

Chapter 1

The Chiropractic Profession

As one of health care's fastest growing professions on a global basis, chiropractic¹ has earned recognition for its remarkable effectiveness and its use of natural, nonsurgical, and drugless methods of treatment. As of this writing, there are more than 70,000 active chiropractic licenses in the United States alone (Table 5.1), and the numbers of chiropractors are increasing rapidly in many countries throughout the world.

In the United States

Chiropractic is the nation's third largest primary healthcare profession, surpassed in numbers only by practitioners of medicine and dentistry. All 50 states, the District of Columbia, Puerto Rico, and the U.S. Virgin Islands officially recognize chiropractic as a primary healthcare profession² distinct from medicine. The National Center for Health Statistics has reported that, in 2002, approximately 7.5% of Americans consulted a doctor of chiropractic for treatment (Tindle, Davis, Phillips, & Eisenberg, 2005) and, in 2007, 8.6% of Americans sought chiropractic or osteopathic manipulative services (Barnes, Bloom, & Nahin, 2008).

Outside the United States

The chiropractic profession has become established in more than 90 countries, and there are more chiropractic colleges (many within university systems) outside the United States (26) than there are within (17). The World Health Organization (WHO), the authority on health matters in the United Nations system, published its "Guidelines on Basic Training and Safety in Chiropractic" ten years ago (WHO, 2005) in an attempt to standardize education and regulation of the profession among member nations. Recently, the chiropractic profession became the first healthcare profession to develop a common standard in the European Union (EN 16224:2012). The following list of countries in which national health authorities recognize chiropractic has been compiled from the current records of the World Federation of Chiropractic (WFC). Countries are listed according to the seven world regions adopted by the WHO and WFC. In most other countries there are no chiropractors in practice, and national health authorities have not considered recognition or lack of recognition (Table 1.1).

1 *Chiropractic* is commonly used as both a noun and an adjective.

2 *Primary care* is accessible, first-contact health care without the necessity of a referral.

African Region		Eastern Mediterranean Region	
Botswana		Bahrain	
Ethiopia		Cyprus	
Ghana		Egypt	
Kenya		Iran	
Lesotho		Israel	
Mauritius		Jordan	
Namibia		Lebanon	
Nigeria		Libya	
South Africa		<i>Morocco</i>	
Swaziland		Qatar	
<i>Uganda</i>		Saudi Arabia	
Zimbabwe		<i>Syria</i>	
		Turkey	
		United Arab Emirates	
Asian Region		<p style="text-align: center;">Guide to Legal Status</p> <p>recognized pursuant to legislation (in bold font)</p> <p>recognized pursuant to general law (in normal font)</p> <p><i>de facto recognition (in italic font)</i></p>	
<i>China</i>			
Hong Kong-SAR China			
<i>India</i>			
<i>Indonesia</i>			
Japan			
Malaysia			
Philippines			
Singapore			
Thailand			
<i>Vietnam</i>			

Table 1.1 Countries in Which Chiropractic is Recognized as a Health Profession

European Region	Latin American Region
<i>Austria</i>	Argentina
Belgium	Bolivia
Croatia	Brazil
Denmark	Chile
Estonia	Columbia
Finland	Costa Rica
France	Ecuador
Germany	Guatemala
<i>Greece</i>	Honduras
<i>Hungary</i>	Mexico
Iceland	Panama
Ireland	Peru
Italy	Venezuela
Liechtenstein	
Malta	
Netherlands	
Norway	
Portugal	
Russian Federation	
Serbia	
Slovakia	
<i>Spain</i>	
Sweden	
Switzerland	
United Kingdom	

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**recognized pursuant to legislation
(in bold font)**

recognized pursuant to general law
(in normal font)

*de facto recognition
(in italic font)*

Table 1.1 Countries in Which Chiropractic is Recognized as a Health Profession, continued

North American Region	Pacific Region
Bahamas	Australia
Barbados	Fiji
Belize	Guam
Bermuda	New Caledonia
British Virgin Islands	New Zealand
Canada	Papua New Guinea
Cayman Islands	Tahiti
Jamaica	
Leeward Islands	
Puerto Rico	
Trinidad and Tobago	
Turks and Caicos	
United States	
U.S. Virgin Islands	

Guide to Legal Status
recognized pursuant to legislation (in bold font)
recognized pursuant to general law (in normal font)
<i>de facto recognition (in italic font)</i>

Table 1.1 Countries in Which Chiropractic is Recognized as a Health Profession, continued

Principles of Chiropractic

Chiropractic is a natural, conservative, medication-free, and nonsurgical form of health care concerned primarily with the diagnosis, treatment, and prevention of disorders of the musculoskeletal system, and the effects of these disorders on the nervous system and general health. The writings of Hippocrates (460-370 BCE), Galen (130-200 BCE), and even ancient manuscripts of the Egyptians, Hindus, and Chinese reveal many principles common to chiropractic. Its place in modern health care is largely attributed to Dr. Daniel David Palmer who founded the first chiropractic college in Davenport, Iowa, in 1897.

The tenets of chiropractic include the principles that an individual's nervous system is very important to health, and that interference with this system impairs normal body functions and lowers the body's resistance to disease. The study of chiropractic includes the various mechanisms by which the nervous system may be irritated or otherwise impeded, thereby resulting in aberrant responses to stressors. Chiropractic practice incorporates techniques for the correction of these irritated and/or impeded mechanisms. Doctors of chiropractic refer patients

to and receive referrals from many healthcare professionals (Chapter 7); in many instances, chiropractic can provide safe and effective treatment without drugs and surgery. Chiropractic principles are applicable to a wide range of health conditions (Chapter 8).

The specific focus of chiropractic practice is known as the *chiropractic subluxation* or *joint dysfunction*. A subluxation is a health concern that manifests in the skeletal joints, and, through complex anatomical and physiological relationships, affects the nervous system and may lead to reduced function, disability, or illness. Typically, the clinical evidence of a subluxation includes one or more of the following: pain and tenderness; asymmetry of posture, movement, or alignment; range of motion abnormalities; or tone, texture and/or temperature changes in the adjacent soft tissues. A doctor of chiropractic may detect subluxations through standard physical examination procedures, specific chiropractic assessments, or special tests (Bergman & Peterson, 2011). This process is much more complex than stated; this simplification is presented so that those not familiar with the chiropractic profession will have a basic understanding and awareness of what is meant by chiropractic subluxation. For a more complete description and further discussion of chiropractic subluxations, see, among others, Bergman and Peterson, (2011), Haldeman, (2005), Gatterman, (2005), and Leach, (2004).

Chiropractic is also based on the premise that the body is capable of achieving and maintaining health through its own natural recuperative powers, provided it has a properly functioning nervous system and receives the necessary health maintenance components. These include adequate nutrition, water, rest, exercise, and clean air. To clarify the model of chiropractic care and to illustrate its roles within the American healthcare system, the Association of Chiropractic Colleges has prepared formal position statements on the chiropractic paradigm and on chiropractic scope and practice, which are included as Appendix A.

Chiropractic Case Management

Doctors of chiropractic address various physiological and biomechanical aspects of their patients, including structural, spinal, musculoskeletal, neurological, vascular, nutritional, emotional, somatic, and environmental relationships. Case management of problems in any of these areas may include, but is not limited to, such procedures as adjustment and manipulation of the articulations and adjacent tissues of the human body, particularly the spinal column. In many cases, spinal radiographs and other diagnostic procedures — such as physical examination and questions concerning medical history, diet, and lifestyle — are used to identify the source of a patient's complaint.

Central to chiropractic is the corrective structural adjustment or manipulation of subluxations (i.e., vertebral or pelvic segments that are displaced and/or have restricted movement) — in some cases with signs of neurological and/or vascular involvement. The causes of these subluxations (whether static or dynamic) include various types of stresses as well as congenital anomalies.

By manually manipulating vertebrae to improve physiological relationships, chiropractic practitioners relieve interference in the nervous system and reduce accompanying symptoms. This correction of joint dysfunction improves patient mobility and comfort. A chiropractic corrective adjustment requires specially-acquired palpation and manipulation skills so that a precise, delicate maneuver can be delivered to achieve the pre-determined goals.

Some studies indicate that orthopedic conditions such as back pain, headache, and whiplash, as well as conditions that involve organs and internal glands of the body may respond to chiropractic adjustments (Chapter 2). In addition to chiropractic spinal adjustments, modern chiropractic care may include a variety of extremity joint adjustments as well as certain physiotherapeutic modalities and acupuncture. Doctors of chiropractic believe that their patients must assume responsibility for their health and well-being; they frequently provide exercise recommendations, dietary guidance, health risk avoidance advice, and wellness counseling. They are often active in public health efforts to improve the health and well-being of the residents in their local communities.

Chiropractic Requisites

By law, licensed chiropractors are entitled to use the titles “Doctor of Chiropractic,” “D.C.,” or “Chiropractic Physician.” The chiropractic physician is engaged in the treatment and prevention of disease as well as in the promotion of public health and welfare. As such, doctors of chiropractic must meet stringent educational and competency standards before being granted a license to practice. While there is still considerable variation globally, the procedures required for obtaining licensure in the United States have become standardized.

Currently, an individual must complete four major steps to become a practitioner of chiropractic (Table 1.2). Completion of these same four steps formed the qualifications for most respondents to the 2014 NBCE Survey of Chiropractic Practice.

An individual chiropractic practitioner must have 1) successfully completed a minimum of 90 semester hours of pre-professional college education, 2) graduated from an accredited chiropractic college, 3) passed the National Board examinations, and any other examinations required by the state in which he/she intends to practice, and 4) met individual state chiropractic licensing requirements.

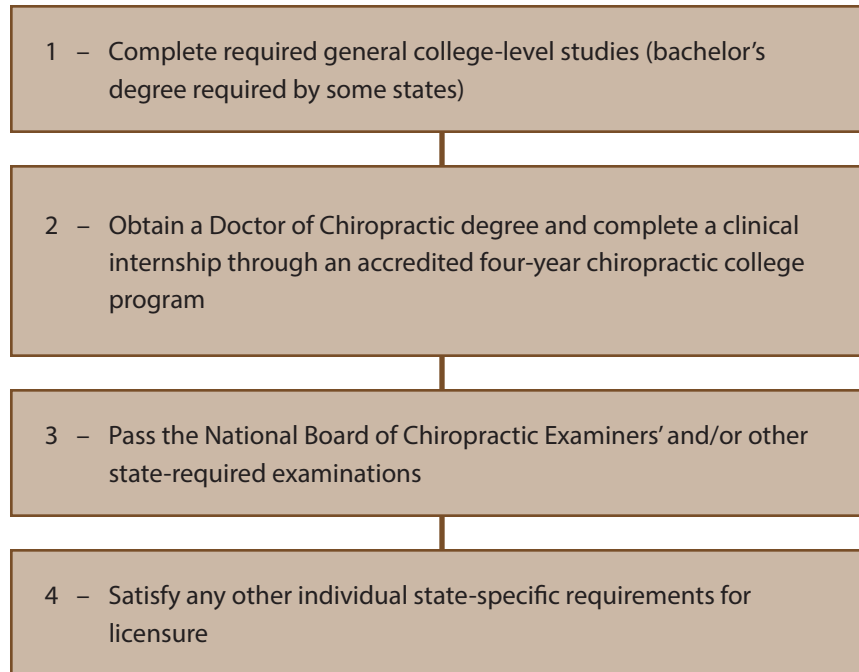


Table 1.2 Steps Leading to Chiropractic Practice

Education

Government inquiries, as well as independent investigations by medical practitioners, have affirmed that today's chiropractic training is of equivalent standard to medical training in all pre-clinical subjects (Chapman-Smith, 1988; Coulter, Adams, Coggan, Wilkes, & Gonyea, 1998). A doctor of chiropractic's training generally requires a minimum of 7 academic years of college study and a clinical rotation before entering private practice.

In the United States, the Council on Chiropractic Education (CCE) is granted authority by the U.S. Department of Education to accredit chiropractic programs and institutions. Currently, 17 chiropractic training programs in the United States are accredited by the CCE. Seventeen programs outside of the United States are accredited through affiliated chiropractic education councils: Australia (3), Canada (2), Denmark, France (2), Japan, Malaysia, New Zealand, South Africa (2), South Korea, Spain, and the United Kingdom (2). Chiropractic educational programs in Australia, Spain, and the United Kingdom are currently pursuing accreditation, while several others — Brazil (2), Mexico (3), and Switzerland — operate within locally-accredited university systems. Recent announcements of plans for new programs in several countries indicate that chiropractic education is continuing to expand globally.

To ensure that high standards in education are maintained, all accredited chiropractic colleges in the U.S. must meet the stringent requirements of the CCE. Among other goals, criteria address an on-going system of evaluation and planning, incorporation, governance, administration, faculty and staff, learning resources, finance, student services, and doctor of chiropractic degree program curricula. Each program's curriculum must include a minimum of

4,200 instructional hours of course credits; course offerings must address subjects and competencies specified by the CCE (2013).

Incoming students must have completed the equivalent of three academic years (90 semester hours) of undergraduate study at an institution(s) accredited by an agency recognized by the U.S. Department of Education or an equivalent foreign agency. Applicants must have a cumulative grade point average (GPA) of at least 3.0 on a 4.0 scale for the 90 hours, which must include a minimum of 24 semester hours in life and physical science courses.

Once accepted into an accredited program, the chiropractic student follows a curriculum that consists of either 4 or 5 academic years. In the typical chiropractic program, students can expect to study the courses listed in Tables 1.3, 1.4, and 1.5.

Cellular Physiology	Human Biochemistry
Chiropractic Principles & Philosophy	Human Physiology
Embryology	Introduction to Chiropractic Techniques
Foundations of Evidence-based Chiropractic	Microbiology
Fundamentals of Nutrition	Neuroanatomy & Neurophysiology
General Anatomy	Normal Radiographic Anatomy
General Pathology	Palpation
Histology	Spinal Anatomy

Table 1.3 First Year Coursework

Chiropractic Adjusting Techniques	Orthopedics & Biomechanics
Chiropractic Theories & Philosophy	Pathology
Clinical Nutrition	Pediatrics
Community Health & Wellness	Pharmatotoxicology
Differential Diagnosis	Physiological Therapeutics & Rehabilitation
Laboratory Testing & Interpretation	Professional Development
Obstetrics & Gynecology	Radiographic Anatomy, Physics & Principles

Table 1.4 Second Year Coursework

Chiropractic Research	Documentation & Coding
Clinical Internship	Emergency Procedures
Clinical Nutrition	Ethics & Jurisprudence
Clinical Psychology	Evidence-based Chiropractic
Concepts in Pharmacology	Geriatrics
Dermatology	Occupational & Preventive Health
Diagnosis of Internal Disorders	Professional Studies/Practice Management
Diagnostic Imaging Interpretation	Radiological Technique
Differential Diagnosis	Rehabilitation & Exercise Management

Table 1.5 Third Year Coursework

The fourth year often consists of a clinical internship. In addition to treating patients under the supervision of an experienced chiropractor, many students experience a clinical rotation through an integrated healthcare facility such as a hospital or veterans clinic. The Doctor of Chiropractic (D.C.) degree is awarded upon graduation, signifying successful completion of the required program.

Specialization

Postdoctoral training is available in a variety of clinical disciplines and specialties. Accredited U.S. chiropractic colleges offer specialty training (often leading to a master’s degree) through part-time postgraduate education programs or full-time residency programs. Specialty training programs are available in the following areas:

Applied Chiropractic Sciences	Nutrition
Chiropractic Acupuncture	Occupational Health
Chiropractic Research	Orthopedics
Diagnosis & Internal Disorders	Pediatrics
Diagnostic Imaging	Physiological Therapeutics & Rehabilitation
Forensics	Sports Physician
Neurology	

Table 1.6 Specialty Training Programs

Postgraduate and residency programs lead to eligibility to sit for competency examinations offered by specialty boards recognized by the American Chiropractic Association, the International Chiropractors Association, and the American Board of Chiropractic Specialties. Specialty boards may confer “Diplomate” status in a given area of focus upon successful completion of the prescribed course of study. The most common clinical specialty certifications are chiropractic orthopedics and sports chiropractic.

National Board Examinations

In addition to holding a D.C. degree, a chiropractic practitioner is generally required to pass Parts I, II, III, and IV of the National Board of Chiropractic Examiners (NBCE) examinations before applying to a U.S. jurisdiction for a license to practice. Candidates typically take all of the required examinations before graduation from a chiropractic college (Table 1.7).

The National Board of Chiropractic Examiners is the international testing agency for the chiropractic profession. NBCE examinations are administered at 25 chiropractic college test sites in the United States, Canada, England, France, Australia, New Zealand, and South Korea. The NBCE develops, administers, and scores standardized examinations that assess knowledge and higher-level cognitive abilities and problem-solving in various basic science and clinical science subjects. Scores from NBCE examinations are made available to licensing authorities within and outside the United States.

PART I	Six basic science areas (general anatomy, spinal anatomy, physiology, chemistry, pathology, and microbiology)
PART II	Six clinical science areas (general diagnosis, neuromusculoskeletal diagnosis, diagnostic imaging, principles of chiropractic, chiropractic practice, and associated clinical sciences)
PART III	Nine clinical competency areas (case history, physical examination, neuromusculoskeletal examination, diagnostic imaging, clinical laboratory and special studies, diagnosis or clinical impression, chiropractic techniques, supportive interventions, and case management)
PART IV	An objective structured clinical examination (OSCE) using trained patients. The Part IV tests interpretation of diagnostic imaging, chiropractic technique, and case management (including patient-centered skills, clinical judgment, and patient care)

Table 1.7 NBCE Pre-licensure Examinations

PHYSIOTHERAPY	An elective examination covering passive modalities and active rehabilitation
ACUPUNCTURE	An elective examination that covers acupuncture techniques, treatment protocols, and safety and hygiene
SPEC	The Special Purposes Examination for Chiropractic, which is designed for currently licensed or previously licensed individuals. It is frequently used for reciprocity/endorsement, and can also be used to assess individuals with revoked or suspended licenses or any special circumstances requiring an objective assessment of clinical knowledge
CCAT	The Chiropractic College Aptitude Test provides prospective students and their chiropractic colleges with measures of ability in mathematics, biology, chemistry, and physics.

Table 1.8 Optional NBCE Examinations

International Board of Chiropractic Examiners

Since 2002, the NBCE has been expanding its standardized testing services globally through the International Board of Chiropractic Examiners (IBCE). The IBCE has conducted pilot examinations of chiropractors and students in Brazil (2006) and Spain (2010), currently assists chiropractors in Thailand, Japan, and Portugal with customized registration testing, and co-founded the International Chiropractic Regulatory Collaboration to promote international mobility.

Ethics and Boundaries Assessment Services

The Ethics and Boundaries (E&B) examination is administered by an NBCE affiliated company – Ethics and Boundaries Assessment Services, LLC (EBAS). The E&B test is an essay-based assessment of a licensee’s understanding of ethical and boundary issues relevant in the professional workplace environment.

State or National Licensure/Registration

State licensing authorities regulate approximately 800 occupations in the United States. Legislation regulating the practice of chiropractic is established in the United States and in over 90 nations worldwide.

The chiropractic regulatory agency that exists in each state (and in some nations) has a regulatory board on which doctors of chiropractic, consumer members, and other healing arts professionals serve. In accordance with the statutory practice acts, the chiropractic regulatory boards are charged with protecting the public. This is accomplished through the adoption

and application of regulations and policies including appropriate sanctions of those who have violated the practice act.

To assist the various regulatory boards in assessing candidates for licensure, NBCE's pre-licensure examinations are administered semi-annually according to a published schedule. Individuals who are in a chiropractic education system or who have completed a chiropractic education program take these NBCE examinations. NBCE postgraduate examinations are used by regulatory authorities to assess those who are seeking reciprocity or endorsement or those subject to certain disciplinary processes or who have been away from active practice.

Federation of Chiropractic Licensing Boards

The chiropractic profession has been regulated in the United States for well over a century. By 1926, the agencies that license and regulate doctors of chiropractic developed the forerunner to the Federation of Chiropractic Licensing Boards (FCLB). The FCLB provides a forum in which licensing board members meet to address common areas of interest and concern with respect to chiropractic regulatory law. Boards also use certain common services provided through the FCLB's central offices, including:

- **CIN-BAD:** Chiropractic Information Network/Board Action Databank: Online, password-protected databank of public actions taken by FCLB member boards. These involve individual licensees where violations of the chiropractic practice act have been determined through an adjudicated process. Sanctions and reinstatements of chiropractors by the U.S. Department of Health and Human Services are also included, as is the licensed status of doctors of chiropractic with no records of sanctions.
- **PACE:** Providers of Approved Continuing Education for Chiropractic: Similar to the service provided by federations in other professions, PACE ensures that a uniform assessment process is followed for continuing education for re-licensure purposes.
- **Official Directory:** FCLB compiles and publishes regulatory board contact information and summaries of the requirements to obtain and maintain licensed status in the United States and its territories, Canada, and Australia.
- **Model Documents:** Regulatory boards have access to a model code of ethics for board members, a model disciplinary code, a model framework to evaluate treatments and devices, and qualifications to perform spinal manipulation.
- **Certified Chiropractic Clinical Assistant (CCCA) certification:** This program includes educational course study, independent examination, and a supervised practical clinical experience. Candidates who meet and complete these requirements earn certification as a Certified Chiropractic Clinical Assistant. CCCAs must complete at least six hours of continuing education every two years in relevant topics to maintain certified status.

Reimbursement for Chiropractic Services

Chiropractic care is covered by private insurance plans, automobile insurance policies, and Medicare. Medicaid programs and various managed care plans including preferred provider organizations (PPOs) and health maintenance organizations (HMOs) also offer chiropractic benefits. Most state workers' compensation systems include chiropractic care. The federal workers' compensation system, the Longshore and Harbor Workers' Act, and other federal employees' health benefits programs cover chiropractic care.

Active duty military service members (including activated National Guard and Reserve members) can receive chiropractic care at more than 60 Army, Navy, and Air Force bases including two in Germany and one in Japan. This Department of Defense program is administered through the Military Health System. Currently, more than 30 Veterans Administration sites provide chiropractic services to veterans through the Veterans Health Administration (VHA); more sites are being planned. Doctors of chiropractic are fully integrated within both the Military Health System and the Veterans Health Administration, caring for patients in healthcare teams, participating in research, training students, and serving in leadership roles (Green, Johnson, & Dunn, 2012). Both active duty and veterans clinics are staffed by doctors of chiropractic who are hired as federal employees or as contractors, depending on each site's needs and structure.

Sports Chiropractic

Chiropractic is receiving a growing amount of support from athletes in many sports around the world. All National Football League teams offer chiropractic services to their players and personnel to manage and prevent injuries and to improve on-the-field performance. Many top athletes give much credit to their doctor of chiropractic for their ability to compete in spite of the heavy biomechanical stresses placed upon their bodies. Runners, cyclists, martial artists, dancers, skaters, and many sports teams frequently have a chiropractor available to help treat their athletic injuries and to keep them at the top of their competitive abilities.

The International Federation of Sports Chiropractic (FICS), housed in Lausanne, Switzerland organizes chiropractic coverage for the many games and competitions that take place in multiple sports around the world. At both the 2010 Winter Olympic Games in Vancouver, Canada, and the 2012 Summer Olympic Games in London, England, chiropractic sports physicians were included in the Olympic Village Polyclinic, the multi-disciplinary facility that offers health care and medical services to Olympic athletes, officials, and staff. Currently, a doctor of chiropractic who has specialized in sports sciences serves as the Director of Sports Medicine Clinics; additionally, other sport-specialist chiropractors are included on the clinical staff of all three U.S. Olympic Training Centers.

Conclusions

The chiropractic profession, with its conservative approach to health care, continues to expand globally. The extent of chiropractic health care acceptance, use, and efficacy is illustrated by the following statement:

As a profession that over the past generation has made great strides into the American healthcare mainstream – with widespread utilization and patient satisfaction; a strong research base; inclusion in most private insurance plans, workers' compensation insurance, Medicare, military, and veterans' health care; and full recognition in Olympic and sports medicine – chiropractic now has the hallmarks of an essential health service (Redwood, 2009, p.2).