

Introduction to the Philosophy, Science and Art of Chiropractic

The Traditional Philosophy of Chiropractic

The traditional vitalistic philosophy of chiropractic is based on the scientific philosophy of biology that features the functional organization of living beings.²⁵ Living beings are capable of maintaining their overall organization in the face of extensive variations in their environment.²⁵ Similar organization does not occur in the non-living world²⁵. According to D.D. Palmer, the founder of chiropractic, the vital functioning of each individual is directed by the body's innate intelligence, and expression of universal intelligence.²⁶ Universal intelligence accounts for the universal regularities and laws of nature that are the concern of physics and chemistry, and the particular regularities and laws of physiology²⁷.

That those processes of bodily functioning whereby the body is regulated through electrophysiological, biochemical, immunological, and other mechanisms, forms the basis of the science of physiology. Palmer's concept of "innate intelligence", the ability of the body to regulate and repair itself, is also referred to as homeostasis.²⁸ The philosophy of chiropractic is based on the belief that the true locus of health comes from within through modulation by the nervous system. Recognition of the role of the nervous system in health and disease has increased in the last decade. Recent evidence that supports Palmer's traditional concept is exemplified by the emerging focus on neuroimmunology which provides evidence in support of a strong relationship between nervous system and immunological function²⁹.

The philosophy of chiropractic is both vitalistic and holistic³⁰. Chiropractic holistic philosophy views the patient as an whole person, not as a disease bearing organism. The body is seen as an integral unit capable of maintaining health. The systems of the body are viewed as complex, interactive, and have a powerful ability to self-correct provided functional integrity is maintained. The holistic philosophy of chiropractic promotes health, prevents illness, and encourages healing through care that focuses on the total individual in the context of personal, familial, social, and environmental factors.

Holism with respect to humans recognizes that the whole has properties that its parts lack and the properties of the parts interact to form the whole²⁵. Perceiving the whole is more difficult than the parts. It often requires subdividing the whole looking for connections and the interaction of the parts in the context of the whole. In the historical perspective of chiropractic philosophy there is an important interrelationship between optimal nerve function, the integrity of the musculoskeletal system, and health.

The Science of Chiropractic

Traditionally, the science of chiropractic has focused on the modulating function of the nervous system in the self healing of the human organism, and the role that interference with the nervous system has on the loss of optimal health. While this is fundamental to

chiropractic principles the most compelling scientific evidence to date supports chiropractic treatment of neuromusculoskeletal conditions.

In the more than one hundred years that chiropractic has been in existence, much of the significant and reproducible research has been compressed within the past two decades. The past five years has been particularly significant with the evidence supporting the primary chiropractic intervention (manipulation) as one of the first-line means of health care intervention in the treatment of acute low back pain in adults. The science of chiropractic comes from basic science evidence, case studies, clinical trials, and other outcome studies.

In 1975 the NINCDS (National Institute of Neurological, Circulatory, Disorders and Stroke) conference³¹ found that “specific conclusions cannot be derived from the scientific literature for or against either the efficacy of spinal manipulative therapy or the pathophysiological functions from which it is derived”. Given the impetus of this conference, considerable research has been conducted demonstrating the safety and efficacy of this procedure. In spite of the paucity of funds, (up to 1994 coming solely from the profession itself), chiropractic researchers have made steady gains. With external funding, future gains promise to add significant data to support the uniqueness of chiropractic theories and to sustain evidence-based practice.

Basic science studies have been primarily been designed to test theories related to one piece of the core of chiropractic practice, the chiropractic spinal subluxation. Where the spinal subluxation seen by allopathic (medical) practitioners is viewed radiographically and frequently demonstrates hypermobility, the chiropractic subluxation typically exhibits restricted motion, along with misalignment and altered neurological function⁵.

Anatomical studies related to subluxation have primarily investigated the components of the spinal motion segments including the zygapophyseal joints³²⁻³³ structures surrounding the intervertebral foramen³⁴⁻³⁹, and the sacro-iliac joints⁴⁰. Basic scientific evidence for chiropractic subluxation has also been demonstrated in 16 studies of animal models⁴¹.

Studies in the field of neuroscience have included investigation of the innervation of components of the spinal motion segment^{42,43}, spinal nerve roots⁴⁴ peripheral nerves⁴⁵ and the autonomic nervous system⁴⁶⁻⁴⁹. Studies of systemic effects of spinal manipulation through nervous system modulation include changes in immune function^{50,51}. Neurophysiological investigations into pain modulation include, spinal cord mechanisms of referred pain and neurologically linked physiological aberrations⁵²⁻⁵⁴.

Numerous biomechanical studies related to subluxation and manipulation have been conducted advancing the science of chiropractic. A major area of chiropractic research has focused on the characterization of the forces applied to the surface of the patient during various adjustive procedures⁵⁵⁻⁶⁰, others investigators have evaluated loads and displacements used to measure the mechanics of spinal segments⁶¹⁻⁶⁸. The mechanical effects of cavitation and the audible release accompanying high velocity low amplitude thrust procedures have also been studied⁶⁹⁻⁷³.

These investigations, primarily conducted by chiropractors are but a small part of basic science research that validates chiropractic theories. Studies conducted by basic scientists in other related fields have provided considerable support beyond the studies mentioned here. Knowledge gained by basic science models has yielded information on subluxation not available by measurements on living humans.

The most compelling evidence for chiropractic care comes from clinical trials that evaluate the effectiveness spinal manipulation for neuromusculoskeletal conditions. Over 40 clinical trials of spinal manipulation for the treatment of low back pain have been conducted. These have been subjected to evaluation of methodological quality⁷⁴ and meta-analysis⁷⁵. This has led to acceptance of manipulation as a viable alternative to allopathic care in the treatment of acute low back pain. Chronic low back pain while subjected to less scrutiny, has also demonstrated significant response to chiropractic manipulation^{76,77}. Evidence from clinical trials also supports the treatment of neck pain with manipulation⁷⁸⁻⁸⁰. Benefit from cervical manipulation has also been demonstrated from headache trials studying tension⁸¹⁻⁸³, migraine^{84,85,6} and cervicogenic types⁸⁶⁻⁸⁸.

Non musculoskeletal conditions for which clinical trials of varying rigor supporting chiropractic intervention include obstetric and gynecologic disorders (such as dysmenorrhea and premenstrual syndrome)⁸⁹⁻⁹⁴, and pediatric conditions, (such as: colic⁹⁵, otitis media^{96,97}, and hyperactivity⁹⁸). Trials of chiropractic care of other conditions have demonstrated mixed results. Hypertension studies involving adults demonstrated both short-lived reductions^{99,100} and no significant alteration¹⁰¹ in blood pressure readings. Studies of children with enuresis have demonstrated both the effectiveness of chiropractic treatment¹⁰² and no efficacy beyond the natural history of the condition¹⁰³. Asthma trials studying both children and adults have shown positive results^{104,106}, no significant improvement¹⁰⁷, and both no benefit¹⁰⁸, and a significant decrease in nighttime symptoms¹⁰⁹, in the same study.

In addition to the clinical trials previously mentioned, a variety of methods have been used for outcomes research including community based trials, observational studies and cross sectional surveys all of which provide supporting data. Among the community based trials the Meade studies reported greater effectiveness of chiropractic care for low back pain compared to hospital-based physical therapy^{110,111}. Observational studies of chiropractic care designed to assess patient outcomes for low back pain have been reported¹¹²⁻¹¹⁸. Cross-sectional studies of chiropractic have evaluated care-seeking for acute and chronic low back pain^{110,111}. Physicians' beliefs and behaviors regarding management of low back pain¹¹⁹ and patient's satisfaction with the care provided have also been studied^{120,121}. A preliminary study suggests that geriatric patients under chiropractic care are more apt to report better health status, more likely to exercise vigorously, and more likely to be mobile in the community¹²².

This discussion has not included many of the cohort studies, case series or case reports that document the effectiveness of chiropractic care. There is evidence from these types of studies also contributes to chiropractic science. In addition these studies provide clues

as to the direction of future chiropractic research. Agendas for prioritizing future research related to chiropractic theories and practice are conducted nationally on an annual basis¹²³, and internationally on a biannual basis¹²⁴. Regular research conferences that present the results of chiropractic are held world wide including those sponsored by the Foundation for Chiropractic Education and Research (The International Conference on Spinal Manipulation), and the World Federation of Chiropractic.

There is little doubt that evidence from clinical trials clearly supports the treatment of low back pain by chiropractors¹²⁵. Evidence for the treatment of neck pain¹²⁶ and headaches⁸¹⁻⁸⁸ is also convincing. Although both clinical experience and expert opinion in the chiropractic, osteopathic, and medical literature¹²⁷⁻¹³¹ suggest an observable link between manipulation and improvement in at least some non-musculoskeletal conditions clinical trails lag far behind actual practice. To date at least 73 randomized clinical trials of a broadly defined spinal manipulative procedure have been reported in the English language literature. No trial to date has found manipulation to be statistically or clinically less effective than the comparison treatment.¹³² Causation related to subluxation remains to be demonstrated. It is imperative to remember that lack of evidence does not constitute evidence against, while further research accumulates in the field of chiropractic science.

The Clinical Art of Chiropractic

Chiropractic practice is fundamentally patient centered and pragmatic, based on empirical results. This patient centered orientation as opposed to an illness orientation has traditionally been central to the clinical art of chiropractic¹³³. Coulehan¹³⁴ states that chiropractors do not subtract the patient to get to the disease as if peering through a translucent screen to find a disease entity within. He also states that the application of this clinical art is a matrix of acceptance, validation, explanation and treatment.

The sense of acceptance or positive regard for a patient is considered one of the core qualities necessary for patient-doctor interaction¹³⁴. Validation includes acknowledging the patient's perceptions, values, health care preferences and expectations. Genuineness both as the ability to be oneself in a relationship without hiding behind a role or facade¹³⁴, and genuine caring¹³⁵ have also been noted as prominent in chiropractic care.

Chiropractic art includes a clear and understandable explanation of the patients condition¹³⁴. This explanatory model is mechanistic, holistic and based on science. Additionally, it is based on a logical set of beliefs presented in scientific terminology, promoting a natural noninvasive approach to healing¹³⁵. It includes stressing influences on health, "drugless" treatment and a positive, dynamic view of the healthy state¹³⁵. Patients are encouraged to take responsibility for their health and enter into a partnership in decision making¹⁵. Chiropractors strive to develop a positive image of patients' personal control over their health that requires commitment and cooperation¹³⁵.

Primary to the chiropractic explanatory model is the emphasis that the chiropractic adjustment facilitates a change in physiology which can translate into improved health. Traditional chiropractic thought explains this phenomenon as the body's innate capacity for healing. Additionally chiropractic art includes enhancing patients' focus on their health. Current understanding of biopsychosocial factors explains how the chiropractor strengthens patients' belief that they will recover and is considered to be included in the chiropractic clinical art¹³⁵. Chiropractors seek to create conditions in their patients that are conducive to the liberation of patient's innate recuperative capacities, thus enabling them to return to their optimal state of health¹⁵.

Chiropractic treatment is characterized by advanced skill in manual procedures. The level of skill necessary to perform a successful adjustment requires years of training in the art of palpation and adjusting. Both the chiropractic examination and treatment involves extensive "laying on of the hands"¹³⁵. Mastery of chiropractic technique procedures utilizes the healing power of touch, adding comfort to the clinical action of the treatment.

Beyond the skills of patient evaluation and diagnostic testing germane to portal of entry providers, much of the art of chiropractic involves the location and correction of subluxation. This includes the skill at analysis used to locate the subluxation, the specific adjustive technique used to reduce or correct the subluxation, and the assessment used to determine the type of future care. Chiropractic adjustive procedures are specific and include high velocity low amplitude thrust techniques (manipulation), mechanically assisted techniques, light touch techniques, soft tissue techniques and reflex procedures¹³⁶.