

THIRD EDITION

*Principles and  
Practice of*  
Chiropractic



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# PRINCIPLES AND PRACTICE OF CHIROPRACTIC

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Third Edition

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## PRINCIPLES AND PRACTICE OF CHIROPRACTIC, Third Edition

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OF CHIROPRACTIC**

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## Preface

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The evolution of this text, *Principles and Practice of Chiropractic* over the last 20 years represents, to a large extent, the evolution of the chiropractic profession during this period. Over this relatively short period of two decades, chiropractic has seen rapid changes in its acceptance by the other health care professions. Interest in chiropractic on the part of clinical and basic science researchers has also grown exponentially during this time. This may be in part due to the growing interest in all complementary and alternative treatment approaches but is primarily the result of increasing research directly related to the theories and practice of chiropractic.

The first edition of this text was the first time that a chiropractic textbook was published by a major medical textbook publishing company, and therefore marked the beginning of a new era for the sciences related to chiropractic and for the education of chiropractors. At the time the first edition was published, several medical associations around the world affirmed that it was unethical for medical physicians to cooperate with chiropractors. Chiropractors were, for the most part, excluded from major academic institutions and research facilities, and interdisciplinary practice was almost unheard of. Within this context, it was extremely difficult to convince the major publishing companies that not only did a market exist for chiropractic textbooks, but also that publishing such a text would not tarnish the reputation of the company considering such a venture.

Despite these obstacles, the first edition of this text was eventually published in 1980. When developing the content of the text it was necessary to recruit a number of scientists and clinicians without any chiropractic background to write many of the chapters. There were simply too few chiropractors at that time with the advanced scientific and academic qualifications and experience necessary to write quality treatises in the basic and clinical sciences. Although the first edition was intended to be fairly comprehensive, it consisted of only 16 chapters and was 390 pages long. There were sections on social aspects of chiropractic and a number of scientific principles on which the practice of chiropractic was based at that time. In

retrospect it must be admitted that there were extensive gaps in the material presented and that the text did not cover the field adequately. Nonetheless, the text did provide some insight into chiropractic and provided a reference for students, practitioners, and scientists with an interest in the field. It also established that there was a lucrative market for textbooks on the topic of chiropractic and paved the way for the publication of future chiropractic textbooks by major medical publishers.

The second edition of this text, published in 1992, was much more ambitious than the first, perhaps because the era was much more favorable to chiropractic than the early 1980s had been. Following the landmark 1987 Superior Court ruling against the American Medical Association, it became acceptable for medical physicians to communicate and interact with chiropractors. This cooperation marked the beginning of several important cross-disciplinary and joint research efforts, culminating with the publication of multidisciplinary guidelines for the management of back and neck pain that included input from chiropractic scientists and researchers.

During this period there was a progressive increase in the number of chiropractors with advanced and graduate degrees in a variety of subjects, including the basic sciences, who could be called upon to write chapters on their fields of expertise. It was therefore possible to rely to a much lesser extent on authors without formal chiropractic training to write chapters. The second edition attempted to be much more comprehensive than the first by doubling the number of chapters to 32 and increasing the number of pages to 641. Again, retrospection allows us to appreciate the many aspects of chiropractic theory and practice that were not included in that text.

With the publication of this, the third edition of *Principles and Practice of Chiropractic*, it is again time to reflect upon the position gained by the chiropractic profession over the past decade. Bolstered by the endorsement of spinal manipulation for low back and neck pain by several interdisciplinary guidelines both in the US and worldwide, chiropractic has developed a significant presence in the musculoskeletal

literature of the 1990s. During this period, the focus slowly shifted from defending the practice of chiropractic to studying its appropriateness for a number of specific conditions. Helping this effort is a growing number of chiropractors who have gone on to obtain Masters and Ph.D. degrees in various fields of research related to chiropractic. Their efforts have served to greatly increase the quality of the science on which chiropractic theory and practice are based and to develop new and increasingly interesting theories to explain the results observed in chiropractic clinical studies. The number of scientists with a chiropractic background is now such that all but 6 of the 58 chapters contained in this edition were written by chiropractors with graduate degrees in such subjects as biomechanics, epidemiology, neurophysiology, and public health, to mention just a few. This shift of expertise to individuals with training and expertise in both the clinical aspects of chiropractic and the basic sciences has resulted in a more comprehensive, critical, and practical discussion to the topics in each chapter.

This text is divided into five sections. Section I presents the history of spinal manipulation and chiropractic followed by a discussion of some of the traditional and modern philosophical issues that have dominated much of the discussion of chiropractic such as the relationship of vitalism and science. This is followed by a series of chapters that discusses some of the more important sociological factors that have influenced and continue to influence the growth and behavior of chiropractic as a profession. The expansion of chiropractic legislation and educational facilities outside of the North American continent is seriously impacting chiropractors within its traditional strongholds of Canada and the United States. This has been brought about by the publication of clinical trials that are described in Chapters 8 and 9. The last two chapters in this section focus on the public health responsibilities and the importance of professionalism and ethics in the practice of chiropractic. This section aims to provide a background from which chiropractic as a discipline can be evaluated and appreciated for what it has accomplished in its century of existence.

Section II is devoted to reviewing the basic sciences that increasingly influence chiropractic theory and practice. The innervation of spinal structures and manner in which neuronal input to and from spinal tissues can impact spinal function have been of growing interest to all clinicians who treat patients with spinal disorders. The neurophysiological processes that are the source of much of this research have been reviewed in some depth in the first five chapters of this section. The neurophysiology chapters are then followed by the second component of chiropractic theory, namely spinal biomechanics. It is not possible to

understand the theories on which chiropractic is based without understanding both spinal neurophysiology and biomechanics and how these two sciences interact with each other. It is not, however, sufficient to review normal physiology to understand the etiology of symptoms coming from the spinal structures. Abnormal physiology or pathology within these structures also impacts the manner in which treatment might have an effect. It is for this reason that a series of chapters on the pathophysiology of the intervertebral disc, the posterior zygapophysial joints, the muscles and the sacroiliac joint have been included. The inclusion of chapters on headaches related to the spine and risk factors for low back pain and neck pain conclude this section by introducing some basic epidemiological principles and illustrating how clinical and theoretical principles can be integrated.

Section III is an introduction to the clinical skills a chiropractor needs to evaluate a patient and develop a treatment plan. The process of reaching a diagnosis is dependent on a complex integration of the clinical history, basic physical examination, the neurological and orthopedic examinations, and the use of a variety of diagnostic tests. There is an increasing incorporation of advanced diagnostic tools including imaging and electrodiagnostic tests that are becoming part of the chiropractic diagnostic armamentarium and are included in chapters on these topics. The final chapter in this section is devoted to documentation and record keeping and gives some of the principles necessary to build a practice that can integrate with other health-care professionals, as is increasingly being required by governmental and insurance agencies.

Section IV is devoted to the most common treatment approaches used by chiropractors for their patients. It is not possible to discuss each of the over 100 manipulation and adjustive techniques that are currently used and taught within chiropractic institutions. Instead, the chapters in this section have focused on differentiating specific subgroups of manipulative techniques such as mobilization, high velocity low amplitude, low force, instrument, traction, and distraction techniques. There are also specific chapters on treatment approaches that are gaining increasing interest within chiropractic such as medication-assisted manipulation, physical modalities, acupuncture, and rehabilitation.

Section V is an attempt to integrate the prior chapters into a logical clinical approach to the most common conditions seen by chiropractors in practice. The majority of patients who seek chiropractic care do so for low back pain, thoracic pain, neck pain and headaches. There are also, however, a small percentage of patients who seek care for non-musculoskeletal symptoms and a discussion of some of the research on these conditions is necessary to put recommendations

on these conditions in context. There are also unique characteristics in the pediatric and geriatric patient populations that can impact management that warrant specific chapters on these topics. There is no treatment approach that is without some risk. Although the risk of the most commonly used chiropractic treatment approaches is very small, it is nonetheless important that those rare complications be discussed. It is for this reason that two chapters were devoted to these issues. The final chapter in this text is devoted to the integration of chiropractic into interdisciplinary spinal clinics. It is probable that a fourth edition of this text will devote considerable more time on the integration of chiropractic into mainstream healthcare.

Although a more thorough understanding of chiropractic may be achieved by reading the book in the order it is presented, each chapter is in fact nonsequential and may thus be read independently of the

others as a stand-alone reference on the topic. Due to constraints on volume length, it remains impossible to include chapters on every important aspect of chiropractic theory and practice. What we have presented here is a comprehensive overview of the topics deemed most relevant to chiropractic clinicians and students at this time. Although specific objectives are listed in each chapter, the general purpose of a chapter is to present a condensed review on a particular topic. For those wishing to gain deeper understanding in a field, these chapters are simply a starting point for further learning and discussion. Key references are provided in each chapter to help guide the reader through the literature.

We hope that readers will enjoy this text and use it as an opportunity to learn more about the very interesting and rapidly evolving discipline that is chiropractic.

**SCOTT HALDEMAN  
SIMON DAGENAIS**

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## Acknowledgments

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This book is a team effort and has become too complex to be written or edited by one person. The wide scope of knowledge and understanding that is necessary to write and edit a book that adequately covers this topic requires people with qualifications and experience in a number of backgrounds that include the social and basic sciences, as well as clinical practice. For this reason, multiple authors from around the world were recruited to impart their knowledge and expertise on a particular topic, and I wish to thank them for their efforts.

The task of corresponding with authors and ensuring that a quality manuscript was written that would contribute to the each of the sections fell on the shoulders of the section editors. All five of these individuals are amongst the most respected and experienced scientists and clinicians within the field of chiropractic. I count each of them amongst the closest of my friends and wish to thank them for accepting this challenge.

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SCOTT HALDEMAN

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