faulty "terminal drainage" for so long that there is considerable edematous or indurated tissue above the clavical and at the base of the neck. Gentle intermittent traction timed with the patient's respiration will, in most cases, take care of

[This eight-page article is mentioned in Section 5.2 of this report.]

the edema. There are times, however, when firm pressure on the tissues found over the top of the first ribs in the back, and over the supraspinous area of the shoulder blades is necessary to dissipate the fluids. The patient's own respiration, improves the circulation from the neck and the head.

b. Cases of low back complaints

The low back is one of the most common areas that brings the patient to the physician. The complaint may be an ache or pain. It may be that there was no history of any injury but "just out of the clear blue sky" there was a "stitch" or "catch." Perhaps the patient has had recurrent trouble for years, maybe even found that they have had temporary relief from some sort of manipulation in the past but still have never been just right. X ray may have shown evidences of arthritis, even narrowing of the intervertebral discs. Some have been told of degeneration of ruptured disc.

Low back complaints are caused by passive congestion of venous blood and lymph from the musculoskeletal system, as well as venous drainage from the spinal cord and brain, which normally empties into the superior vena cava. In other words, we may begin treatmen t in the lower cervical and upper dorsal areas, to allow for "terminal" drainage of lymph. We can then, many times, correct the mid -dorsal area and ribs. This would allow for drainage from the more distal lymph nodes and vessels and prepare for more active correction of the lower dorsal area. By this time, the patient may be comfortable, for example, the pain may be gone, the back relaxed and flat to the table, because we have directed our attention to the laws of hemodynamic s. Now the low back can easily and without force or discomfort be corrected and the lesions would not easily return.

Acute, "hot" back problems can be managed most efficiently in the same way.

c. Normalization of fluids in maternity cases

The most spectacular cases to treat, using respiratory hemodynamics are those of pregnant women. Of course, in these cases, as the abdomen becomes more full, there must be called into play an element of "costal" breathing. However, when the pelvis is level ed and the lumbar spine is made to drop down to the table, and the respiratory motion of the sacrum is insured, the abdomino -thoracic diaphragm works more efficiently. Lower cervical and upper thoracic treatment insures "terminal" lymphatic drainage and im mediately "great things" happen. The abdominal wall which was "tight" and "firm" and its contents, resisted movement from side to side upon light pressure by the physician's. hands. Now, after treatment, the contents of the

abdomino pelvic cavity have been decongested and the abdominal wall has relaxed. Circulation is better throughout the entire body, and the patient can again stand taller and straighter, breathe easier and is more relaxed.

d. Normalization of fluids in gastrointestinal cases

When the patient's chief complaint is of the gastrointestinal tract, the portal system should receive special attention.

We know that when the portal venous system has been affected by faulty respiration there must be lymphatic involvement also. It is, therefore, necessary to establish first a good abdomino-thoracic pump with the three diaphragms balanced. Then we can direct our attention to the liver and thereby treat the portal system. This treatment is as follows:

The patient is supine. The physician stands at the left side of the patient. The patient's legs are flexed at the knees so that the soles of the feet are on the table. The physician's left hand is placed over the liver. The back of the physician's right forearm is placed on top of the left hand. The right hand is allowed to be lightly closed and the wrist made to move up and down at the rate of about one hundred and twenty times a minute. There is produced a rather vigorous "thumping" on the thorax which is transmitted to the liver. This rhythmic movement is continued for about twenty to thirty seconds. There is usually less fullness in the abdomen and less tenderness after treatment. Many times the patient will experience a greater degree of 'warmth" in the lumbar area. The breathing is often improved also.

This treatment is valuable in cases of diabetes mellitus to encourage venous and lymphatic drainage from the pancreas.

SUMMARY

This paper has placed emphasis on the need for elimination of the waste products from all the cells of the body.

"Pure" diaphragmatic respiration is essential for return of venous blood and lymph from the entire body, while the patient is at rest, so that nourishment and trophicity can be supplied by the nervous system and nourishment and oxygen can be brought to the tissues by the arterial blood.

[Page 8 of 8: "Applications of the Osteopathic Holistic Approach to Homeostasis"]

[This eight-page article is mentioned in Section 5.2 of this report.]