

# Introduction to Chiropractic Manipulative Reflex Technique (CMRT)

(Chapter 2)

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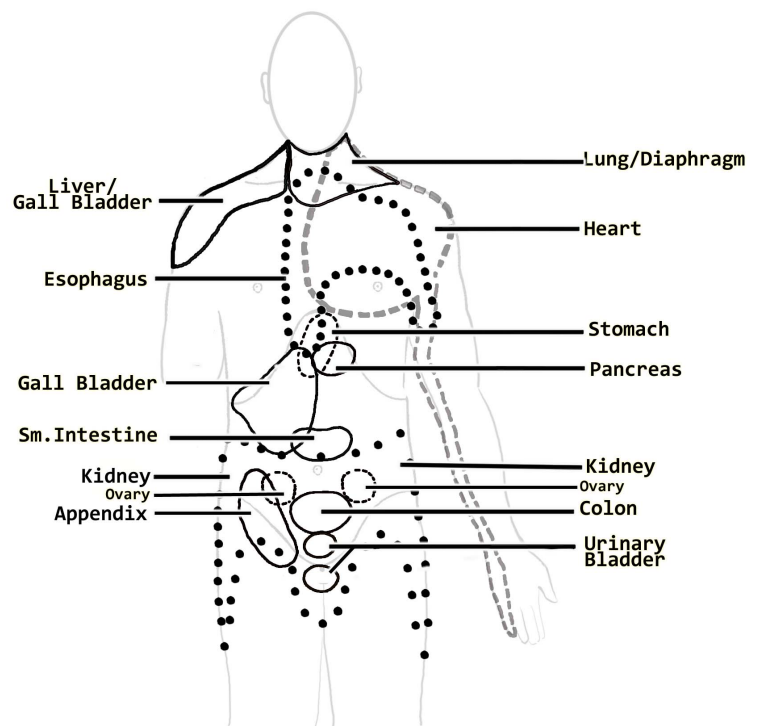
Charles L Blum

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## Chapter 2

### Viscerosomatic, Somatovisceral, and Non-musculoskeletal Relationships and Chiropractic

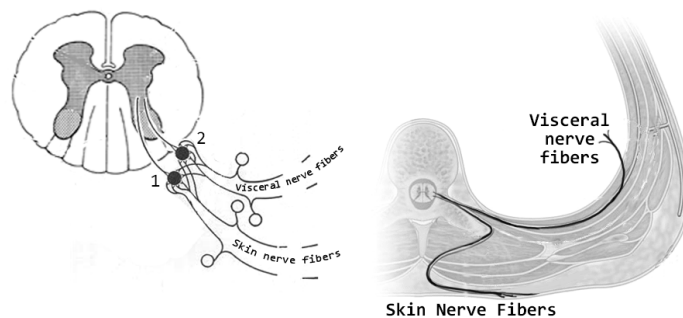
Within chiropractic research circles there has been significant skepticism concerning chiropractic manipulative care for nonmusculoskeletal conditions. (1) However, a 1998-1999 practice-based survey spanning over twenty years of data provides valuable insight into the potential value of learning these techniques. This study including, 161 chiropractors and 7,651 of their patients, representing varied geographic locations such as the United States, Canada, and Australia, found that nonmusculoskeletal complaints accounted for 10.3% of patient's chief complaints. (2) It is estimated that patients harboring various categories of somatic-related visceral disease is likely greater than 10%, (3) and two studies found a minority of patients with self-reported nonmusculoskeletal symptoms noticed definite improvement following chiropractic care. (4, 5)



Chiropractic treatment of patients with organ related symptomatology is not clearly understood. Theories suggest conditions might be helped due to somatovisceral – viscerosomatic

autonomic balancing, (6, 7) decreasing nociceptive activity relating to referred pain reflex patterns, [8-10] balancing a somatically induced visceral mimicry syndrome, (3, 11) or an effect similar to ameliorating aberrant reflexes associated with 'phantom organ pain'. (12, 13, 14)

Rome and Waterhouse (15 - 27) produced an extensive review for the chiropractic profession on the neurodynamics of vertebrogenic somatosensory activation and autonomic reflexes. These articles go into great detail about the biological plausibility of chiropractic's effect on nonmusculoskeletal patient presentations as well as the emerging supporting evidence. Since this evidence is complex and developing, some researchers are suggesting that we may need to also consider '*alternative mechanisms such as somato-humoural pathways*'. (29)



There is a faction of the chiropractic community that strongly opposes chiropractic involvement in nonmusculoskeletal care; (30) conversely there are college instructors that have openness to chiropractic treatment of some nonmusculoskeletal disorders. (31) It is interesting to note that not that long ago sentiment regarding a chiropractor's scope seemed to be more holistic. This is based on a survey done over twenty years ago with doctors in clinical practice finding '*more than half of the respondents favored a role for spinal adjustment in the management of patients with visceral conditions*'. (32)

Masarsky and Todres-Masarsky note that '*The somatovisceral aspects of the VSC [vertebral subluxation complex] have too often and for too long been given short shrift within the profession, while attention has been lavished on the musculoskeletal aspects. This reflects an artificial division between the neurology of the musculoskeletal system and the neurology of the viscera. Nature does not recognize this sharp division. Instead, the natural world has produced a nervous system that is a wonder of integration. Under the influence of this master integration system, smooth and striated muscle, activity and stillness, thought and emotion all contribute to the texture of life in a whole being*'. (33)

During the 1960s and 1970s, a constellation of pressures moved much of the profession away from discussion of chiropractic's relationship to visceral disorders. Yet, not all of these pressures came from outside the profession. This pressure from our own chiropractic colleagues had much to do with the push for acceptance by government agencies, interdisciplinary academia, and insurance companies.

For example, Herbert Vear (Dean Emeritus at the *Canadian Memorial Chiropractic College*) was one of the chiropractic participants at the February 1975 *Institute of Neurological and Communicative Disorders and Stroke (NINCDS)* Interdisciplinary Conference on the research status of spinal manipulative therapy, held on the *National Institute of Health* campus in Bethesda, Maryland. In an interview 22 years later, Vear clarified the reason why chiropractic may have entertained moving away from its involvement in nonmusculoskeletal care:

*'One of the first things to change was a reduced emphasis on visceral clinical problems and an increased focus on pain syndromes, particularly of the lumbo-pelvic area. Literally, we were "throwing out the baby with the bathwater" in our quest for research grants, for which purpose pain syndromes are easier to study and document.'* (34)

Later, in the 1990's, the *Association of Chiropractic Colleges* (ACC) appeared to attempt to reestablish a relationship between chiropractic and visceral clinical presentations with a statement still found on their website as of 2023:

*'Chiropractic is concerned with the preservation and restoration of health, and focuses particular attention on the subluxation. A subluxation is a complex of functional and/or structural and/or pathological articular changes that compromise neural integrity and may influence organ system function and general health.'* (35)

### Visceral or Somatic Referred Pain

Referred pain is a term used for pain localized not in the site of its origin but in areas that may be adjacent to or at a distance from such a site, generally having similar embryological origin. (36)

According to Head, at the level of the spinal cord there is a convergence of impulses from visceral organs and from more superficial structures. Increased visceral irritation causes a diminished threshold for the adjacent somatic impulses, which are constantly entering the same segment of the cord. This is how cutaneous hyperalgesia and referred pain are produced in the corresponding segments. (37)

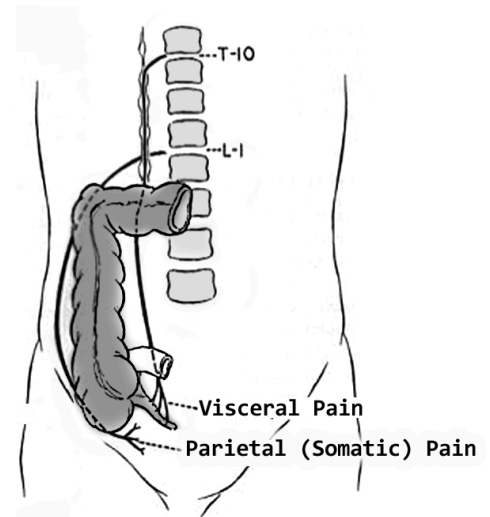
Referred pain is not a focused type of pain, as in the case of an inflamed appendix. Referred pain can be related to sympathetic visceral pain fibers passing into the sympathetic chain and then into the spinal cord at T10. On the other hand, pain impulses, can also originate from the parietal peritoneum where the inflamed appendix touches the abdominal wall and have impulses passing through the spinal nerves into the spinal cord at L1.

Grimm suggested that an interaction between cutaneous and vasomotor sympathetic neurons in response to acute musculoskeletal injury may affect the autonomic nervous system, "reflected as increased afferent input from sensitized nociceptors and other sensory neurons", resulting in alterations in autonomic function. (38)

### Visceral Mimicry Syndromes

In 1996, Nansel and Szlazak (3) challenged chiropractic's position regarding somatovisceral segmental dysfunction and its affect on organ pathology. They determined that "*somatic dysfunction is notorious in its ability to create overt signs and symptoms that can mimic, or simulate (rather than cause), internal organ disease.*" "*The somatically induced facilitation of central neurons has also been shown to create situations in which normally innocuous visceral afferent signals converging on these same neuronal pools may be perceived as highly unpleasant, thereby further increasing the likelihood of a visceral misdiagnosis.*" (3)

*"Complicating the picture, as the concept of somatic vs. visceral afferent implies, it can also be the case that nociceptive input from dysfunctional somatic structures may act to exacerbate the symptoms of pre-existing visceral disease."*



This could mean that a vertebral subluxation might increase the degree of referred pain elicited by a diseased organ. (3) Seaman and Winterstein also noted that vertebral joint complex dysfunction should be included in the differential diagnosis of pain and visceral symptoms because joint complex dysfunction can often generate symptoms which are similar to those produced by true visceral disease. (11)

A concern for the practitioner is that numerous visceral diseases can masquerade as musculoskeletal pain that can easily be misdiagnosed and mistreated. (39) On the other hand “... doctors must take care not to confuse somatic problems with true visceral disease because mistakes can be catastrophic for the patient. Adding to this diagnostic conundrum is the fact that musculoskeletal problems can often masquerade as visceral disease.” (11) Dyck and Embree described that a relationship can exist between spinal manipulation and underlying pathologic conditions; they state that “practitioners should be alerted to the possibility that manipulation of the spine may mask the pain of an ongoing pathology.” (40)

### What does a chiropractor do with this information?

Dyck and Embree concluded by noting “it is important to recognize that the reduction of symptoms following manipulative procedure does not necessarily imply the removal of the cause of those symptoms...care must be taken by the practitioner to realize he or she may be masking the symptoms of ongoing pathology.” (40) Therefore, they suggest it is possible for spinal adjustments to reduce the presentation of referred pain patterns related to visceral pathologic conditions. This is something the chiropractor has to take into account when assessing a case and its progression.

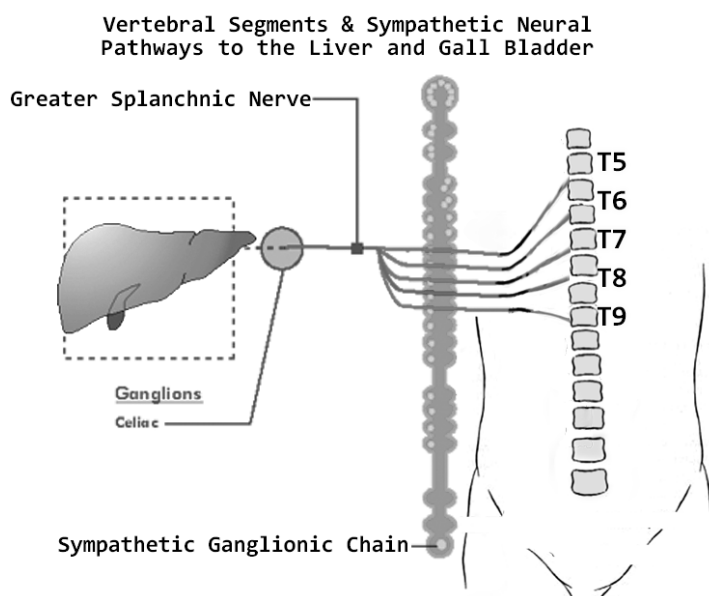
It is important to point out that there is chiropractic clinical literature in which physiological outcomes were reported from chiropractic interventions, not just merely symptoms. For example, Browning reported that correcting lower sacral nerve root irritation improved bowel, bladder, and sexual dysfunction. (40) Bakris and others found upper cervical chiropractic adjustments had a relationship with the reduction of arterial hypertension. (42) Studies done by Masarsky and Weber (43) as well as Kessinger (44) have demonstrated improvement of forced vital capacity and forced expiratory volume in one second under chiropractic care. These step beyond just subjective reports by patients and appear to demonstrate functional physiological changes.

### Persistent Vertebral Subluxations

DeJarnette was concerned with the reoccurring vertebral subluxation that would not resolve with treatment but would continually return. He had various theories such as myofascial postural disturbances, extremity-related dysfunction, and also reflex neural input from the viscera afferents. While he postulated that there was a somatovisceral relationship between the vertebra and viscera, generally the determining factor for treating the organ reflex was recurrent vertebral subluxation and not visceral dysfunction.

DeJarnette’s premise of treatment beginning with the occipital fiber neutralization, vertebral adjustment and reflex manipulations was that there was imbalance between the organ, the spine, and within the autonomic nervous system. Spinal postural accommodations were mediated through the visual and vestibular righting reflexes (45) and reflected in related specific suboccipital muscle fiber contracture (occipital fibers).

DeJarnette further theorized that the



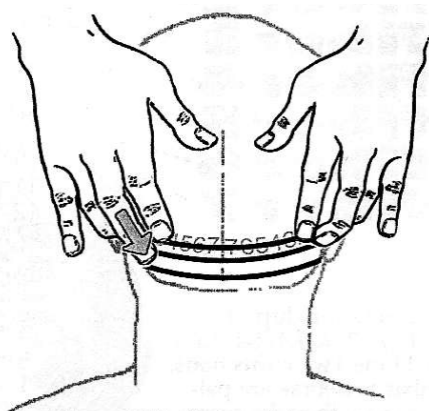
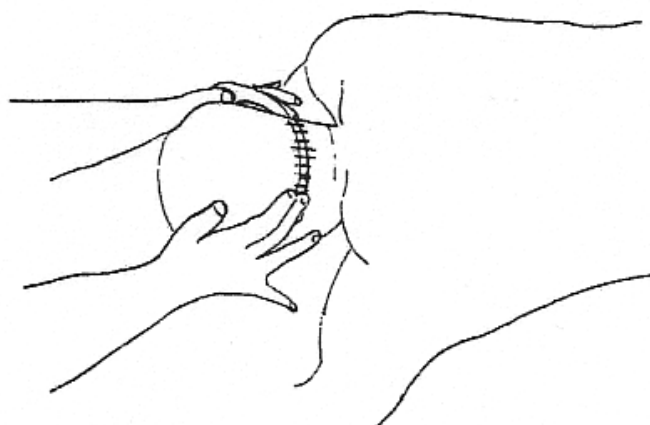
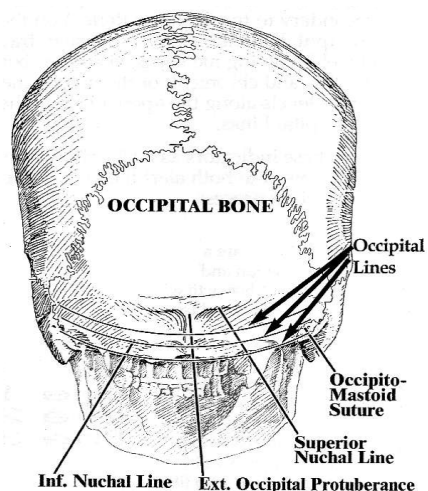


dysfunction within the sympathetic and parasympathetic nervous system could lead to aberrant reflex patterns. These patterns would affect normal functioning of the musculature and related tissue at the vertebra level where the visceral afferents would converge with somatic afferents.

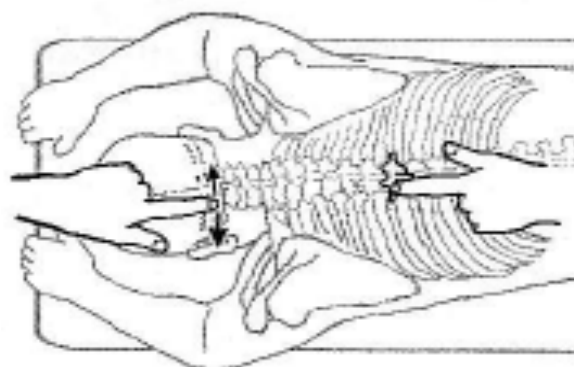
### Chiropractic Manipulative Reflex Technique (CMRT): Current Understandings

In cases where referred pain can be resolved with CMRT procedures or SOT chiropractic treatment, caution must be exercised to make sure that any related organ pathology has actually improved. It is possible that raising the threshold of somatic afferents (by reducing muscle tension and joint pain) we might only be limiting presentation of any viscerally related referred pain.

Occipital Line 2 Fiber	1	2	3	4	5	6	7
Thoracic Vertebra	1(Lt),2,10	3,11,12	4(Rt),5(Lt)	6	7	8	9
Lumbar Vertebra			1	2	3	4	5
Sacral Segments			1	2		4	



The middle finger slides down (caudally) to palpate Line Two.



Traditionally CMRT was a procedure only used with category one patients who had active occipital fiber and vertebral indicator involvement. However, it can also be used as follows:

1. When an occipital fiber and vertebra in its reflex arc is persistent for at least 2-3 office visits.
2. Non-acute category two patients transitioning towards stability or category two patients with joint hypermobility syndromes, not capable of transitioning to category one treatment.
3. Patients presenting with a visceral primary condition which is determined by patient history, allied healthcare assessments, laboratory findings, and associated referred pain patterns. It is important that these conditions are monitored closely.

For chiropractors, utilizing CMRT assessment and treatment methodologies can increase their scope of practice but at the same time it also increases their responsibilities. CMRT assessment and treatment can vary widely. On one end of the spectrum, CMRT can be used for patients that have recurrent spinal imbalances that may have a viscerosomatic reflex or referred pain pattern, but no detectable visceral or organ disorder or pathology. At the other end of the spectrum, CMRT can be applicable for patients with visceral or organ pathology; in these instances, it is important to co-treat with our allied allopathic colleagues.

Since chiropractors are typically not prescribing medications, when treating patients that have discernable organ imbalance or dysfunction with CMRT procedures caution is required when it comes to medications. However, in many cases, a result might indicate the patient could potentially come off a medication, though that is a decision for the allopathic physician. Consider the following:

1. What if a patient is taking blood pressure medication and after CMRT procedures are used that have a connection to their cardiovascular system, there is a lowering of their blood pressure? (46, 47)
2. What if a patient is taking medication to work with sugar metabolism and T6 CMRT procedures help balance their glucose management? (48, 49)
3. What if a patient is taking medication for gastroesophageal reflux and T5 CMRT procedures allow the patient to have normal gastric acidity? (50, 51)

How would a chiropractor discuss these situations with an allopath and have the medication appropriately modified? How can a team of like-minded healthcare practitioners collaborate so that patients are best protected?

One way to protect your patients and yourself so that you are offering the safest and most optimal care, is to reach out to allopaths in your area ahead of time. You may find it necessary to reach out to an internal medicine allopath that is familiar with various types of presentations or you may choose an allopath that specializes in cardiology, pulmonology, gastrointestinal, nephrology, urology, endocrinology, gynecology, etc.

Sometimes a patient is already co-treating with an allopath and it would be prudent and efficacious to reach out to this allied healthcare practitioner with a phone call, letter, or email. Be prepared to share what your care might involve and any potential concerns or updates in regards to the patient.

### **Responsibilities and Cautions**

In summary when treating patients with CMRT we need to consider the following:

1. Be aware that somatic dysfunction is notorious in its ability to create overt signs and symptoms that can mimic, or simulate (rather than cause), internal organ disease.(3)
2. A concern for the practitioner is that numerous visceral diseases can masquerade as musculoskeletal pain that can easily be misdiagnosed and mistreated. (39)

3. Be cognizant not to over interpret referred pain from a diseased viscera since sometimes a vertebral subluxation might lower the pain threshold and increase the degree of viscerosomatic referred pain. (3)
4. Take care not to confuse somatic problems with true visceral disease because mistakes can be catastrophic for the patient. Be aware that CMRT care will sometimes warrant allopathic co-management. (11)
5. Be aware of the possibility that manipulation of the spine may mask the pain of an ongoing pathology since this may raise the threshold for a viscerosomatic referred pain to present. (40)
6. Ideally based on clinical findings, history, and laboratory testing, in addition to CMRT, patients may need dietary advice, lifestyle modification, and nutritional support.



We are entering an age where chiropractic can have an important place within an interdisciplinary team, with allopaths and other allied healthcare practitioners. (52 - 55) Therefore when performing CMRT it will be important to reach out to a patient's allopath, make sure you have facilities for blood, urine, and other laboratory testing, and have medical and imaging referrals ahead of time so you are prepared when necessary.

### Conclusion

Chiropractic care of patients with nonmusculoskeletal care is a controversial topic. There are challenges in research to ascertain the best way to study this phenomenon that rules out confounders such as placebo or ideomotor effect, regression to the mean, coincidental or casual patient interpretations to treatment response and many others. One interesting consideration is the study of patients with self-reported positive, unexpected nonmusculoskeletal outcomes to chiropractic care, or those patients who are self-referring for chiropractic care for wellness or nonmusculoskeletal care. (56)

Further research could start with a Delphi study, developing a consensus process for a best practice document, a survey of doctors treating patients with nonmusculoskeletal presentations, and the development of a prediction instrument to determine if a subset of nonmusculoskeletal patients responding to chiropractic care might be determined. Clearly more research is needed so that patients treated with CMRT have the best possible outcomes.

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