

Occupational Low Back Pain:

assessment, treatment and prevention

Edited by Malcolm H. Pope, Gunnar B.J. Anderson,

John W. Frymoyer and Don B. Chaffin

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St. Louis, MO 63146, USA

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Despite the widespread availability of sophisticated diagnostic techniques, the combined costs attributable to low back pain are currently estimated to exceed \$100 billion per year in the United States. Further, regardless of the current emphasis placed upon such preventive measures as improvements in work habits and ergonomic design, work related low back injuries continue to account for a full 20% of all compensable work injuries. Because mechanical low back pain probably results from an interaction between personal risk factors and workplace demands, those who provide care to injured workers should be familiar with the industrial setting.

Occupational Low Back Pain: assessment, treatment and prevention, edited by Malcolm H. Pope, Gunnar B.J. Anderson, John W. Frymoyer and Don B. Chaffin, is a text which presents its readers with a comprehensive introduction to rational decision making for the low back injured worker. Among the list of collaborators are some of the most prolific writers in the fields of orthopedics, ergonomics, chiropractic, and occupational medicine, who, by their very nature, are able to deliver scientifically based material tempered by pragmatic experience.

The text is divided into five parts, each of which follows logically from that which precedes it. Subdivision of these parts into well referenced chapters allows for ease in understanding of each complex matter. Each chapter concludes with a summary statement, which, in the author's own words represents a carefully considered opinion as to the most useful theories and practices of the issue in question. Part I focuses on basic knowledge matters, with chapters devoted to the structure and function of the lumbar spine, occupational biomechanics, clinical classification systems, acute and chronic pain definitions, and the overall epidemiology and cost of low back pain. Part II concerns itself with the role of the workplace and the known personal risk factors involved in the etiology of low back injuries. Evaluation and treatment of the acutely injured worker and rehabilitation of the chronic low back sufferer are topics covered in Part III. Issues discussed in Part IV center around employee selection and workplace evaluation. The legal aspects of occupational low back pain are the theme of Part V, with chapters dealing with impairment rating scales, worker's compensation methods, and hiring practices.

This book represents an excellent contribution to the resource material concerning low back pain, and a welcome addition to the library of the specialist, field practitioner, or student. The extensive and up-to-date reference lists which follow each chapter, the chapter summaries, the easy to comprehend diagrams, figures and tables, and the introductory glossary of common terms make this a very thorough, concise, and easily read text. Its purchase is certainly recommended.

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Chiropractic Family Practice: A Clinical Manual

Edited by Joseph J. Sweere, DC, DABCO, FICC

Aspen Publishers Inc., Gaithersburg, Maryland

1992, loose-leaf (binder style), \$240 (US)

Chiropractic Family Practice: A Clinical Manual edited by J.J. Sweere addresses the day-by-day clinical needs of doctors of chiropractic. The preface introduces the manual as a practical, comprehensive loose-leaf document designed to address, in a systematic and organized fashion, the practice of chiropractic on a continuum. Up-to-date information will be published periodically as supplements to be inserted into the binder.

This manual contains 23 chapters covering a wide range of topics related to chiropractic. The list of topics is extensive and it would not do justice to the manual not to mention them. Chapter topics include chiropractic history, chiropractic theories, chiropractic techniques, biomechanics, physiology, posture, chiropractic care in hospitals, headache, temporomandibular joint syndrome, scoliosis, aging of the intervertebral disc, orthotics, stress management, pharmacology, malinger-ing, female disorder, cardiology, pediatrics, geriatrics, acupuncture, ergonomics, practice management, and chiropractic education.

The first few chapters were much appreciated by this reviewer. They included a review on the history of chiropractic and an excellent chapter on current understanding of vertebral subluxation and manipulable spinal lesions. R.D. Mootz writes: "The DC must have the ability to discuss, support, evaluate critically, and differentiate among what is known, what is only supported and what is purely conjecture regarding the subluxation". With this in mind, this reader is surprised to encounter chapters in this manual with strong conclusions based solely on principles rather than scientific proof. In many cases the conclusions are based on speculation alone.

For instance, it is stated that the ultimate goal in patient care is correction of spinal misalignment. This concept is described in terms of x-ray findings and by a mathematical model to rationalize the idea that spinal misalignments need to be corrected with an adjustment, which is in the view of the author different than spinal manipulation. Adjustments are defined as a procedure that corrects structural misalignment, while the goal of spinal manipulation is the restoration of the full, free, painless active range of motion of a joint. In spite of this attempt to differentiate the two, the author failed to show any relationship between spinal misalignment and pathology.

Others have reported that the TMJ is often involved in ways that complicate and affect the body's innate powers of recuperation and that cranial faults are intimately involved with articular problems in this joint. There is absolutely no evidence in that particular chapter to support such claims. As much as a detailed description of a "unicorn" can easily be done, it still does not make it real, we need scientific proof to show its existence.

If the intent of this manual as suggested by the editor, is to present current knowledge in the field of chiropractic and to expand into subsequent volumes by adding supplementary chapters and creating new sections as new publications surface, the information needs to be reviewed more critically before its incorporation.

Nevertheless, the effort of many in the creation of the first chiropractic manual of this kind is an achievement on its own. This manual has

the potential of becoming a very popular document among chiropractors simply because it is designed to continuously update the chiropractors with current chiropractic literature. *Chiropractic Family Practice: A Clinical Manual* contains a few good chapters related to the practice of chiropractic. However, too many chapters lack scientific evidence to support many of their claims. Until some of the claims found in this manual are better supported by scientific literature, in the view of this reviewer this clinical manual is not yet a good reference document.

Joe Lemire, BSc, DC
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***Myofascial Manipulation: Theory and Clinical Application*
Robert I. Cantu, PT, MTC, and Alan J. Grodin, PT, MTC
Aspen Publishers Inc., Gaithersburg, Maryland
1992, ISBN 0-8342-0310-3**

Chiropractors who use soft tissue techniques in practice will be interested in reading this book. The title of this book is somewhat misleading due to the use of the word "manipulation". Most clinicians of manual medicine recognize the term manipulation as involving restoration of joint motion through cavitation of a joint. The authors refer to manual therapy as a general term which they subdivide into joint manipulation and soft tissue manipulation.

The cover of this 171 page book catches the reader's attention with a schematic drawing representing both normal and decreased connective tissue extensibility. Beside this schema one sees a therapist treating an individual's thigh. The authors are senior physical therapists at the Center for Orthopaedic Rehabilitation in Atlanta, Georgia, and the Institute of Graduate Physical Therapy in St. Augustine, Florida. In the preface they state the goal of their book thus: "We attempt . . . to take the most current body of research in myofascia and integrate this cognitive knowledge with psychomotor to produce a concrete system of evaluation and treatment acceptable to a profession which is striving for higher professional recognition."

The textbook consists of three parts. The first section deals with the history of myofascial "manipulation". The usual Hippocrates, Galen, Paget and Cyriax are mentioned. They devote several pages on "bone setters" and give high marks to osteopathy and Andrew Taylor Still. "Fortunately, osteopathic medicine continued to evolve into a more scientific and realistic philosophy." This quote is not explained or substantiated. One paragraph is devoted to chiropractic and D.D. Palmer. Several pages are devoted to Cyriax and Mennel. Several studies of manual therapies are mentioned but no chiropractic studies are mentioned. It appears that these authors are unaware of the chiropractic literature and work done by chiropractors on spinal manipulation.

The research on connective tissues used by the authors is very old. This contradicts their stated goal of the text and their explanation of cause and effect are anecdotal and almost cultist, when they mention a "cultivisceral reflex".

The second part of the book discusses the scientific basis of myofascial "manipulation". The histology and biomechanics are acceptable,

although the references are outdated and lecture notes are referenced as well. Their reference to muscle tissue immobilization and its presentation in whiplash is a very good description of effects on soft tissues. There is a nice comparison of Fibromyalgia and Myofascial Pain Syndrome.

Part three focuses on evaluation and treatment. Here they discuss history, visual, palpation, and movement exams. The use of static or layer palpation is emphasized but there is no mention of reliability or validity of these procedures. The authors do state that treatment has a tendency to become subjective and abstract, the last 70 pages deals with over 50 soft tissue techniques to the entire body including diaphragm techniques. Many of these procedures are familiar to the chiropractor but there are several techniques that are different and interesting.

This book is a good collection of soft tissue techniques. Its references are on average 12-15 years old with some dating back to 1923. A few anecdotal statements are made and the authors' understanding of chiropractic in the field of manual medicine is either being ignored or non-existent. I would recommend this book for its catalogue value of different soft tissue procedures.

Jaroslav P Grod, DC, FCCS(C)

***Essentials of Clinical Neuroanatomy and Neurophysiology*
Edition 8**

**Sid Gilman, MD and Sarah Winans Newman, PhD
F.A. Davis Company, Philadelphia
1992, 328 pages, softbound, \$26.95**

Neuroanatomy and neurophysiology are to the student and practitioner in health sciences what nails and a hammer are to the carpenter: basic tools that will enable them to further build a base of knowledge strong enough to make proper clinical decisions. In this eighth edition of *Essentials of Clinical Neuroanatomy and Neurophysiology*, the authors still adhere to their original objective of providing a short but comprehensive survey of the human nervous system. This book was initially written for beginners learning neuroanatomy and neurophysiology, as well as for the advanced students wishing to rapidly review this material. The authors also hope that field practitioners will benefit from this book to update their knowledge base.

The new edition is meant to keep this book up-to-date with the ongoing developments in the field of neurosciences. Each chapter has been thoroughly revised and updated, and three new chapters have been added.

This book is divided into seven sections, namely basic principles, peripheral nervous system, ascending and descending pathways, brainstem and cerebellum, higher levels of the nervous system, circulation of blood and cerebrospinal fluid, and approaches to patients with neurologic symptoms. Although somewhat arbitrary, the division into seven sections and thirty chapters greatly helps the reader comprehend the basics of neurology. Unfortunately, as much as this arbitrary division is useful for organization of the material, it can also hinder the understanding of some essential relationships existing in the nervous system. An example of this is the frequent reference throughout the text to the

different Brodmann's areas, with the explanation of those areas presented only in chapter twenty-five.

One of the major strengths of this book, namely that of providing an overview of the nervous system, also represents one of its weaknesses. The authors generally succeed in presenting the basics of neuroanatomy and neurophysiology in an understandable, concise and well-organized manner. Nevertheless, some topics would benefit from more thorough explanations, such as the concepts of synapses, stretch reflexes, and nicotinic and muscarinic receptors. This is especially true for first learners of this material. In my opinion, some explanations remain too general and limit a complete understanding of the material (e.g. nerve cells and fibers, cervical ganglions, and detection of visual inputs).

A lack of diagrams and pictures related to the presented material is another criticism of this book. More illustrations would assist the reader to better and more easily understand and relate all the intricate parts of the nervous system. This would, therefore, greatly enhance the usefulness of the book. A bothersome detail that appears in the last third of the reading is the reference to diagrams in previous chapters. For most of them, adjuncts of new abbreviated diagrams could happily complement the text without any redundancy.

Two other aspects of this text are also important to mention. First, this book does not emphasize the clinical aspects of neurology. Even though the authors state that "clinical relevance of the major anatomical structures of the nervous system has been pointed out systematically", this constitutes only a small percentage of the text. Second, the text is not properly referenced, so that its usefulness for post-graduate work is limited. In spite of this, an up-to-date suggested reading list is available at the end of the text, but is not easily used as it is not referenced by subjects.

Given the complexity of the nervous system, and given the honorable goal of an overview of it, this condensed book, *Essentials of Clinical Neuroanatomy and Neurophysiology*, is certainly worth reading. This book would be particularly recommended for health field students or practitioners with basic knowledge in the neurosciences, and whose purpose is an overall and quick review of neuroanatomy and neurophysiology.

Jaroslav P Grod, DC, FCCS(C)

***Ethical Dimension in the Health Professions*
2nd edition, Ruth Purtilo
W.B. Saunders Company, Toronto, 1993
260 pages, \$30.95, ISBN 0-7216-3550-4**

As a health professional have you ever had to make a difficult decision or been faced with deciding between two courses of action both of which have benefits, but by choosing one losing the benefit of the other? If you are not prepared, ethical decision making can be more difficult than necessary. Ruth Purtilo, in this second edition of *Ethical Dimensions in the Health Professions*, "provides guidelines and a method for proceeding from considered reflection to informed action". Though directed at students, the book is worthwhile for anyone with no formal training in ethics and a few hours to spare.

The first edition, published over ten years ago and coauthored by Dr. Christine Cassels had the identical purpose of preparing students to face the ethical challenges of their professional life. This new edition includes a simple five-step method of solving problems and shows how to apply the decision making principles. Realizing that an academic understanding of ethical concepts does not make a decision, Ruth Purtilo uses stories to illustrate the application of the concepts. The stories are more than bare-bones case studies. They provide background on the individuals and include psychological, social, and other aspects of the situation which influences the decision-making process.

The first of five sections, entitled an "Introduction to Ethical Dimensions in the Health Professions", provides background information on ethical theories, duties and rights, types of ethical problems and an outline of the Five-Step Process of ethical decision making. The remaining sections cover the student's role, the responsibility of the health care provider to himself, as well as the patient, professional peer relationships and societal issues. In light of proposed changes to the Regulated Health Professions Act there is a particularly relevant discussion of the sensitive issue of reporting incompetent or unethical colleagues. Also provided, is a responsible approach to dealing with difficult patients. The final chapters dealing with the health professional and society include a discussion of what others may perceive to be your additional duties, rights and responsibilities as a citizen, with appropriate priority-setting strategies.

To assist the learning and integration of the material covered, fill in the blank and short answer questions are interspersed throughout the text. Of particular value, the author provokes thought on the concepts covered and continually encourages the reader to relate them to their chosen profession. References are provided at end of each chapter if something particularly piques your interest.

Applicable to student or practitioner in a health care profession, this book is written in a style that informs without preaching. Concisely written, it is easy and recommended reading which helps you re-evaluate your values and may assist in future decision making processes.

Laurie King, BSc, DC

***Do-It-Yourself Marketing for the Professional Practice*
Laura Sachs
Prentice-Hall, Inc., Englewood Cliffs, New Jersey, 1986,
244 pages, ISBN 0-13-216201-6**

Are you starting a new practice? Does your present practice need to be revitalized. So now you are thinking that this must be a pitch for some new marketing scam that often besieges and deludes many health professionals. Well, look again! This guide contains a wealth of proven nonadvertising practice building ideas. They range from the most traditional, low-key projects to the most radical.

This smart looking book is well structured. It has numerous charts, questionnaires, samples and illustrations of patient brochures, letters and information, letterhead, stationery, logos, surveys, newsletters and client file studies. This text is accurate and ahead of its time.

It all begins with a guide that explains how to use the book. It has a

unique "Instant Finder Chart of Marketing Idea Generators". The marketing process begins with techniques for assessing your current practice and client potential. There are client file studies that reveal valuable factual information about your customers.

There is emphasis both on internal and external marketing techniques. Internal marketing includes office staff as an untapped source of marketing information as well as telephone use and appointment scheduling. Office logos, stationery and sign design and how to write and produce a practice brochure are explained. External marketing projects make current clients and the public aware of your practice. Projects such as preparing your practice for publicity and performance are emphasized. There are suggestions on writing feature stories, public speaking, open house, office tours and preparing news releases. This area is well done but each different professional must be aware of regulations and advertising bylaws applicable to their specific practice so there is no breach of specific regulations.

The last part of the book aids in developing and implementing long- and short-term marketing plans. It ends with some final thoughts about marketing. There are four appendices illustrating how to employ others to carry out marketing projects, sample written materials to build your practice, marketing communications guide and examples of printed marketing.

Regarding advertising, the good news is that you most likely do not have to advertise to succeed. Laura Sachs points out it does not produce long-term loyalty and repeat referrals. Ms. Sachs offers busy professionals no-nonsense, how-to-do-it help for marketing professional services successfully within a sensible budget and without being overly commercial. One of her final thoughts is "provide quality services and present an honest picture of your practice in your marketing. There is no substitute for the truth."

This book is a must for all professional people. The purchase of this book will save you thousands of dollars which might be spent on questionable practice building seminars.

Jaroslav P Grod, DC

* Submitted in partial fulfillment of the field practitioners' fellowship program.*

Sports Injuries of the Shoulder: Conservative Treatment
 Edited by Thomas A. Souza, DC, CCSP, Professor
 Palmer College of Chiropractic West
 Churchill Livingstone Inc.
 650 Avenue of the Americas, New York, NY 10011, USA
 642 pages, ISBN 0-443-08844-6

"Whereas the 1980s was the decade of the knee, the 1990s is the decade of the shoulder." A quote from the preface of Dr. Tom Souza's new book, *Sports Injuries of the Shoulder: Conservative Management*. Indeed, the shoulder complex is one of the most utilized joints in sports. Unlike the knee joint this "ball and socket" joint encompasses four individual joints:

1. The glenohumeral joint;
2. The acromioclavicular joint;

3. The sternoclavicular joint;

4. The scapulothoracic joint.

Thus, when a patient presents with a "shoulder problem", the practitioner should consider the whole shoulder complex and cervicothoracic spine. A text of this calibre, encompassing all aspects of shoulder complex injuries is a must for everyone treating athletes, and will definitely act as a reference book for the clinician. In addition, the extensive use of pictures will act as an excellent teaching tool for patient education.

Souza has presented the latest research (EMG studies), a unique and practical examination procedure and more, in a book devoted to the shoulder joint complex. The book is divided into five sections comprised of 20 chapters and is one of the best reference books on the shoulder available.

Section I is devoted to Functional Anatomy and Biomechanics. Souza details the anatomy, biomechanics and then specifically describes how the shoulder joint is used in throwing sports, swimming and weight lifting. He has made use of extensive diagrams which aids the reader in the understanding of the dynamics certain muscles take during specific actions.

Section II is the History and Physical Examination procedure chapter. Souza has developed an excellent shoulder examination in which the patient is tested positionally. That is, most examinations "evaluate specific structures or suspected conditions or a combination of the both". By utilizing Souza's ideas, the shoulder examination is better organized saving time and unnecessary movement by the doctor and patient. The following chapter is adapted from a publication by Wilk and Arrigo, and deals with Isokinetic Testing and Exercise. Although most practitioners do not have isokinetic diagnostic or therapeutic equipment, the principles of rehabilitation presented in this chapter can be adapted to use by all doctors.

Section III is composed of four chapters which deal with Radiographic and Special Imaging. Techniques such as plain film x-rays, sonography, MRI, and arthroscopy are presented. Specific disorders are demonstrated by the extensive use of photographs in each chapter. In addition, the chapter on plain film x-rays include diagrams on the proper patient positioning for special views of the shoulder complex.

Specific Disorders are examined in Section IV. Specifically, Glenohumeral Instability, Impingement Syndrome, Tendinopathies, Degenerative Joint Disease, Sternoclavicular, Acromioclavicular, and Scapular Disorders and Frozen Shoulder. Each disorder is described pathophysiologically, an explanation of physical findings and radiographic findings is included, and finally a treatment protocol is presented.

Perhaps the best part of this exceptional book is Section V: Treatment, Rehabilitation, and Prevention. Again, the extensive use of photographs makes this an easily understandable chapter. (That's not to say that the other chapters are difficult to understand.) Souza has presented many tables, 19 specifically, which outline diagnostic criteria, and rehabilitation protocols for specific shoulder injuries.

Another unique quality of this text is the appendix. A list of International Classification of Diseases Codes for the shoulder, a shoulder examination form, American Shoulder and Elbow Surgeons shoulder examination form and a descriptive shoulder examination table form the appendix. This section of the text will be referenced often by anyone

using this book.

Overall this is currently one of the best text books on sports injuries of the shoulder. Although the text is specifically on the diagnosis and treatment of shoulder injuries, the concepts of treatment and rehabilitation can be used or modified to treat a variety of conditions affecting other joints of the body.

Bradley W Yee, BSc, DC

Chiropractic Technique

***Thomas F. Bergman, David H. Peterson
and Dana J. Lawrence***

***Churchill Livingstone, New York, 1993
803 pages, \$203.00, ISBN 0-443-08752-0***

This book is a leap towards filling a longstanding void in chiropractic literature. The authors have undertaken the unenviable task of compiling a broad scope of text of chiropractic technique, primarily for students. Considering the number of techniques practiced in the field, most, if not all, being listed in appendix two, their recent effort should be applauded. It is not a comprehensive coverage of a specific style of technique or system. Instead, over 170 procedures covering a wide range of body areas are offered as cross-representation of chiropractic methods.

The stated goal is "to review the basic principles (anatomic, biomechanical and pathophysiologic) necessary to evaluate, select and apply specific adjustment procedures". It is stated repeatedly this is not intended to be an exhaustive coverage, despite 803 pages including index, but more of a basis for developing a rational approach to manipulation. The result is six chapters which provide a general overview of the chiropractic profession past, present and future; discuss general joint anatomy and biomechanics; followed by chiropractic principles and procedures. A discussion of available research and further methods for validation of manipulative therapy conclude the

book as the seventh chapter.

Each chapter was written to stand alone so referring to previously covered material is seldom if ever necessary. However, this results in some duplication of material both between and within chapters. Chapters 5 and 6 constitute the bulk of the book, covering joint specific anatomy, biomechanics, assessment and adjustive techniques of spinal and extraspinal joints, respectively.

While the text is generally well illustrated, these two chapters include well marked photographs illustrating setups for each manipulative procedure discussed. Each procedure is presented concisely in a standard format including indications, patient and doctor position, contacts, force vectors, step by step instruction and importantly, appropriate cautions. Where necessary, line diagrams further clarify points. Students will appreciate the summary tables and pertinent "tips" scattered throughout the text.

There are some flaws in the text. Diagrams are not always consistent with the written text. Problems include contradictions in the contact hand and location of placement, direction of thrust, a supine patient for a prone manipulation and once a reference to a diagram for anatomy of a joint that was not illustrated.

While some chapters flowed well and were easily read, others suffered from poor grammar and inconsistent terminology making reading awkward and comprehension difficult. A personal favorite is this sentence beginning a discussion of foot and ankle musculature, "Similar to the wrist, the muscles of the ankle are located in the calf." Perhaps it was the author's overall intent to delay the reader and have them focus on certain concepts. Generally the problems left this reader with the impression the book came up against a deadline and wondering where the editor was.

Despite the difficulties, it remains a substantial effort well worth reading. There is considerable value in the text. The authors present a fine effort at a rational approach to the application of chiropractic methods, using scientific principles and a current, impressive literature review to support the concepts and techniques covered.

Laurie King, BSc, DC