

Trigger Points and Muscle Chains in Osteopathy

By Philipp Richter, DO (foreign), and Eric Hebgen, DO (foreign). 230 pp, \$89.95. ISBN: 978-3-13-145051-7. Stuttgart, Germany: Georg Thieme Verlag; 2009.

Trigger Points and Muscle Chains in Osteopathy, an English translation of the second edition published in Germany in 2007, is described as a guide for “osteopaths, physiotherapists [and] chiropractors” to apply therapy techniques involving trigger points. This liberally illustrated book, combining theory with practical techniques, was written by two foreign-trained osteopaths. One author, Philipp Richter, DO (foreign), is a private practitioner and assistant director of the Institute for Applied Osteopathy in Burg Reuland, Belgium. The other author, Eric Hebgen, DO (foreign), is a private practitioner in Königswinter, Germany.

This book is essentially two books in one. Part A, written by Mr Richter, consists of 11 chapters. The first seven chapters review physiologic and biomechanic issues associated with what the authors call “muscle chains,” or “myofascial chains,” as modeled by various researchers. Chapters 8 through 11 define the authors’ own model of muscle chains and the authors’ approach to treatment. Part B, which consists of chapters 12 through 19, was written by Mr Hebgen and covers the definition, locations, and physiologic mechanisms of trigger points, as well as diagnosis and treatment related to trigger points.

Although the authors provide no clear definition of muscle chains, Mr Richter, in part A, delineates models of muscle chains developed by Herman Kabat, MD, PhD; Godelieve Struyff-Denys (a Belgian physiotherapist); Thomas W. Meyers (a rolfer); and French osteopaths Leopold Busquet and Paul Chauffour. For example, Dr

Kabat’s model is described as follows:

Kabat developed a treatment technique wherein weak muscles are integrated into a muscle chain. The muscle chain is stimulated with the aid of specific stimuli (by visual, auditive, and tactile irritants). This process takes optimal advantage of the nerve and muscle properties described by [Sir Charles] Sherrington, in order to integrate optimally the weak muscle (or muscle group) into the motion pattern.

Mr Richter next describes research findings of Irwin M. Korr, PhD; Sir Charles Sherrington, OM; and Harrison H. Fryette, DO, that are related to the subject of the book. In the two pages on Dr Korr, the author notes the significance of somatic dysfunction in the spinal column, the role of the spinal column as an information and control center, and the significance of the nerves for trophism. Mr Richter also outlines the functions and dysfunctions of connective tissue and fascia and analyzes muscle activity in walking.

After these basic physiologic and biomechanic discussions, Mr Richter describes the craniosacral model of William G. Sutherland, DO, from a biomechanical perspective. This description includes text, as well as anatomic illustrations, on flexion, extension, torsion, sidebending rotation, and other movements of the craniosacral mechanism. Next, the musculoskeletal models of John Martin Littlejohn, DO; Vladimir Janda, MD; and J. Gordon Zink, DO, are compared.

With the necessary groundwork laid, Mr Richter describes the muscle chain model proposed by Mr Hebgen and himself. In regard to their model, he states the following:

Furthermore, we determined that one of the main functions of the locomotor system, namely the gait,

reproduces the behavior of the spinal column and the pelvis, as described by Sutherland, Zink, and Littlejohn in their models.

For us, it is obvious that it is the muscles that form these patterns.

Mr Richter then explains that, in his and Mr Hebgen’s opinion, there are only two muscle chains in each half of the body—a flexion chain and an extension chain. The muscle chains are described in detail, and anatomic diagrams help make the descriptions easily understandable.

The last two chapters of part A cover diagnosis and therapy related to dominant muscle chain patterns. The methods of diagnosis mentioned by Mr Richter include history taking, observation, motion testing through particular traction techniques, and the use of Zink patterns. Several black-and-white photographs of human models depict the diagnostic techniques described in the text.

The five-page chapter on therapy covers only the most basic aspects of muscle energy and myofascial release techniques. Listed, but not described, under myofascial release are the following methods: strain-counterstrain, facilitated positional release, functional release, balanced ligamentous release (ie, balanced ligamentous tension), [facial] unwinding, and cranial osteopathy (ie, osteopathy in the cranial field). This last chapter of part A also briefly explains “neuromuscular technique” and myofascial release with ischemic compression.

Summing up why the book presents information on the various forms of therapy, Mr Richter notes the following:

If the therapist has found and treated (viscerally, parietally, or cranially) the dominant dysfunction, and in addition treats the trigger points in acute cases and normalizes the shortened musculature in

the affected muscle chain in chronic cases, the chances are quite good that the painful state is relieved quickly and that the danger of relapse is reduced.

In part B, Mr Hebgen first briefly discusses the classification, pathophysiologic factors, and diagnostic aspects of trigger points. He then describes, in only two pages, some therapy methods for trigger points. “Stretch-and-spray technique”; “postisometric relaxation/muscle energy technique/myofascial release”; “ischemic compression/manual inhibition”; and “deep friction massage” are succinctly put forth as such therapy. The mention of trigger point injection, however, is conspicuously absent. The author also explains how a facilitated segment resulting from visceral dysfunction may be associated with specific trigger points.

The final chapter, comprising more than 90 pages, provides details on the location and referral patterns of commonly found trigger points. The trigger points are grouped into seven body regions—head and neck; upper thorax and shoulder; elbow-finger; upper torso; lower torso; hip, thigh, and knee; and lower leg, ankle, and foot. Mr Hebgen discusses the origins, insertions, innervations, and actions of the involved muscles and also mentions any internal organs that may be associated with each trigger point.

Many clear photographs of human models are presented in this final chapter. Additional graphics depict the location of each trigger point and its radiation pattern on the models. The anatomic illustrations in this chapter—as in the other chapters of the book—are also clear, useful, and pleasing to the eye. However, picture credits indicate that most of the illustrations have been culled from other publications and are not original.

It should be noted that the referencing system for part B is not as readily apparent as that in part A. While state-

ments in part A are referenced with superscripts corresponding to numbers in the bibliography at the end of the book, references for part B are listed in the bibliography without superscripts in the text. Therefore, the reader is unable to identify the sources of particular statements.

The concepts of muscle chains and trigger points are not for every osteopathic physician. Those who are not interested in the musculoskeletal component of medicine or trigger point treatments will not find this book useful. However, osteopathic physicians who frequently work with the musculoskeletal system and trigger point treatments might find this book to be of academic value. Part A may be of interest to osteopathic physicians who would like to learn how the authors developed their model of muscle chains based on previous research. Part B will have more widespread applicability as a quick reference for trigger points and their associated anatomic and physiologic factors.

Overall, I recommend *Trigger Points and Muscle Chains in Osteopathy* to osteopathic medical students, residents, and practitioners who have a particular interest in trigger points or in learning about the concept of muscle chains. The book may stimulate thought with regard to muscle chains and osteopathic medicine, and it may provide a valuable reference for common trigger points. However, this book is not a treatment manual for osteopathic physicians.

In conclusion, although *Trigger Points and Muscle Chains in Osteopathy* is not a “must have” book or a “practice changer,” it could be a useful reference for osteopathic physicians who use trigger point treatments or who are looking for another approach to address musculoskeletal problems.

Michael J. Terzella, DO
Assistant Professor, The Stanley Schiowitz, DO, FAAO, Department of Osteopathic Manipulative Medicine, New York College of Osteopathic Medicine of New York Institute of Technology, Old Westbury

**First Aid for the COMLEX:
An Osteopathic Manipulative
Medicine Review: Second Edition**

By Zachary Nye, DO; John M. Lavelle, DO; Stockton M. Mayer, DO; and Rachel Laven, DO; edited by Elise B. Halajian. 260 pp, \$44.95. ISBN: 978-0-07-160025-5. New York, NY: The McGraw-Hill Companies; 2009.

First Aid for the COMLEX: An Osteopathic Manipulative Medicine Review: Second Edition—written by Zachary Nye, DO; John M. Lavelle, DO; Stockton M. Mayer, DO; and Rachel Laven, DO, and edited by Elise B. Halajian—is an excellent “just meat, no bone” review of osteopathic manipulative medicine (OMM) for the Comprehensive Osteopathic Medical Licensing Examination-USA (COMLEX-USA) Levels 1, 2, and 3. The authors are former teaching fellows at Midwestern University/Chicago College of Osteopathic Medicine in Downers Grove, Illinois, and current residents at various institutions. The editor is an OMM fellow at Midwestern. This team has produced a highly useful resource for osteopathic medical students who are preparing to take COMLEX-USA.

The book is organized into five sections, consisting of 13 chapters, that cover the following topics: (I) “Guide to Efficient Examination Preparation,” (II) “OMT Fundamentals,” (III) “Regional and Systems-Based Assessment,” (IV) “Historical Highlights, Key Points, and Musculoskeletal Tests,” and (V) “Osteopathic Treatments and Techniques.” This organization—along with the easy-to-follow bullet-point format of information presentation, concise tables, and useful figures (including black-and-white illustrations and photographs)—make this book essential for time-conscious osteopathic medical students and osteopathic physicians who are sitting for the OMM component of a state licensing examination. Also useful are the end-of-chapter review questions

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(with answers), many of which resemble board-style questions in format and complexity.

Section I starts with a discussion of the structure of COMLEX-USA for each of the four steps (Levels 1, 2-Cognitive Evaluation, 2-Performance Evaluation, and 3). In *Table 1-1*, a list of the percentages of examination content devoted to various topics provides for a quick review. A discussion of examination grading and mean scores is followed by a review of how osteopathic manipulative treatment (OMT) is integrated into COMLEX-USA. This section ends with a “Walk Through of Test Day,” which summarizes what to expect on the day of examination, such as a 50-minute orientation consisting of video and oral presentations and the timings of lunch and other breaks. After reading section I, osteopathic medical students should not have any surprises on test day.

Section II provides a lightning-fast but thorough review of the basics of OMT. Explanations of somatic dysfunction and tissue texture changes, including acute and chronic palpatory findings, are addressed in bullet and table format. As in the rest of the book, several illustrations in this section stress important concepts. For example, *Figure 2-2* summarizes the barrier concept by using simple traffic signs, such as a stop sign to represent an anatomic barrier and a railroad-crossing gate to represent loss of range of motion.

Throughout the book, the authors present material in a variety of formats, including bullet points, tables, and illustrations. These different formats enable readers to acquire knowledge in the form they understand best. The authors also convey information using note points, located in the side margin of each page. For example, in section II, note points, bullet-point lists, and an illustration all address Fryette principles. Students can easily review these note points without stopping to look the topic up elsewhere, making the learning process extremely efficient.

Section III is the “meat” of the book. The first chapter of this section presents regional diagnosis concepts, from occiput to sacrum, in a logical and intuitive manner. For each body region, the text discusses relevant anatomic information followed by material on range of motion and steps for segmental diagnosis and treatment. A good example of how the authors convey this information is their discussion on sacral mechanics, diagnosis, and treatment—a topic that is traditionally represented heavily on COMLEX-USA. The authors use a step-by-step diagnostic approach for both the sacral torsion model and the anterior-posterior sacrum model, including providing examples for each model with bullet points and figures. I have not seen another text, let alone another review book, that presents information on these two models of sacral mechanics so effectively.

The second chapter of section III covers systems-based assessment in clinical medicine. For each system, the discussion begins with relevant anatomic information, then addresses visceral somatic reflexes. The section finishes with osteopathic medical considerations and treatment guidelines. The material on obstetrics is a prime example of how the authors’ presentation of a topic works well. *Table 5-1*, “Contraindications of OMT in the Pregnant Patient Divided by Trimester,” is a perfect reference for studying for boards as well as for rounds on an obstetrics floor service. The discussion of trimester-specific chief complaints and related somatic dysfunctions is especially straightforward and easy to understand.

The systems-based information provides osteopathic medical students with a high-yield review of clinical considerations of OMT for COMLEX-USA. However, this chapter at times reads a bit like a “cookbook” in that the succinct lists of diagnosis and treatment steps seem to be taken out of the context of osteopathic medicine.

Section IV is a concise presentation

of high-yield topics and key points for COMLEX-USA. I recommend that osteopathic medical students read this section the day before taking the examination. The text briefly reviews the viscerosomatic reflex, Chapman reflex, and Jones counterstrain tender points, then discusses the most common orthopedic tests that appear on COMLEX-USA. The tables and figures in chapter 6 are especially useful. *Table 6-1* and *Table 6-2* are chock-full of information that students need for the examination, such as locations of reflexes and tender points. In addition, several figures show locations of tender points.

What I find most brilliant about the material in section IV is the list of orthopedic tests with descriptions and corresponding illustrations. These features will enable osteopathic medical students to achieve higher examination scores because orthopedics and OMM are integrated on COMLEX-USA.

Section V wraps up the book by covering various OMT techniques according to body regions—cranial; cervical; thoracic, rib, and diaphragm; lumbar; sacrum and pelvis; extremity; and systemic. Techniques are well described and illustrated. This section is most useful for students who are preparing for the COMLEX-USA Level 2-Performance Evaluation and for osteopathic physicians who are sitting for the OMM component of the state licensing examination.

The only caution I have for students about section V is that it is not meant to be an all-inclusive atlas of OMT techniques. Thus, confusion may occur if comparison is made between the techniques presented in this section and the techniques presented in individual colleges of osteopathic medicine. (On a sidenote, contrary to the photograph in *Figure 13-2*, gloves should be worn when performing all intraoral techniques with patients.)

In summary, *First Aid for the COMLEX: An Osteopathic Manipulative Medicine Review: Second Edition* is a well-written, well-illustrated, and concise

review book for COMLEX-USA that I recommend to any osteopathic medical student who is preparing to take any level of the examination. I also recommend this book to any osteopathic physician who desires a quick review of OMM or who is preparing to take the osteopathic practical component of a state licensing examination. The formula of integrating bullet-point descriptions, tables, and figures with the reinforcement of point notes gives this book an advantage over other available COMLEX-USA review books.

Francisco Laboy III, DO

Department of Neuromusculoskeletal
Medicine/Osteopathic Manipulative Medicine,
Philadelphia College of Osteopathic Medicine,
Pennsylvania

Correction

The *JAOA* regrets an error that appeared in the following contribution:

Dyachenko A, Melius K, Fujima L, Wen M, Lin S, Bergeron N, et al.
**The effect of acute fructose infusion on hepatic glucose metabolism
in humans [abstract].** *J Am Osteopath Assoc.* 2009;109:433-434. C9.

Ms Lin's name incorrectly appeared as Steve Lin, OMS IV. However, Ms Lin's first name is Shintau, and she is not an osteopathic medical student. Her name should have appeared as Shintau Lin.

This change was made to the full text (<http://www.jaoa.org/cgi/content/full/109/8/425>) and PDF (<http://www.jaoa.org/cgi/reprint/109/8/425>) versions of this contribution online.