

Reviewed by Scott Maloney, L.Ac. in *The American Acupuncturist*

This book is invaluable for anyone who regularly sees tendon and ligament injuries in clinical practice. This is also an ambitious work, which does three things well, any one of which would be a valuable contribution in itself. First, it sheds new light on the structure and function of tendons and ligaments, the nature of their healing process, and the specific changes caused by different types of injury. Second, it gives a thorough presentation of the existing body of research in this area, comparing conventional and emerging perspectives. Third, it presents a new model for treatment, one which involves the effective interweaving of a variety of manual therapies and is the product of the author's 25 years of clinical experience. There is a great deal of information packed into 180 pages of text. Excellent photographs and illustrations complement a text that is extremely thorough, concise and lucid.

From an orthopedic perspective, tendons and ligaments are passive structures with little or no capacity to heal once injured to a certain degree, and with surgical repair as often the only course of treatment. Weintraub shows both through careful research and the fruits of his clinical experience that tendons and ligaments are far more vital and dynamic structures that is generally known and, given the right stimulation, are also highly regenerative. Through well-cited summaries of existing research (including over 100 citations and an extensive bibliography), Weintraub explains that, far from being passive, tendons and ligaments contain highly responsive neural structures (proprioceptors, also present in muscle spindles) involved in complex patterns of communication and feedback.

Of great significance for healing is the research showing that tendons and ligaments are responsive to subtle touch and electromagnetic forces. Not only do tendons and ligaments respond to subtle touch, the more serious the injury, the more subtle the treatment that is required. (This is an interesting contrast to the standard western approach in which the more serious the injury, the more invasive the treatment/surgery required.) Weintraub clearly explains the research on the electro-magnetic nature of healing and its impact on connective tissue. Additionally, he shows how he evaluates and corrects irregularities in injured tendons and ligaments in terms of distortions in their electromagnetic properties. This is exciting new information about the energetics of these structures and offers many parallels to Chinese medical theory.

The majority of techniques used by the author are rooted in the Osteopathic tradition and include Strain/Counterstrain, Cranial Therapy, Fascial/Myofascial Release and Zero Balancing, along with the system of Body-Mind Centering. Weintraub was trained in these techniques by many of the leaders in the fields of osteopathy and manual therapies, including Jean-Pierre Barral, Fritz Smith, Bonnie Bainbridge Cohen and others. The author gives clear and useful summaries of each technique he has synthesized into his unique approach.

Most of these techniques require highly developed sensitivity. The ability to sense and influence the subtle energetics affecting tendons and ligaments (including changes in local electromagnetic fields and conductivity) is not dissimilar to the subtleties involved in certain advanced pulse diagnosis systems. Weintraub also presents the practitioner/therapist as an instrument-one that has to always be further refined and sensitized to greater levels of subtle observation. As in our work with the pulse and Qi,

this is a perspective that acknowledges the practitioner as an active participant in the healing process.

Through two extremely detailed case studies and 10 shorter ones, Weintraub provides clinical examples of the principles and research outlines elsewhere in the book. These case studies are inspiring for their thoroughness and demonstrate the remarkable results the author has achieved with his manual approach in very difficult cases (such as a badly torn hamstring tendon or an overly lax thumb ligament) in which surgery was previously considered the only viable option.

The author also emphasizes the role of the patient in the healing process—both through understanding the nature of their injury and the therapies that can be helpful, along with a detailed section on specific self-help recommendations.

While many of us may routinely see minor tendon and ligament injuries in our practices, a Grade III tendon injury is not something many acupuncturists are equipped to handle on their own. It is very helpful to know what other therapies can be most useful for the sake of informed referral, patient education, or ancillary study. Some of the primary techniques used by Weintraub (including Zero Balancing and Cranio-Sacral Therapy) can be easily incorporated into many acupuncturists' practices.

While it is not a manual for instruction, and all of the individual therapies/techniques require extensive study to master, this book will provide the reader with a clear understanding of the nature of tendons and ligaments and an appreciation of the value of a new approach to treatment. This book offers new hope to practitioners and patients alike. It is a valuable resource for the acupuncture community and anyone interested in new possibilities for tendon and ligament healing.

Reviewed by Nancy Sabin, OTR in *American Journal of Occupational Therapy*

Most people are given the conventional "one strike and you're out" view that tendons and ligaments are passive rubber band-like structures with a fixed length; once stretched or injured beyond a certain point, little or no capacity for healing is possible. Chronic symptoms and frequent reinjury are cited as a probability, and surgery is one of the few options offered, with varying results.

Weintraub offers a new paradigm for viewing and treating tendon and ligament injuries that may be of special interest to occupational therapy practitioners and researchers. His professional background includes a master's degree in biomechanics, and he has practiced and taught manual therapy for 27 years. He has practitioner certifications in Counterstrain Technique, Acupressure Therapy, and Body-Mind Centering (founded by Bonnie Bainbridge Cohen, OTR). He also has trained extensively in other manual therapy methods, including craniosacral therapy, visceral manipulation, and zero balancing. He draws on these methods to develop a new way of working with tendon and ligament injuries. Some of these techniques are now being introduced in occupational therapy education programs, and many practitioners are learning them as adjuncts to traditional therapy methods.

In 180 concise, well-illustrated pages, Weintraub gives an excellent review of structure, properties, function, and treatment of tendons and ligaments, while citing more

than 100 references to support his statements. He describes the conventional medical view of tendon and ligament properties and treatment and then presents research that illustrates a greater potential for tendons and ligaments as dynamic, active structures with self-healing abilities. Conventional treatment methods are contrasted with specific innovative techniques, which the author explains in detail.

Two in-depth case studies and 10 shorter case reports demonstrate Weintraub's treatment model. Although this book promises no overnight cures, the reader sees repeated evidence of the healing capacity of tendons and ligaments and gains insight into a successful noninvasive recovery strategy that avoids surgery. Occupational therapy practitioners or researchers, especially those specializing in hand therapy, may find the six case studies of upper-extremity injuries of particular interest.

The case reports are followed by a deeper discussion of processes and tissue changes in tendon and ligament recovery as related to the author's techniques. He clearly presents a map of the tissue healing process, encompassing crucial concepts for understanding this new paradigm. This discussion is followed by a list of self-help techniques, including some concepts frequently emphasized in occupational therapy.

Tendon and Ligament Healing is not a treatment manual for learning specific techniques. Rather, it opens our awareness to well-supported research and clinical experience that establish realistic hope after a serious tendon or ligament injury. Occupational therapy practitioners can incorporate the techniques described in the book according to their own training and treatment emphasis and use them as an adjunct to standard occupational therapy treatment. The book may also be a useful resource for clients who are considering surgery. As we deepen our study of the structure and function of the human body, this book will help us stay updated on enlightened concepts of our physiology.

Reviewed by Richard Bouche, DPM in *Journal of American Academy of Pediatric Sports Medicine*

The purpose of this book is to present the author's management paradigm for chronic ligament and tendon injuries that have been unresponsive to conventional medical and surgical treatments. This paradigm focuses on the author's experience with unconventional (or alternative) types of manual or "hands-on" therapy, an area that has received little to no attention in our present conventional health care system.

The author has a diverse background having a Masters degree in Biomechanics and having trained in osteopathic/structural therapy methods including Body-Mind Centering, acupressure and shiatsu. He has been in practice utilizing these techniques for twenty-five years. This soft covered book is 180 pages with ample illustrations. It is well organized into 7 chapters with 156 pages dedicated to text and the remaining 24 pages devoted to a listing of illustrations and photographs, works cited, bibliography and index.

Chapter 1 provides a general overview of the author's alternative manual therapy model including the osteopathic and structural therapies it is based on and rationale for its application as related to chronic ligament and tendon injuries.

Chapter 2 provides an excellent review of the structure, properties and function of tendons and ligaments. The author juxtaposes the standard accepted medical view of tendons and ligaments as passive rubber-band like structures that are seen as "fixed-length stays," against new thinking based on research that considers tendons and ligaments as active structures. These active structures play a significant role in weight-bearing and postural control (through complex neuromuscular feedback circuits via the gamma motor system and afferent input of the CNS), responsive to electrical and magnetic activity and containing tissue components that possess a contractile and locomotor capacity along with connective tissue motility (generating self healing forces from within).

Chapter 3 reviews conventional medical treatments for ligament and tendon injuries and also compares the uncommon manual techniques used by the author to those common manual therapy techniques used by physical therapists. The specific techniques that the author uses are listed and explained in detail. His principal methods include the osteopathic techniques of strain/counterstrain, cranial therapy, visceral therapy, body-mind centering, acupressure, zero balancing and fascial/myofascial release techniques. One of the best parts of the book, in my opinion, is the five page section comparing the author's therapeutic model with the conventional medical treatment. The author clearly and specifically explains the potential benefits of his manual techniques which can supplement standard physical therapy modalities and manual techniques.

Chapter 4 consists of two in depth case studies and ten short case reports. Of interest to podiatric physicians is the first case study detailing a patient with severe bilateral achilles tendinopathy. The course of treatment is explained in great detail including technique indications and rationale for use. Progression of treatment is outlined over a 10 month follow-up period.

Chapter 5 provides a detailed discussion of the processes and tissue changes that occur in tendon and ligament healing as speculated by the author. Specific processes mentioned include: reduction of excessive muscle tension and fascial pull, restoration of normal joint mechanics, adequate blood flow/drainage, reduction of inflammation, health/abundance of ground substance, re-establishing normal parallel arrangement of fibers, proper remodeling of injured connective tissue, improvement of neural function, achievement of adequate extensibility and deformability, normalization of electromagnetic activity, increasing fiber tone/substance/thickness, encouraging tissue contractility, raising the metabolic rate of chronically injured tissue and finally encouraging the "plastic state" of the injured structure.

Chapter 6 provides self-help measures for the lay person to be tried initially for a tendon or ligament injury. It is appropriately stressed by the author that these recommendations are not a substitute for seeking professional care when indicated.

Chapter 7 concludes with final comments on previously presented case studies, further thoughts on clinical efficacy which summarizes how and why his techniques are effective and a directive for further research in areas of alternative manual therapy and increased integration of these techniques into standard approaches for management of chronic tendon and ligament injuries.

This book provides alternative treatment options for chronic intractable tendon and ligament disorders that this reviewer has been previously unaware of. These treatments, as they continue to be found successful by health care practitioners, should be

incorporated into standard treatment protocols early on which should enhance results obtained with non-surgical intervention. Further scientific study of these alternative manual techniques should be pursued (i.e., morphologic studies using light and electron microscopy before and after intervention) to fully elucidate their mechanism and role in tendon and ligament healing. For the suggested retail price of \$20, this book is an excellent value and is highly recommended by this reviewer for anyone who deals with chronic musculoskeletal injuries.

Reviewed by Lisa Mertz in *Massage Therapy Journal*

What is new about William Weintraub's approach to tendon and ligament healing is that he has developed a non-surgical treatment for seriously injured cases, offering a viable option for their recovery. Throughout his 25 years of practicing structural/osteopathic manual therapy, Weintraub has combined Strain-Counterstrain, visceral osteopathy, Fascial Release, acupressure, and Zero Balancing to form an artist's palette of techniques from which he can choose to apply with each individual patient. Integrating these techniques and subtle perceptual skills along with thorough knowledge of anatomy and physiology, Weintraub paints a picture in *Tendon and Ligament Healing* of the art and science of manual therapy.

Citing innovative scientific research and using case studies, Weintraub builds a convincing argument for the inclusion of manual therapy in the treatment of serious and chronic injury. He has built his therapeutic model around the following elements: 1) the aforementioned therapy techniques; 2) the ability to treat tendons and ligaments in a structurally accurate manner, informed by fine, subtle perception; and 3) the particular strategies for aligning the small tendons and their bundles, to restore tone and reverse laxity, and work with the electrical activity of the tissue.

In Chapter 2 Weintraub discusses the nature of tendon and ligament tissue, and then expands on the conventional views with recent scientific findings. He shows that ligaments and tendons are not passive structures, but have a more dynamic, vital, active function. Drawing on the research of Bainbridge, Cohen, Korr, Smith, Becker, Hunt, and Studitskii, Weintraub unfolds a depiction of electromagnetic activity, cellular function, and the potential for tissue regeneration.

In Chapter 3, the author presents skills and aptitudes necessary for this approach, emphasizing the ability to detect subtle changes in the tissue, to attune to the rhythms of the patient's body, and to establish contact with the body while only very minimally disturbing its function. Subtle perception "combined with an understanding of body structure and function, enables the effective and useful comparison of the normal body with the abnormal, and the interpretation of material into sound physiological reasoning."

This treatment model offers a manual approach to fine-tuning the electromagnetic activity of the tissues that has not been found in standard approaches. For example, the author states that while the commonly used electro-stim and TENS devices do have their place in the treatment plan, they cannot harmonize the tissue's electromagnetic activity in the way that can be accomplished with hands-on care.

As with most innovators, this work arose from William Weintraub's extensive training along with personal experience of recovery from a serious tendon injury. He is certified in Body-Mind Centering and acupuncture, and holds a master's degree in biomechanics from Antioch University. Also, following a severe tendon injury, he underwent seven years of treatments that culminated in the development of the strategies described in this book.

Case studies are presented in Chapter 4 in the context of "participant observation" research methodology. The data sources for the case studies include Weintraub's clinical notes with patients' reports of the progress of their conditions, and reports from other clinicians who have worked with the same patients. Medical diagnoses and MRI and X-ray findings for each condition are noted as well. The criteria for therapeutic efficacy used are: range of motion of the joints adjacent to the injury; resiliency, tone, and other qualities of the affected tissue; the capacity of the patient to function using the affected area; and levels of the patient's comfort or pain. Both qualitative and quantitative methods are used to assess these criteria of effectiveness.

In the fifth chapter, Weintraub creates a landscape showing the processes and tissue changes in tendon and ligament healing. This is an in-depth discussion of the principles of healing and the techniques used, both relating to the case studies and generalizing from the specific to the universal. Then in the sixth chapter, he draws the patient into the picture, offering adjunctive self-help strategies for tendon and ligament injuries. The concluding chapter summarized the author's findings with recommendations for further study in the area of the body's electromagnetic activity.

I would highly recommend this book for any advanced practitioner to deepen her or his understanding of the potential subtleties of anatomically-focused treatment. Weintraub submits an integration of art with science, of effective clinical therapy using focused perceptions with technical expertise.

Review by Dr. George Casey, Clinical Director Life Chiropractic College, Hayward, CO

I've recently read a book that will interest many of your readers/chiropractic practitioners. It is written by William Weintraub, a very dedicated and extremely effective manual massage therapist who works in Berkeley, California. His book, *Tendon and Ligament Healing: A New Approach Through Manual Therapy*, can be purchased at most major bookstores.

It is one thing to master state-of-the-art knowledge and technical applications of chiropractic and other forms of health care, but to blend knowledge with a 60's style bedside manner that tells the patient, "your health is important to me" is quite another. William Weintraub is that kind of care giver. While a significant component of his therapeutic style revolves around his vast knowledge and experience of anatomy and physiology, there is also much his patients gain from the gentle, hands-on time he spends with them. As you read his book, you will be witness to the depth of his involvement with each patient and will feel the touch of his personality as it provides comfort and instruction to his patients.

His work and writing will appeal to chiropractors who are not only committed to fundamental and traditional concepts, but to those willing to expand their therapeutic influence. Mr. Weintraub adheres to principles long held sacred by chiropractice, that healing is founded on a belief in the intelligence of the body, down to its minute components. When given the opportunity, it is a self-correcting organism. While he is accepting of many traditional approaches to some tendon and ligament problems, he is unwilling to accept shortsighted attempts to regain health if standard means end in failure. He has developed a special talent for seeking results where other therapy has ended or proven of limited value.

From a textbook concept of understanding and application, Tendon and Ligament Healing comes alive with case studies that demonstrate the power of Weintraub's work. The reader will not only learn the fundamentals of his therapeutic approach, but will experience the vitality with which it is applied to real cases.

In the end, the reader will find that Weintraub's book is not limited to providing knowledge and application of a rehabilitative technique, but to the inspiring message that, when therapy looks beyond conventional means of Western, and often, the evolving values of "alternative" therapies, much can be found to improve the health and well-being of one's patients. For the suggested retail price of \$20, Weintraub's book is not only an excellent value, but is a gold mine of information for anyone interested in expanding his or her knowledge and therapeutic approach to hands-on healing.