

Chiropractic and Type O (Organic) Disorders: Historical Development and Current Thought

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The chiropractic profession originated at a time when the healing arts were comprised of a medley of capricious theories, practitioners, and practices. Early chiropractors claimed to treat and cure a wide spectrum of ailments; however, in this era, the diagnosis and treatment of disease was, by definition, the practice of medicine or osteopathy. To avoid conflict with the law and differentiate chiropractic from medical practice, the profession abandoned medical terminology and chiropractic as a disease-specific intervention in favor of a distinct lexicon and a doctrine of chiropractic as a non-‘therapeutic’ philosophy, science and art. This allowed for the possibility that analysis, detection and correction of the chiropractic lesion could indirectly cure or improve a wide range of clinical conditions – both musculoskeletal and organic (Type O) – without infringing upon the practice of licensed healthcare providers.

On the surface, improvement or cure of organic disorders by manual treatment methods seems to be “. . . a fantastic and totally unacceptable claim.” *Is improvement or cure by manual treatment methods of non-musculoskeletal conditions possible? Or are such notions implausible and unlikely? The evolution of the profession's claims, management, clinical success or failure with Type O disorders is generally discussed in the historical context of the healing arts and scientific evidence.*

Introduction

The genesis of the chiropractic profession occurred when a self taught healer of the late nineteenth century, Daniel David Palmer, manually manipulated the upper dorsal spine of a partially deaf janitor, restoring his sense of hearing.¹ Today, this claim would be met with skepticism or discounted as outright quackery; however, during the 19th century, people would find this claim acceptable, if not likely.

In this treatise, the origination of the chiropractic profession and claims of improvement or cure in cases of Type O disorders

by manual treatment methods will be explored in the historical context of the healing arts. Additionally, manual treatment of Type O disorders will be broadly discussed in light of a government investigation and the scientific literature.

The Healthcare Landscape and Medical Education circa 1800-1900

During the early nineteenth century, healthcare was a hodgepodge of capricious theories, practitioners and practices: approaches included allopathy, herbalism, Thomsonism, homeopathy, Grahamism, hydropathy, Seventh-day Adventism, phrenology, Fletcherism, Christian Science, magnetic healing, osteopathy, patent medicines, Mesmerism, electro-medicine, divine

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healing and physical culture,² among others. More was known about human anatomy than ever before, yet the healing arts still reflected local customs, traditions and spiritual influences in ridding the body of physical ailments.

Although allopathic medicine is the primary method of care in today's society, at the turn of the twentieth century, a visit to an allopath was often a last resort. Allopathic physicians believed that the harshness of the remedy should be proportional to the severity of the disease, meaning the sickest patients often received the most invasive treatments.² "Heroic therapy," including regimens of bloodletting, purgatives and emetics, was often more harmful than the disease itself.³ Ludmerer notes, "It was estimated that a patient in 1900 stood only a fifty-fifty chance of benefiting from an encounter with a random physician."⁴ Thus, it is not surprising that alternatives to "orthodox" allopathic medicine existed at this time as patients were commonly afraid of accepted techniques.

In the late 1800s, however, medical education in the United States was primarily by apprenticeship with no formalized academic standards for the training of physicians.² Consequently, most allopathic physicians were no better off in terms of the foundation of their methodologies than their "unorthodox" counterparts. It was not until 1910, with the publication of the Flexner Report describing medical education as a shambles, that the orthodox medical establishment made sweeping changes to improve the quality of medical education. In his landmark report,⁵ Abraham Flexner exposed the following:

- A) Most medical schools required only a high school diploma as eligibility for enrollment;
- B) Few schools assigned grades or gave examinations;
- C) A standard course of study lasted

from sixteen to twenty weeks;

D) Laboratories and libraries were all but non-existent in most institutions;

E) The primary method of instruction was lecture with little personal contact between student and professor, or between student and patient;

F) At many schools, students could fail several courses and still obtain a medical degree; and,

G) 120 of the more than 150 medical schools in operation should be closed.

Flexner's report also suggested that the quality of medical education, with variable curricula and training, was further diluted by insufficient funding for facilities and the faculty necessary to effect a scientifically rigorous course of study.⁶ When the Johns Hopkins School of Medicine was opened in 1893, the school Flexner held up as ideal,^{7,8} American theological schools had endowments of approximately eighteen million dollars, whereas medical school endowments totaled five hundred thousand dollars.⁹ Funding for medical education was as lacking as the scientific discoveries needed to advance appropriate care and treatment.

While medicine was practiced haphazardly in the late 1800s, there were also few reliable treatments available. For example, penicillin would not be discovered until 1928 and would not be mass produced until 1943.⁹ The most common cause of death in the era of the founding of the chiropractic profession was infectious disease, namely pneumonia and tuberculosis.⁸ Mankind was involved in a death match against his own filth and the bacteria and viruses that thrived in the relatively poor sanitation of the period.

It was in this environment that rival methods to allopathic medicine found fertile soil in which to grow and flourish. These rivals found equal footing with allopathic medicine for the relief of human suf-

fering, claiming to have solutions to all manner of ailments. In this milieu, it is not surprising that D.D. Palmer, practicing his newly established healing art of chiropractic in the Ryan Building in downtown Davenport, Iowa, claimed improvement or cure of a wide variety of disease entities presenting to his clinic. A full-page advertisement from a local broadside contains the following Palmer proclamation:

I treat all diseases, but it might be well to mention here a number of diseases in the treatment of which medical doctors rarely meet with success, whereas Chiropractics seldom fail.

Diphtheria--People say: "We can readily understand how your treatment will cure rheumatism or diseases of the joints, but you certainly do not claim to cure diphtheria." **I do claim to cure diphtheria in its most malignant forms.**

Bowel Troubles--Diarrhoea, flux, constipation, and, in fact all **diseases of the stomach, intestines and peritoneum are relieved by restoring harmony to the vital forces.**

Insanity--Has in many cases yielded to chiropractic treatment. Many cases are caused by mechanical injury.

Fevers--By taking off the pressure upon nerves and controlling the caliber of small arteries.

Smallpox being cured by one or two treatments.

Female Diseases--Are very successfully treated. Local treatment is not necessary.

Goitre--Is always caused by pressure upon the nerves, and we know how to **take off the pressure.**

Asthma--Medical men will tell you that only a change of climate will bring relief. The trouble is, **they don't know the cause.** Asthma has been cured by Chiropractic treatment **in one treatment.** Irritation of nerves causes the spasmodic contraction, and removal of the irritation **cures the disease.**

To mention all the diseases treated successfully by Chiropractic would take more printer's ink than I could afford to buy, but perhaps I have mentioned enough to convince the reader that my method of treatment is not limited to the cure of a few simple troubles.¹¹(author's emphasis)

Figure 1 is a reproduction of the advertisement for the Palmer School and Infirmary.

Chiropractic and the Law

Prior to chiropractic licensing laws, chiropractors were routinely arrested, indicted and convicted on charges of practicing medicine or osteopathy without a license.¹² D.D. Palmer himself was convicted on 28 March 1906 of practicing without a license and was sentenced to a fine of \$350, or 105 days in the Scott County jail. Palmer refused to pay the fine and was incarcerated.¹³ Palmer's early writings and broadside advertisements provide evidence that the language he used to describe his methods included the diagnosis and treatment of disease.¹¹ By definition, diagnosing and treating disease *was* the practice of medicine or osteopathy.

The first acquittal of a chiropractor arrested on the charges of unlicensed practice was secured, in part, due to the legal strategy employed by defense counsel Tom Morris. As described by Troyanovich and Keating,¹³ and Rehm,¹⁴ the saga concerning Japanese immigrant and Palmer School of Chiropractic graduate Shegetaro Morikubo on the charges of the unlicensed practice of osteopathy in La Crosse, Wisconsin in 1907, was strategically devised to legally differentiate chiropractic from the practice of medicine. The story is revisited here to provide context as to why medical terminology was abandoned in favor of a vocabulary and practice philosophy different from that espoused by either allopathic or osteopathic medicine:

Prior to the *Morikubo v. Wisconsin* case in 1907 in La Crosse, two other chiropractors, G.W. Johnson and E. J. Whipple, had been arrested on unlicensed practice charges and Whipple had been convicted (11 October 1905). At Whipple's trial, D.D. Palmer

Is Chiropractic an Experiment?

No! For the Wonderful Good Results and Success
In the Cure of Diseases Prove that it is Correct!

CHIROPRACTIC

IS MEETING WITH

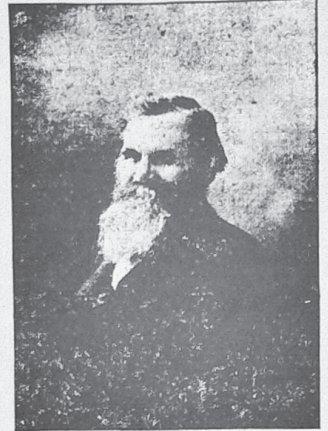
Wonderful Success

IN THE

CURE OF DISEASE

CONVINCING?

Read below and then know most
what Chi-Ro is, and what the best
advanced System of Drugless Healing does.



DR. D. R. D. PALMER, Davenport, Iowa.
Discoverer and Originator of Chiropractic; also President of the Chiropractic School and Infirmary, Davenport, Iowa.

ACCORDING TO "KI-RO-PRAK-TIK"

Feeling is a Sense,
Feeling Pain is Nonsense.
We use Practical
Common Sense
In Fixing Nonsense (Pain.)

If you have not verified these
assertions already, demonstrate
**THEIR TRUTH BY
A PRACTICAL TEST!**

It is a well-known fact that the so-called spinal nerve system proceeds from the cord in bundles or sheaths through openings along the sides of the vertebrae and are distributed to the various parts of the body, and that these nerves are known as motor and sensory. The sensation, feeling, pain and pleasure are due to the existence of the sensory nerve system, which nerves are supposed to end in the skin or near the surface of the body.

The spinal cord and the nerves causing them from are liable to various lesions from falls, blows, gymnastics, horse-carriage and railway accidents. The injury may be only of the osseous, fibrous, ligamentous or muscular portions of the vertebral column. The damage to one or more of these parts, although apparently trivial at first, may occasion very grave and most persistent symptoms which yield when the "wrong dose" is remedied.

Lesions.—Lesions of the spine, twists, or wrenches of the spinal column may damage and disturb the functions of the spinal nerves and they in turn express their effects in various parts of the body as they radiate to, or the spine itself may be disturbed by curvature, caries, or abscess. The symptoms of disease do not always develop immediately but may come on slowly and progressively.

The muscles are attached to the bones by fibrous cords inserted into the periosteum which covers the bones everywhere except at articular surfaces, and from these attachments they extend along the bones to be inserted into some other bone. By the contraction of these muscles all movements

are made in every part of the body, separately or collectively. If no muscular or undue contraction occur in nerves, muscles the actions are natural, a complete system of harmony exists, but if from any cause, undue contraction ensues or the muscles fail to respond naturally, inharmonious and consequently pain and disease is the result.

The movements of the whole body, every part of it, is due to the existence of the motor nerves. Both of these systems or nerves emerge from the spinal column. These nerves may become pressed by partial or complete dislocation of the bones forming the vertebrae, by the contraction of the muscles, or through the action of the motor nerves. A pressure upon a sensory nerve produces pain in the part to which these nerves are distributed. Diseases are produced by undue pressure upon the nervous system, anywhere throughout the body.

The being the case when the pressure is taken off the disease ceases to be.

When it is understood that the nerves of the body enter into every muscle and every tissue, and that all of the vessels which carry the food of the body pass through or into the muscles, and these nerves and fluid-carrying vessels are enclosed in non-vital structure and that they are so close, and that through these pass the blood and fluids of the whole body, and that undue contraction of the muscular fibers, pressing upon these delicate vessels, we can readily understand how it is that obstructions are raised and pain is felt. There being no yielding to the bones, to which the muscles

are attached and none in those in which they are inserted, the contraction of the muscles and nerves by the displacement of bones may entirely cut off the circulation, through these delicate vessels or press so hard upon the nerves that interferences with their functions ensue, and inharmonious and consequently increased and continued contraction of these muscles have been known to pull the bones out of joint.

We would have neither feeling nor action without nerves; in fact we would not exist were it not for them. The office of the muscular system is to contract—draw up. If the pressure be continued too long, the muscles may be impoverished on account of an deficient blood supply in the parts as the requirement of every part of the body is dependent upon the supply of blood, circulated through the capillaries, and these capillaries are under the special control of the nervous intelligence. When we realize the importance we find that inasmuch as the nervous system is a vital factor in the regulation of the circulation of the blood, it will be readily seen that we must have all unnecessary pressure removed.

The pressure is caused by the luxation or displacement (partial or complete) of the bones, or by contraction of the muscles drawing on across the nerves.

Lesions of these muscles are of irremediable strength and being liable to wonderful retraction, is it any wonder that the bones gradually get out of place?

The muscles draw toward their attachment and tend to draw whatever bone they are inserted into toward the attached end, and if one is attached on one end of a bone, and

the other to some other bone, that bone finally yields to the abnormal force exerted upon it. Thusly we have spinal curvature, very neck and hip-and-disease from this cause. Luxations or displacements of the lumbar vertebrae often produce sciatica, the contraction of muscular fibers and nerves. The functions of the various nerves are to convey sympathy, sensation, motion, so that their freedom is essential to the harmony of the body in all its parts. Whatever affects the action of the nerves affects human intelligence, and that means to change the normal physical action, which means inharmonious and disease.

All pain is due to unusual pressure upon the sensory nerves. All mental action in the body is due to irritation or a lack of vital force of the motor nerves.

Whether we have a headache, fever, constipation, or dyspepsia the cause producing either must be removed.

Lesions of the spinal vertebrae are caused by transverse and various accidents, such as heavy lifting, falls, wrenches, train wrecks, etc. These displacements may be lateral, posterior or vertical. While it is true that the bones of the vertebral column are all interlocked by their articulating processes that vertical luxations without fracture would seem impossible.

All the articulating surfaces of the vertebrae are liable to be

located vertical, posterior and lateral being often driven together and crushed by concussion. The serious joke of taking a chair improperly from under a person, the patient being relaxed and not prepared for the shock is often the cause of grave consequences.

These spinal displacements cause more or less arthritic conditions. The results inflammation from compression of two or more vertebral bodies, forces more or less of the intervertebral cartilage from the spinal column, which ossifies and forms bone tumors, known as osteosclerosis and ankylosis.

Merida is the explanation of fevers being self-limited. The heat originates by the excessive vertical heat outside the displaced cartilage into bone.

This extreme heat, while it causes the cartilage to harden, also welds any two, costals which touch each other thereby making an ankylosis. To make this change from cartilage to bone occurs the "medical self-limited period" of fevers. All fevers are due to some local arthritic condition. When that local cause is righted the effect known as fever ceases.

The bones are supplied with nerves, which, like all others, originate in the spinal cord and are therefore liable to be injured the same and produce similar diseases as elsewhere.

Displacements of cartilage and the abnormally compressed, wedge-shaped vertebrae produce the various curvatures of the spine.

The larger proportion of diseases are due to pressure on the nerves along the sides of the vertebral column. This pressure interferes with their function, and hence disease, pain, distress, in various parts of the body these nerves go to and end in. Our business is to remove this pressure with our hands. Look at the spinal column and

see that each vertebra is provided with a handle called the spinal process. The Chiropractic uses this handle as readily as a musician does the keys of a piano, and lets nature assert itself through its provisions.

Removal of the pressure upon these blood vessels for free circulation, provides the means—the cause of disease removed, the patient recovers. Sometimes this may be done at once; generally it takes time to accomplish this object so that freedom prevails. This is the most reasonable cure. The largest percentage of human ailments succumb to this sort of treatment, when scientifically applied, and that too, in cases abandoned by practitioners of other systems.

Our philosophy of treatment, removing the pressure, has the most rational claim upon the afflicted.

This science properly applied will mitigate suffering and often cure diseases that can not be cured otherwise. We most cordially invite the most rigid critic of our work and the physician of our method of treating diseases of all kinds.

If the reader comprehends the basic principles of this science, "take off the pressure," there will be little difficulty in understanding that when that is done, nature performs her wondrous functions in the physical economy, and a state of health is established.

To do this is Chiropractic. Ninety per cent of all diseases originate in the spine. Intelligent persons can learn to handle the vertebrae of the spine as readily as they do the keys of a piano.

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To do this is Chiropractic. Ninety per cent of all diseases originate in the spine. Intelligent persons can learn to handle the vertebrae of the spine as readily as they do the keys of a piano.

WHAT WE TREAT WITH THE CHIROPRACTIC SCIENCE:

I treat all diseases, but it might be well to mention here a number of diseases in the treatment of which medical doctors rarely meet with success, whereas Chiropractic seldom fails.

Diphtheria—People say "We can readily understand how your treatment will cure fibrinous or disease of the joints, but you certainly do not claim to cure diphtheria!" I do claim to cure diphtheria in its most malignant form.

Bowel Troubles—Diarrhoea, flux, constipation and, in fact all diseases of the stomach, intestine and peritoneum are relieved by restoring harmony to the vital forces.

Headache—In many cases yielded to Chiropractic treatment. Many cases are caused by mechanical injury.

Fever—By taking off the pressure upon nerves and controlling the walls of the arteries.

Insanity—Being cured by one or two treatments.

Female Diseases—Are very successfully treated. Local treatment is not necessary.

Gout—Is always raised by pressure upon the nerves, and we know how to take off the pressure.

Asthma—Medical men will tell you that only a change of climate will bring relief. The trouble in it is cured by Chiropractic treatment in one treatment.

Spasmodic contraction, and removal of the irritation cures the disease.

To mention all the diseases treated successfully by Chiropractic would take more printer's ink than I could afford to buy, but perhaps I have mentioned enough to convince the reader that my method of treatment is not limited to the cure of a few simple diseases.

The system is not a cure-all, but the cure of dependent diseases, when successfully treated is so large as to excite amazement. When incurable cases come, Dr. Palmer, who is the soul of honor and honesty, frankly informs those interested that there is no hope, saving then unnecessary disappointment and expense. The testimonials sent in by those who have been treated are wonderfully convincing.

Consultation and examination are free. The doctor gives six treatments per week. First week's treatment, \$15.00; for each successive week, \$5.00.

ordinary cases, special cases, such as Cancer, Tumor, Leprosy, etc., are double these prices. Fees are payable weekly in advance. He does not charge by the month, as some cases are cured in a week.

How the board and name of Chiropractic are \$1.00 per week. Patients requiring a more apt expedient to bring out, but Dr. Palmer was very judicious to make the offer of a special while under treatment, please ask as possible and give them every attention necessary.

City and Long Distance Telephone 8862

Address all Communications to **Dr. B. J. Palmer,** Davenport, Iowa, Secy. Chiro School & Infirmary

THE INFIRMARY OFFICE CORNER SECOND AND BRADY. OFFICE HOURS: 1 TO 8 P. M.

Figure 1. 14 June 1902 Davenport Times advertisement for the Palmer Chiropractic School and Infirmary

had served as the expert witness for the defense, but his efforts in this case—as with his own case five months later—would fail to convince the jury that his beloved chiropractic was different in principle or practice than medicine or osteopathy.

In a carefully thought out plan, Shegetaro Morikubo was dispatched to La Crosse to establish his own chiropractic practice with the intent of enticing the authorities to arrest him on unlicensed practice charges. This did in fact occur and local attorney, Tom Morris was hired to mount a defense.

Morris did not use the expert testimony of either D.D. or B.J. Palmer; the younger Palmer had never testified in court and the elder Palmer had not demonstrated himself to be a skilled or convincing witness. Also, the literature produced by the Palmers would be of no help to Morris or his client, Morikubo. Instead, Morris turned to the writings of one Solon Massey Langworthy, a dual degree holder in both osteopathy and chiropractic, who established the American School of Chiropractic in Cedar Rapids, Iowa in 1903.

Langworthy was responsible for a number of improvements to the profession. He was the first to use the term "subluxation" in chiropractic; established a systematic curriculum of lectures and clinical work for his school; published the first regular journal; co-authored and published the profession's first textbooks; and, was the first to sponsor legislation to regulate the profession.^{15, 16}

As a dual degree holder, Langworthy was uniquely qualified to outline the differences between chiropractic and osteopathic manual methods. Additionally, he was able to articulate the difference between chiropractic theory and practice philosophy and that of medicine or osteopathy: chiropractors did not diagnose and treat disease. Rather, chiropractors analyzed the spine and adjusted vertebral subluxations that

caused interferences to nerve transmission by pinching nerves at the intervertebral foramen. With vertebral subluxations reduced, pinched nerves were released from pressure, normal nerve transmission was restored to end-organs and "Nature" effected the cure. Therefore, spinal adjustments applied by chiropractors were not therapeutic in character, but instead an intervention aimed at fortifying the mechanics of human structure which in turn resulted in improved nervous system activity. This is how the profession differed from either medicine or osteopathy, according to the Langworthy tenets.

The Langworthy Doctrine

Further evidence of the difference in which the Palmers and Langworthy promoted their chosen profession can be seen in an advertisement for the Langworthy school and practice. Figure 2 is a reproduction of a public notice from a 1904 Cedar Rapids, Iowa broadside. In contrast to Palmer's 1902 advertisement, Langworthy proclaimed that nature—not the chiropractor—effected the cure of patients' ills.

Langworthy rejected medical terminology in favor of a different lexicon and a doctrine of chiropractic as a non-therapeutic philosophy, science and art. This also allowed for the possibility that analysis, detection and correction of the chiropractic lesion could result in improvement or cure of a wide range of clinical conditions—both musculoskeletal and organic—without infringing upon the practice of other licensed healing arts. Under the guidance of Tom Morris, B.J. Palmer adopted the Langworthy doctrine as a means to protect chiropractors and the profession from persecution under existing laws.^{13,14}

By 1918, due chiefly to personal difficulties, Langworthy disappeared from healthcare. His influence on the chiroprac-

THE AMERICAN SCHOOL OF CHIROPRACTIC AND NATURE CURE

(KI—RO—PRAC—TIK) (COMMON SENSE)



No Drugs; No Knife

A National Survey Shows Scores of Suffering the Great Relief.

The Science of the Healthy and Sound Body is the Basis of the Cure.

When the science of the art of the chiropractic adjusting treatment, which is the basis of the cure, is applied to the human system, the result is a relief of the suffering and a cure of the disease. The result of the treatment is a relief of the suffering and a cure of the disease. The result of the treatment is a relief of the suffering and a cure of the disease.



Chiropractic

Takes off the Pressure From Pinched Nerves

Nature Effects The Cure

HAVE YOU SEEN IT?
 The only Chiropractic Magazine in the world.



This is a weakness characteristic of the three quarters of the world's population. It costs you one year for \$10.

This Means You



Dr. S. H. Langworthy

400 ARCADE STREET, CEDAR RAPIDS, IOWA.



Figure 2. American School of Chiropractic advertisement circa 1904 from a Cedar Rapids, Iowa, broadside.

tic profession would be indelible, though largely invisible, as B.J. Palmer seized the helm of the profession from both his Cedar Rapids competitor and his father. The Langworthy doctrine was propagated by B.J. Palmer until his death in 1961, and influenced how the profession described the potential effect chiropractic adjustments might have on any or all body systems for decades.

Organic Disorders, Manual Treatment Methods and Modern Allopathic Medicine

Although it may seem implausible that manual treatment methods could result in any improvement or cure of organic disorders, medical practitioners have described the phenomenon of patients who have been helped by the use of manual treatment methods for Type O conditions. For example, orthopedic surgeon J. F. Bourdillon, physical medicine and rehabilitation physician E.A. Day, and physiotherapist M.R. Bookhout have made the following statement about the account of Harvey Lillard, the man whose hearing was restored by a spinal adjustment at the hands of D.D. Palmer:

On the face of it this is a fantastic and totally unacceptable claim. As a result of personal experience, however, there is no doubt in the mind of at least one of the authors that dysfunction in the joints in the upper thoracic spine can affect the function of the inner ear, presumably by way of its sympathetic innervation.¹⁷

Kunert, a German medical physician states,

. . . lesions of the spinal column. . . are perfectly capable of simulating, accentuating or making a major contribution to organic diseases. There can . . . be no doubt that the state of the spinal column does have a bearing on the functional status of the internal organs.¹⁸

Lewit, a practicing neurologist and advocate of manual treatment methods has discussed the role of the interplay between the musculoskeletal system and the body's

internal organs. He states:

There is little room for controversy if our present knowledge about referred and radiating pain is taken into account. Melzack and Wall (1965) and Milne et al. (1981) have shown that nociceptive stimuli from all structures in a segment converge to cells in lamina V of the basal spinal nucleus. This, of course, also applies to pain coming from internal organs. It is, therefore, easy to see that the locomotor system can readily *simulate* visceral pain, and vice versa, and that this constitutes an important aspect to be taken into account in differential diagnosis. If this is clear, then the therapeutic consequences should not cause much controversy.¹⁹ (author's emphasis)

Lewit suggests that the spine may play a role in promoting organic/visceral disease and terms this possibility as conditions having a "vertebrogenic factor."¹⁹ He goes on to describe his experimental and clinical experience using spinal manual therapy to treat conditions as varied as heart disease, digestive problems, dizziness, respiratory difficulties, migraine, gynecological disorders, tonsillitis, and an assortment of other human ailments after serious pathology has been ruled out.

G.P. Grieve, a British physiotherapist, is the author and editor of several publications regarding manual treatment methods. In his text, *Mobilization of the Spine*, he states:

All those experienced in manipulation can report numerous examples of migrainous headaches, disequilibrium, subjective visual disturbances, feelings of retro-orbital pressure, dysphagia, dysphonia, heaviness of a limb, extrasegmental paraesthesia, restriction of respiratory excursion, abdominal nausea and the cold sciatic leg being relieved by manual or mechanical treatment of the vertebral column.²⁰

Thus, chiropractors are not the only healthcare practitioners to observe the potential effect spinal manual methods may have on the organs or viscera of the human body.

The Commission of Inquiry Into Chiropractic

Over thirty years ago, the effect chiropractic manipulation might have on organic disorders was addressed as part of a government commissioned study. The inquiry took place in New Zealand and the published proceedings became known commonly as *The New Zealand Report*.²¹ The purpose of the inquiry was to consider whether chiropractic services should be included for reimbursement in New Zealand's socialized healthcare benefits package. The Commission of Inquiry sought evidence from a wide variety of sources in New Zealand as well as Australia, the United Kingdom, Canada, and the United States. The Commission received 264 exhibits and acquired over 3,600 pages of oral testimony.²¹ The New Zealand study is considered the most in-depth investigation of the chiropractic profession ever undertaken.

Chapter ten of the published report specifically addresses the potential effect chiropractic manipulation might have on organic or visceral disorders. The Commission referred to these conditions as "Type O" disorders to distinguish chiropractic management of these types of conditions from musculoskeletal disorders (that the Commission designated as "Type M" disorders).

The Commission of Inquiry found that essentially all practitioners of manual treatment methods (chiropractors, osteopaths, medical manipulators, physical therapists, and lay manipulators) can report improvement or cure in cases of organic disorders. The Commission of Inquiry's published report states:

A number of medical experts told the Commission that the results chiropractors and their patients claimed in Type O (organic) cases were unlikely to be the results of spinal manual therapy. . . However, at the same time no medical expert was prepared to say

that such results were impossible, simply because knowledge of neurophysiology had not advanced to a point where the possibility of such results from spinal manual therapy—however remote he might think they were—could positively be excluded.²¹

Due to the compelling neuroanatomic and anecdotal evidence presented, the commission concluded that occurrences of improvement or cure by manual treatments in cases of organic disease were possible. However, the commission also concluded that the results obtained by manual treatment methods in cases of visceral disease were so unpredictable that the patient should be under concurrent medical care.

It is also important to note that the *New Zealand Report* clearly stated that chiropractors DO NOT treat organic disease, but rather, treat spinal column dysfunction. To emphasize this point one may look again to the *New Zealand Report* for an explanation:

The chiropractor does not set out to cure or relieve a particular ailment. What he sets out to do is to ensure that the spinal column is functioning normally. If a particular ailment clears up or is relieved following therapy, so much the better. If it does not, then at least the patient, now with no spinal impediment to the working of his nervous system, ought to be in a generally better condition and better able to cope with the ailment.²¹

This explanation should seem familiar to the reader as it is simply a restating of the Langworthy doctrine already discussed.

As a result of the testimony and evidence presented regarding chiropractic care and Type O disorders, the Commissioners of the *New Zealand Report* came to several specific conclusions and recommendations. The report states:

If a patient with a Type O disorder wishes to consult a chiropractor in the hope that some relief can be obtained, there is no reason why he should not do so, provided there are no contraindications to spinal manual therapy, and provided he is encouraged to remain under medical care. . . Chiropractors should be careful to avoid giving any impres-

sion that spinal manual therapy will necessarily be beneficial to a patient with a Type O disorder. In particular chiropractors should in such cases do nothing which discourages a patient from remaining under medical care. Ideally the chiropractor should regularly consult the patient's own doctor, although present medical attitudes may rule that out as a realistic possibility.²¹

The B.J. Palmer Research Department

In 1935, B.J. Palmer established a research department in the B.J. Palmer Chiropractic Clinic to document improvement of patients with a wide variety of ailments presenting for chiropractic evaluation. The research department had a medical unit and chiropractic unit. In the medical unit, two "medical men" were staffed to document symptoms and pathology and derive a medical diagnosis for each patient.²² This allowed Palmer to retain documentation in the standard medical format of the period that, he believed, validated his care of patients and provided evidence of improvements made in various human physiologic parameters as a result of chiropractic care.

Palmer published the results of his findings in a series of bulletins. Five of the bulletins (Figure 3) issued from the research clinic covered changes in blood values,²³ urological values,²⁴ audiometric measures,²⁵ electrocardiographic improvements,²⁶ and basal metabolic improvements²⁷ that Palmer reported were a result of specific chiropractic adjustment of the upper cervical area.

B.J. Palmer's efforts at validation and clinical research are commendable considering he had no formal training in research methodology. Perhaps one of the most significant shortcomings of Palmer's research is that there are no control groups against which to make comparisons. With no control groups, all patient improvements may have been due to natural history or regression to the mean. However, if one considers that the first published prospective ran-

domized clinical trial did not appear in the medical literature until 1948,²⁸ Palmer's efforts were praiseworthy for their day.

Chiropractic Research and Evidence in the 21st Century

Many have followed in B.J. Palmer's footsteps to document the effectiveness of chiropractic, and with great success. At present, there are at least fifty prospective randomized clinical trials published in the indexed medical literature supporting the efficacy of chiropractic for neck, back and headache pain. However, the evidence for the effectiveness in treating Type O disorders remains mixed.

In 1995, Troyanovich authored an article in the popular chiropractic literature titled, "I Don't Believe in Chiropractic!"²⁹ He argued that belief implies faith or trust without proof and, in the case of chiropractic, it was proven that chiropractic was effective in treating neck, back and headache pain. Troyanovich also reviewed the evidence for Type O disorders, presenting a table with thirty-nine citations pertaining to the chiropractic care of non-musculoskeletal conditions from the indexed literature. These articles reviewed chiropractic patients receiving care for headache, infantile colic, hyperactivity, enuresis, premenstrual syndrome, dysmenorrhea, child birth, cardiovascular conditions, seizure disorders, otitis media and blindness (Figure 4). While the list of conditions aided by chiropractic spinal manual methods may be impressive, it is not scientifically compelling as the majority of the reports are anecdotal in nature. In an anecdotal case report the number of subjects is equal to one (n=1). Even if one were to amass hundreds of case reports about the same condition, the evidence would still be anecdotal at best. A plurality of anecdotes is not equivalent to scientific data derived from properly controlled and randomized



Figure 3. Five of the bulletins issued from the B.J. Palmer Chiropractic Clinic and Research Department.

Condition	Citation
Headache	-Shimek JJ, Mohr U. The importance of manual therapy in the treatment of chronic headache. <i>Manual Medizin</i>
	-Vernon H. Manipulative therapy in the chiropractic treatment of headaches: a retrospective and prospective study. <i>JMPT</i> 1982;5:109-12.
	-Droz JM, Crot F. Occipital headaches; statistical results in the treatment of vertebragenous headache. <i>Swiss Annals VIII</i> , 1985;127-36.
	-Turk Z, Ratkolb O. Mobilization of the cervical spine in chronic headaches. <i>Manual Medizin</i> 1987;3:15-17.
	-Wright JS. Migraine: a statistical analysis of chiropractic treatment. <i>J Am Chiro Assoc</i> 1978; 12:363-67.
	-Parker GB, Tupling H, Pryor DS. A controlled trial of cervical manipulation for migraine. <i>Aust NZ J Med</i> 1978;8:589-93.
	-Ng SY. Upper cervical vertebrae and occipital headache. <i>JMPT</i> 1980;3: 137-41.
	-Kruse R, Brodd D. Relief of tension headaches: a case study using chiropractic manipulation and acupuncture. <i>ACA Journal of Chiropractic</i> August 1991;28(6):57-59.
	-Vernon H, Gitelman R. Pressure algometry and tissue compliance measures in the treatment of chronic headache by spinal manipulation: a single case/single treatment report. <i>Journal of the Canadian Chiropractic Association</i> September 1990;34(3):141-44.
	-Miller B, Maxwell J, DeBoer K. Chiropractic treatment of tension: a case study. <i>ACA Journal of Chiropractic</i> June 1984;21(6):62-66.
-Vernon HT. Spinal manipulation and headaches of cervical origin. <i>JMPT</i> 1989; 12(6):455-68.	
Infantile Colic	-Klougart N, Nilsson N, Jacobsen J. Infantile colic treated by chiropractors: a prospective study of 316 cases. <i>JMPT</i> 1989;12(4):281-88.
	-Nilsson N. Infantile colic and chiropractic. <i>Eur J Chiro</i> 1985;33:264-65.
	-Pluhar G, Schober P. Vertebral subluxation and colic: a case study. <i>Chiropractic: The Journal of Chiropractic Research and Clinical Investigation</i> . 1991;7(3):75-76.
Hyperactivity	-Walton EV. The effects of chiropractic treatment on students with learning and behavioral impairments due to neurological dysfunction. <i>Int Rev of Chiro</i> 1975;29:4-5,24-26.
	-Giesen JM, Center DB, Leach RA. An evaluation of chiropractic manipulation as a treatment of hyperactivity in children. <i>JMPT</i> 1989; 12(5):353-362.
Enuresis	-Gemmell HA, Jacobson BH. Chiropractic management of enuresis: time-series descriptive design. <i>JMPT</i> 1989;12(5):386-389.
PMS	-Wittler MA. Chiropractic approach to premenstrual syndrome. <i>Chiropractic: The Journal of Chiropractic Research and Clinical Investigation</i>
	-Hubbs EC. Vertebral subluxation and premenstrual tension syndrome: A case study. <i>Research Forum</i> . 1986;summer: 100- 102.
	-Stude DE. The management of symptoms associated with premenstrual syndrome. <i>JMPT</i> 1991;14:209-216.
PMS	-Wittler MA. Chiropractic approach to premenstrual syndrome. <i>Chiropractic: The Journal of Chiropractic Research and Clinical Investigation</i>
	-Hubbs EC. Vertebral subluxation and premenstrual tension syndrome: A case study. <i>Research Forum</i> . 1986;summer: 100- 102.
	-Stude DE. The management of symptoms associated with premenstrual syndrome. <i>JMPT</i> 1991;14:209-216.
Dysmenorrhea	-Liebl NA, Butler LM. A chiropractic approach to treatment of dysmenorrhea. <i>JMPT</i> 1990; 13(3): 101 - 106
	-Arnold-Frochet S. Investigation of the effect of chiropractic adjustments on a specific gynecological symptom: dysmenorrhea. <i>J Aust Chiro Assoc</i> 1981;10:14-16.
	-Browning JE. Chiropractic distractive decompression in treating pelvic pain and multiple system pelvic organic dysfunction. <i>JMPT</i> 1989;12:265 274.
Child Birth	-Kokjohn K, Schmid DM, Triano JJ, Brennan PC. The effect of spinal manipulation on pain and prostaglandin levels in women with primary dysmenorrhea. <i>JMPT</i> 1992;15:279-285.
	-Diakow P, Gadsby T, Gadsby J, Gledlie J, Leprich D, Scales A. Back pain during pregnancy and labor. <i>JMPT</i> 1991;14:116-118.
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Cardiovascular Conditions	-Lott GS, Sauer AD, Wahl DR, Kessinger J. ECG improvements following the treatment combination of chiropractic adjustments, diet, and exercise therapy. <i>Chiropractic: The Journal of Chiropractic Research and Clinical Investigation</i> 1990;6(2):37-39.
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	-McGee, D. Hypertension: a case study. <i>Chiropractic: The Journal of Chiropractic Research and Clinical Investigation</i> 1992;7(4):98-99.
	-Dulgar G, Hill D, Sirucek A, Davis BP. Evidence for a possible anti-hypertensive effect of basic technique apex contact adjusting. <i>ACA Journal of Chiropractic</i> 1980;14:97-102.
	-Yates GR, Lamping DL, Abram NL, Wright C. Effects of chiropractic treatment on blood pressure and anxiety: a randomized, controlled trial. <i>JMPT</i> 1988;11(6):484-488.
Seizures	-Goodman R. Hypertension and the atlas subluxation complex. <i>Chiropractic: the Journal of Chiropractic Research and Clinical Investigation</i> 1992;8(2):30-32.
	-Goodman RJ, Mosby JS. Cessation of a seizure disorder: correction of the atlas subluxation complex. <i>Chiropractic: the Journal of Chiropractic Research and Clinical Investigation</i> 1990;6(2):43-46.
	-Duff BA. Documented chiropractic results on a case diagnosed as myoclonic seizures. <i>Chiropractic: The Journal of Chiropractic Research and Clinical Investigation</i> 1992;8(3):56-57.
Otitis Media	-Hobbs DA, Rasmussen SA. Chronic otitis media: A case report. <i>ACA Journal of Chiropractic</i> 1991; February:67-68.
	-Phillips NJ. Vertebral subluxation and otitis media: A case study. <i>Chiropractic: The Journal of Chiropractic Research and Clinical Investigation</i> . 1992;8:38-39.
	-Handricks CL, Larkin-Thier SM. Otitis media in young children. <i>Chiropractic: The Journal of Chiropractic Research and Clinical Investigation</i> . 1989;2(1):9-13.
Blindness	-Gilman G, Bergstrand J. Visual recovery following chiropractic intervention. <i>Journal of Behavioral Optometry</i> . 1990;1:73-74.

Figure 4. Table of Type O disorders cared for by chiropractors from the indexed literature. Reprinted with permission of the author.

clinical trials.

In 2002, Meeker, Mootz and Halde- man authored a report on the status of chi- ropractic research. In their review of the literature they discuss the findings of ten randomized clinical studies of chiropractic care for a number of Type O disorders. In regard to the findings of these clinical trials they state:

Randomized clinical trials for primary dysmenorrhea, hypertension, chronic asthma, enuresis, infantile colic, and premenstrual syndrome have been completed in recent years with variable results. Two systematic reviews, one on extant trials at the time and one recently on asthma sponsored by the Cochrane Collaboration, concluded that the results so far do not argue convincingly for or

against the utility of spinal manipulation for these kinds of conditions.³⁰

Finally, in 2007 Hawk et al.³¹ published a systematic review of the scientific litera- ture with respect to chiropractic care for nonmsuculoskeletal conditions. Their search located 179 articles addressing 50 different nonmusculoskeletal diagnoses. These articles were comprised of 122 case reports or case series, 47 experimental de- signs (14 of which were randomized clini- cal trials), nine systematic reviews of the literature and one cohort study. They con- clude:

Evidence from both controlled studies and usual practice is adequate to support the 'total package' of chiropractic care, including

spinal manipulative therapy, other procedures, and unmeasured qualities such as belief and attention, as providing benefit to patients with asthma, cervicogenic vertigo, and infantile colic.

Evidence was promising for the potential benefit of manual procedures for children with otitis media and for hospitalized elderly patients with pneumonia.

Evidence did not appear to support chiropractic care for the broad population of patients with hypertension, although it did not rule out the possibility that there may be subpopulations of hypertensive patients who might benefit.

Evidence was equivocal regarding chiropractic care for dysmenorrhea and premenstrual syndrome . . .

There is insufficient evidence to make conclusions about chiropractic care for patients with other conditions.³¹

The findings summarized by Meeker, Mootz and Haldeman and Hawk et al. echo the unpredictable nature of the effects of chiropractic care on Type O disorders that the Commissioners of the New Zealand study described over 30 years ago. Hawk and colleagues, work, however, seems to have a slightly different perspective in that they attempt to define those conditions for which chiropractic care may have more beneficial results.

Chiropractic Management of Type O Disorders in the Modern Era

The entire discussion presented above may be purely academic in the present time. In 1998, an article published in the *American Journal of Public Health* reported on the demographics of 1,916 patients whose records were randomly selected from 131 chiropractic offices in five cities in North America (four U.S., one Canadian). Hurwitz et al.³² reported that low back problems constitute two-thirds of the patients treated by chiropractors with headache, neck pain and extremity complaints making up almost all the rest. Interestingly, only one percent of chiropractic patients had non-musculoskeletal diagnoses.

One might speculate as to Hurwitz et al.'s findings: Is it possible that modern medicine has evolved to the point where medicine's effectiveness for many or most Type O disorders has essentially eliminated chiropractic care as a reasonable option for most patients? Or perhaps, chiropractic has evolved in the public's consciousness to a profession with a singular musculoskeletal focus? Or is it that the influence of third party reimbursement has resulted in chiropractors only documenting musculoskeletal conditions in their patient records to insure payment? Or perhaps, the unpredictable nature of chiropractic's effect on organic disorders has reduced the number of patients seeking this type of care? Only future research will be able to address the veracity of these speculations.

Summary and Conclusion

The chiropractic profession originated at a time in history when many types of healers, health theories, and health practices co-existed. Suffering humanity sought help from the many players in this motley collection due to the lack of effective treatments for scores of mankind's ills. Both governmental and scientific investigators have uncovered strong neuroanatomic and compelling anecdotal evidence for the success of spinal manual methods in treating Type O disorders; however, investigators also recognize that patients' results are unpredictable.

In the future, researchers may identify some types of organic disorders with a vertebrigenic etiology. If this occurs, medical physicians and doctors of chiropractic will have a better understanding about which organic entities might respond predictably to spinal manual therapies. Currently, however, improvement or cure in cases of organic disorders as a result of chiropractic treatment remains an unpredictable side-effect of restoring mechanical integrity to patients' spines.

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