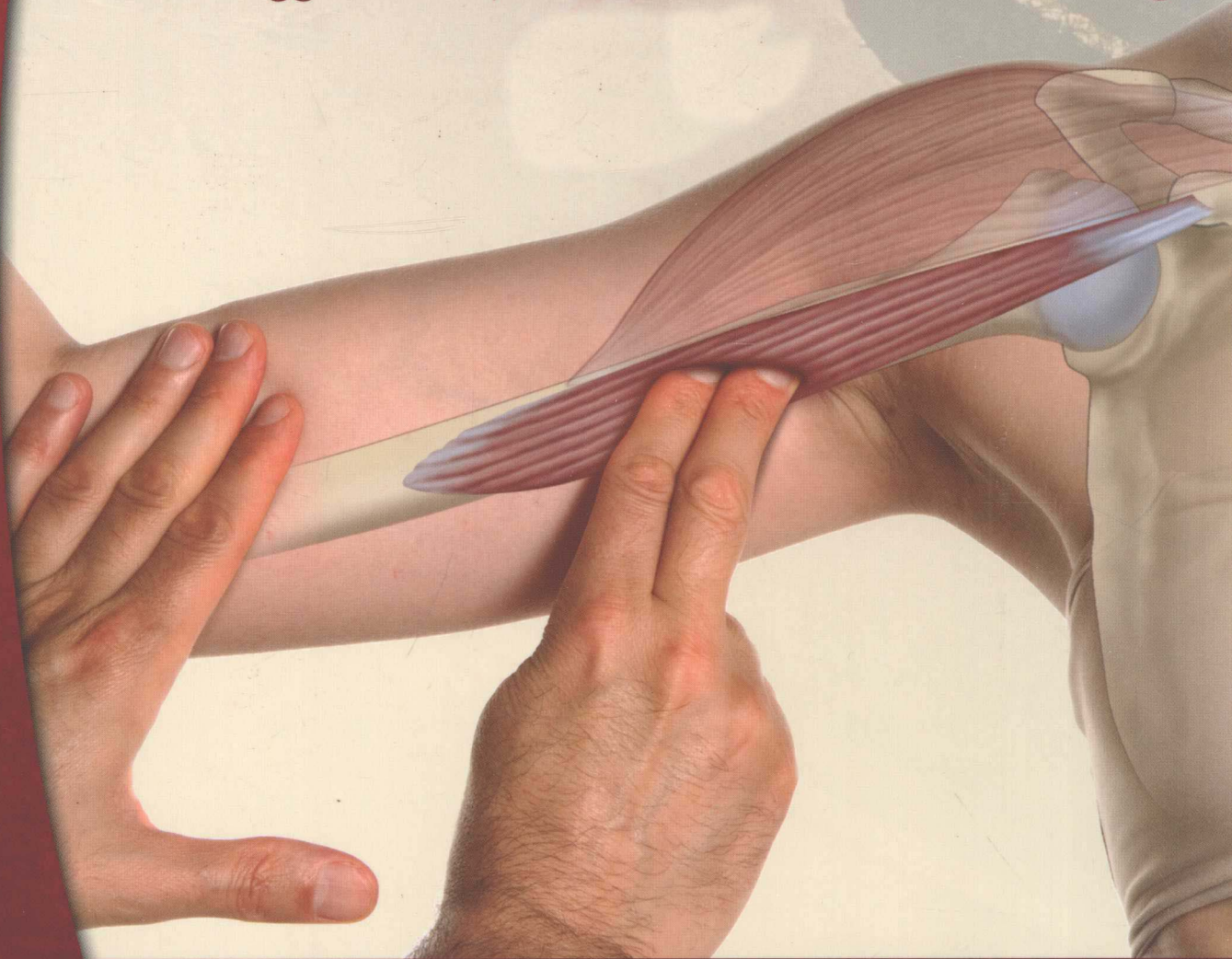


JOSEPH E. MUSCOLINO

*The*  
**Muscle and Bone  
Palpation Manual**

with Trigger Points, Referral Patterns, and Stretching



MOSBY  
ELSEVIER



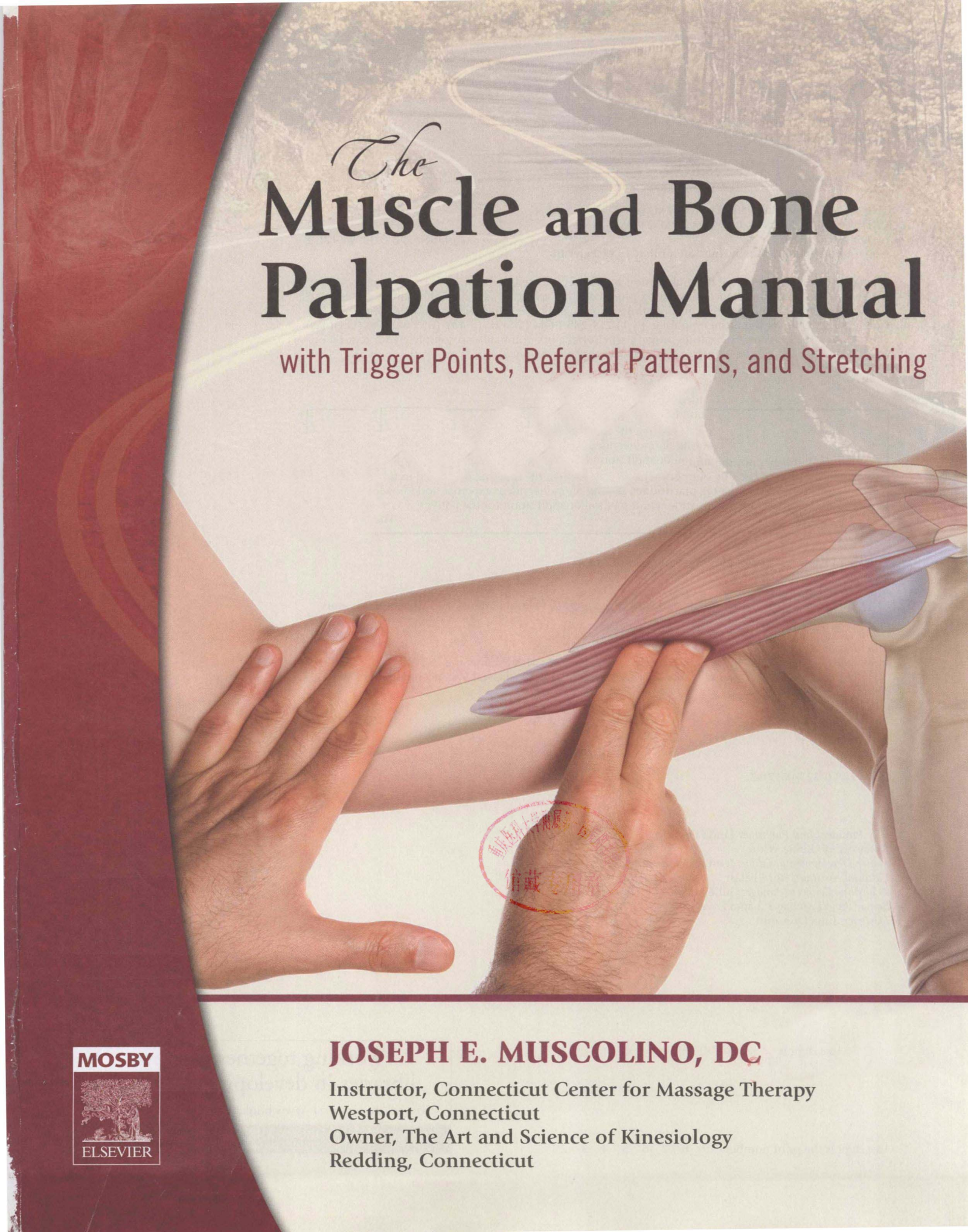
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4 hours of palpation video!

**evolve**  
learning system

Foreword by  
**Ruth Werner**



The cover features a composite image. The top half shows a winding road through a forest with autumn foliage. The bottom half shows a close-up of a person's arm with a detailed anatomical illustration of the biceps muscle overlaid. Two hands are shown palpating the arm: one hand is flat against the forearm, and the other uses the thumb to press into the muscle belly. A red circular library stamp is visible on the lower right of the arm.

# *The* Muscle and Bone Palpation Manual

with Trigger Points, Referral Patterns, and Stretching

**MOSBY**



ELSEVIER

**JOSEPH E. MUSCOLINO, DC**

Instructor, Connecticut Center for Massage Therapy  
Westport, Connecticut  
Owner, The Art and Science of Kinesiology  
Redding, Connecticut



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St. Louis, Missouri 63146

THE MUSCLE AND BONE PALPATION MANUAL  
WITH TRIGGER POINTS, REFERRAL PATTERNS,  
AND STRETCHING

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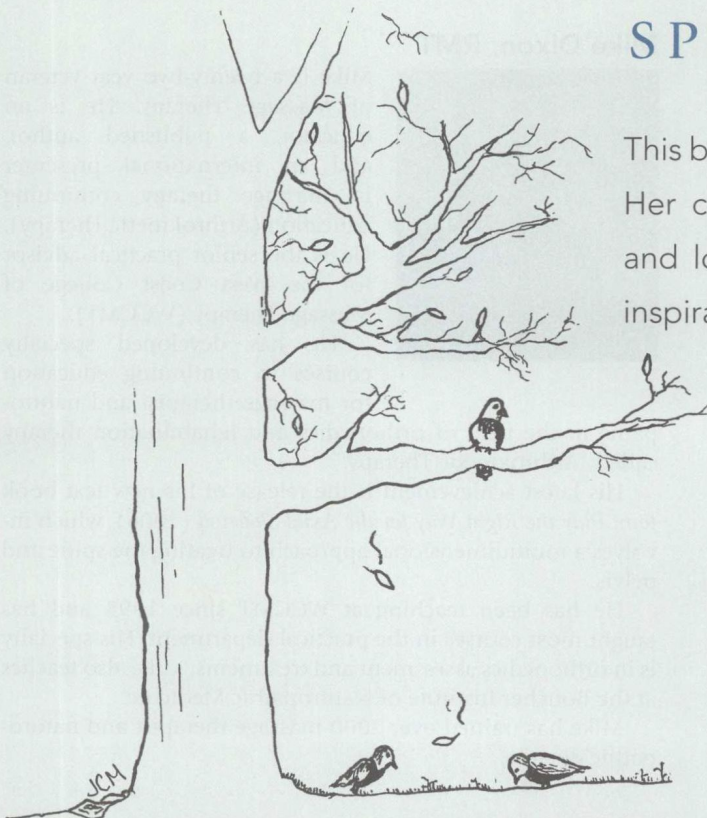
## DEDICATION

This book is dedicated to all of my students, past, present, and future. I have always felt that the classroom and life are about learning and growing. It was a gift to be a part of your lives as we meandered through the intricacies as well as the bigger picture of anatomy, physiology, kinesiology, palpation, and treatment. So much of my learning took place in the classroom along with you.

Thank you.

## SPECIAL DEDICATION

This book is lovingly dedicated to Diane C. Schwartz. Her courage, spirit, and passion for life, learning, and love have always been and always will be an inspiration to me, and everyone's life she touched.





# CONTRIBUTORS AND DVD PRESENTERS

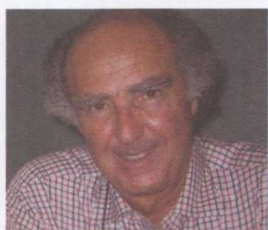
## Sandra K. Anderson, BA, NCTMB



Sandra has a BA in biology from Ithaca College in Ithaca, New York, and has been a professional bodyworker since 1992, with certification in massage therapy, shiatsu, and Thai massage. She taught at Cortiva-Desert Institute of the Healing Arts in Tucson, Arizona, for twelve years, in subjects ranging from anatomy and physiology to shiatsu, and was Director of Education for one year. Sandra is

co-owner of Tucson Touch Therapies, a massage and bodywork treatment center located in Tucson. She maintains a private clientele and also presents workshops on Asian bodywork techniques. Additionally, she is author of *The Practice of Shiatsu* (Mosby, 2008).

## Leon Chaitow, ND, DO



Leon Chaitow is a graduate of the British College of Osteopathic Medicine. Since 1983, he has been a visiting lecturer at numerous chiropractic, physiotherapy, osteopathic, naturopathic schools in Europe, the United States, Canada, and Australia. In 1993, Leon was the first naturopath/osteopath who

was appointed as a consultant by the UK government. He is the author/editor of over 70 books, and he is the Founder/Editor-in-Chief of the peer-reviewed *Journal of Bodywork and Movement Therapies* (Elsevier). After 11 years as Senior Lecturer/Module Leader in Therapeutic Bodywork and Naturopathy, Leon retired from the University of Westminster in 2004. In November of 2005, he was awarded the Honorary Fellowship by the University in recognition of "services to Complementary and Osteopathic medicine." Leon lives and works in London and Corfu, Greece. He is happily married to Alkmini since 1972!

## Judith DeLany, LMT

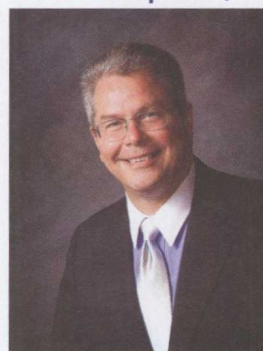


Judith DeLany has spent over two decades developing neuromuscular therapy techniques in continuing education format for manual therapy practitioners and for massage school curriculum. In addition to instructing NMT seminars internationally, she serves as director of NMT Center in St. Petersburg, Florida.

Ms. DeLany served for over a decade as associate editor for the *Journal of Bodywork and Movement Therapies* (a multidisciplinary Elsevier journal) and con-

tinues on *JBMT's* advisory board. She has co-authored three NMT textbooks and has written numerous articles on chronic pain management for both magazines and journals. Her professional focus aims to advance education in all health care professions to include myofascial therapies in the treatment of patients with acute and chronic pain.

## Neal Delaporta, NCTMB, Chair-Elect for National Certification Board for Therapeutic Massage & Bodywork



An honors graduate of the National Holistic Institute in California, Neal passed the NCE in 2000 and established a private practice that includes sports, rehabilitative and spa modalities, and traditional healing practices such as aromatherapy and ear candling.

He has served as a faculty member at the Connecticut Center for Massage Therapy and is a member of the American Massage Therapy Association—Connecticut Chapter.

Neal is a prominent speaker, author, and workshop/seminar facilitator, as well as the creator of Top (Therapeutic Optimal Performance) Massage: A Sports-Based Protocol Designed For All Active People.

## Mike Dixon, RMT



Mike is a twenty-two year veteran of Massage Therapy. He is an educator, a published author, and an international presenter in massage therapy continuing education (Arthrokinetic Therapy). He is the senior practical advisor for the West Coast College of Massage Therapy (WCCMT).

He has developed specialty courses in continuing education for massage therapist and naturopaths in the field of orthopedics and rehabilitation therapy called "Arthrokinetic Therapy."

His latest achievement is the release of his new text book *Joint Play the Right Way for the Axial Skeleton* (2006), which involves a multidimensional approach to treating the spine and pelvis.

He has been teaching at WCCMT since 1993 and has taught most courses in the practical department. His specialty is in orthopedics assessment and treatments. Mike also teaches at the Boucher Institute of Naturopathic Medicine.

Mike has trained over 2000 massage therapist and naturopathic doctors.



**Sandy Fritz, MS, NCTMB**

Sandy is the Owner, Director, and Head Educator of the Health Enrichment Center, which provides education for over 75 massage students per year. Part of her private practice includes working with mental health, in conjunction with a psychologist who provides support care and education for attention deficit/hyperactivity disorder, anxiety, depression, fatigue and pain management. She also provides massage for those dealing

with everything from stress management massage to rehabilitative care upon physician referral. Additionally, Sandy has developed and supervises a student massage clinic with the Detroit Lions professional football team. She also provides professional sports massage and rehabilitation for individual professional football players and basketball players. As a worldwide public speaker and stress management educator, Sandy provides programs for the public in the corporate arena.

**Beverley Giroud, LMT, NCTMB**

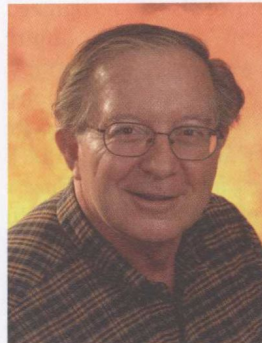
Beverley Giroud is a massage therapist and personal trainer with a private practice in Tucson, Arizona. She is a graduate of the Desert Institute of the Healing Arts and holds additional certifications in orthopedic massage through OMERI and Exercise Coaching through the Chek Institute. She has been a massage therapy instructor for eight years. She also teaches business and ethics classes. Her private practice specializes in injury assessment, management and rehabilitation, as well as corrective

exercise for injury and postural dysfunction. Prior to becoming a massage therapist, Beverley earned a Bachelor of Science degree in civil engineering at the University of Delaware.

**Gil Hedley, PhD**

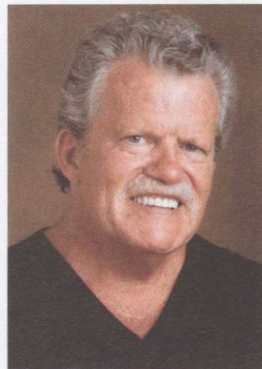
Gil Hedley has taught his 6-Day Intensive Hands-On Human Dissection Workshops to professionals from virtually all health and fitness modalities internationally since 1995. Documenting his unique approach to human anatomy, his Integral Anatomy Series on DVD has now been sold into 27 countries. A presenter at the First International Fascia Congress in 2007, Gil is also a regular contributor of feature articles

for *Spirituality & Health Magazine*, among others, and his second book is due out in 2009.

**Glenn M. Hymel, EdD, LMT**

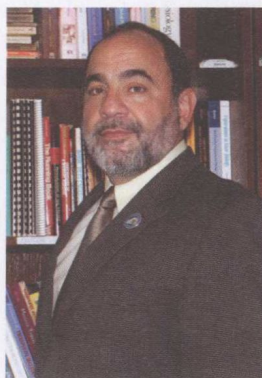
Glenn M. Hymel is Professor and Chair of the Department of Psychology at Loyola University New Orleans. His principal areas of specialization include educational psychology, research and statistics, and the psychology of personal adjustment. Dr. Hymel is a graduate of the Blue Cliff School of Therapeutic Massage in Metairie, Louisiana, and maintains a practice in the Greater New Orleans Area. Glenn is the author of the textbook, *Research Methods*

for *Massage and Holistic Therapies* (Mosby, 2006) and the tertiary author (along with Sandy Fritz and Leon Chaitow) of *Clinical Massage in the Healthcare Setting* (Mosby, 2008).

**Bob King, LMT, NCTMB**

Bob King has authored manuals, books, videos, curricula and numerous clinical articles in a massage therapy career spanning more than three decades. He is a Cortiva Educational Consultant and conducts advanced myofascial trainings throughout the country. He is the founder and past president of the Chicago School of Massage Therapy, served two terms as AMTA National President, and is widely regarded as a successful innovator, activist, and educator

within the profession. Bob serves on the Editorial Advisory Board of the *Journal of Bodywork and Movement Therapies*. In 2004, he received the Distinguished Service Award for the Massage Therapy Foundation for visionary leadership.

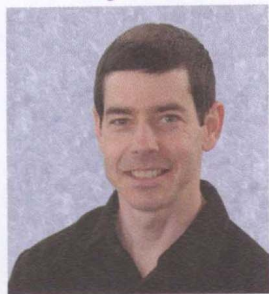
**George Kousaleos, BA, LMT, NCTMB**

George Peter Kousaleos is the founder and President of the CORE Institute School of Massage Therapy and Structural Bodywork in Tallahassee, Florida. A graduate of Harvard University, George has taught Structural Integration, Myofascial Therapy, and Sports and Performance Bodywork workshops and certification seminars throughout the United States, Canada, and Europe. During his career he has volunteered for leadership positions on the National Certification Board,

the Florida Licensure Board, and the Massage Therapy Foundation. His involvement in Olympic Sports Massage included serving as General Manager of the 1996 British Olympic Preparation Camp Sports Massage Team and Co-Director of the 2004 Athens Olympic International Sports Massage Team.



### Whitney Lowe, LMT



Whitney Lowe is a recognized authority on pain and injury treatment with massage therapy. He is the author of the books, *Orthopedic Assessment in Massage Therapy* (David Scott, 2006), and *Orthopedic Massage: Theory and Technique* (Mosby, 2003). In 1994 he founded the Orthopedic Massage Education & Research Institute (OMERI) to provide

massage therapists the advanced education they would need for treating orthopedic soft-tissue disorders. He is currently a member of the editorial advisory board of the *Journal of Bodywork & Movement Therapies* and has been a regular featured author in publications such as *Massage Magazine*, *Massage Today* and *The Journal of Soft-Tissue Manipulation*.

### Bob McAtee, NCTMB, CSCS, CPT



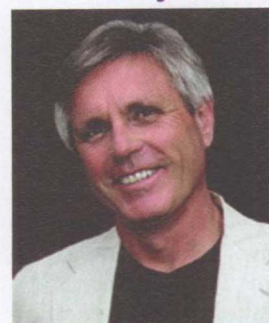
Bob McAtee is a veteran sports massage therapist, author, educator, and inventor. He maintains an active, international sports massage practice in Colorado Springs, Colorado, and regularly presents workshops on facilitated stretching, massage, and soft-tissue injury care nationally and internationally.

Bob is nationally certified in Therapeutic Massage and Bodywork (1992), is a Certified Strength and

Conditioning Specialist (NSCA, 1998), and a certified personal trainer (ACE, 2006).

He is also the author of the book, *Facilitated Stretching* (Human Kinetics Publishers, 2007), from which the stretches demonstrated in the video are taken.

### Thomas Myers, LMT, NCTMB, ARP



Thomas Myers is the author of *Anatomy Trains: Myofascial Meridians for Manual and Movement Therapists* (Churchill Livingstone, 2001), as well as numerous articles. Tom directs Kinesis, Inc., which offers professional certification trainings and continuing education worldwide. Tom studied with Drs. Ida Rolf, Moshe Feldenkrais, and Buckminster Fuller, and has practiced integrative bodywork for over

30 years in a variety of clinical and cultural settings.

### Fiona Rattray, RMT



A registered massage therapist since 1983, Fiona is co-author of *Clinical Massage Therapy: Understanding, Assessing and Treating Over 70 Conditions* (Talus, 2001). She has 11 years experience teaching the treatment of injuries and postural dysfunction in the professional 2200-hour

program in Ontario, Canada, and an additional 15 years experience in leading post-graduate workshops.

### Monica J. Reno, LMT, NCTMB



Monica Reno has been an LMT since 1984. She is licensed in both New York and Florida. She is co-owner of the Tuscany Day Spa & Salon, in The Villages, Florida. Prior to that, she operated Allied Therapeutic Protocols in Winter Park, Florida, specializing in the treatment of endurance athletes. Monica was Director of Education for the Central Florida School of Massage

Therapy for 8 years. She practiced Massage for 12 years in New York where she was part of the treatment team for the New York Jets, and she worked with George Rizos, DC. Currently, Monica is a member of the Board of Directors for NCBTMB.

### Susan G. Salvo, BEd, LMT, NCTMB



Susan Salvo graduated from the New Mexico School of Natural Therapeutics in 1982. Ms. Salvo is a nationally known author, having written *Massage Therapy: Principles and Practice* (Saunders, 2007) and *Mosby's Guide to Pathology for the Massage Therapist* (Mosby, 2008). She has written the chapter "Teaching to Students with Learning Challenges" for *Teaching Massage* (Lippincott Williams & Wilkins,

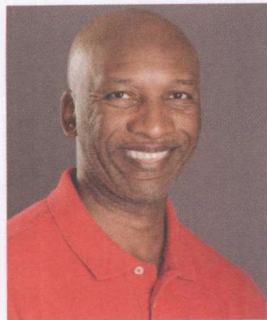
2008). She has also contributed "Geriatric Massage" for *Modalities for Massage and Bodywork* (Mosby, 2008). Ms. Salvo is one of the featured experts interviewed in the documentary film, "History of Massage Therapy in the United States" released in 2007. She holds a baccalaureate degree in education and is currently working on her Masters of Science in Educational Leadership and Instructional Technology. Ms. Salvo is the director of the Louisiana Institute of Massage Therapy.

### Diana L. Thompson, LMP



Diana L. Thompson, a licensed massage therapist for 25 years, has a private practice in Seattle, Washington, treating acute and chronic neuromusculo-skeletal and lymphatic disorders. She authored *Hands Heal: Communication, Documentation and Insurance Billing for Manual Therapists*, Third Edition (Lippincott Williams & Wilkins, 2005). Diana lectures at massage, acupuncture, midwifery, chiropractic, physician and physical therapy conferences internationally, and is a consultant for massage therapy research with The Center for Health Studies in Seattle. She is the President of the Massage Therapy Foundation, a philanthropic non-profit organization whose mission is to advance the knowledge and practice of massage therapy by supporting scientific research, education, and community service.



**Benny Vaughn, LMT, ATC, CSCS, NCTMB**

Benny has 35 years experience treating athletes and active adults; he is an expert in the assessment, treatment, and care of athletic related soft-tissue dysfunction using manual techniques. Mr. Vaughn is a graduate of the University of Florida, College of Health and Human Performance. He is a Certified Athletic Trainer (NATA), a Certified Strength and Conditioning Specialist (NSCA), and is Nationally Certified in Therapeutic Massage and Bodywork (NCTMB). He also holds a Florida Massage Therapy License. Benny has been on medical staff of the USA Olympic and World Championship Track & Field.

**Tracy Walton, MS, LMT**

Tracy Walton consults, writes, does research and teaches in massage therapy. She has also practiced since 1990. She teaches "Caring for Clients with Cancer," a CE course for massage therapists, and she has taught oncology massage nationally since 1998. Tracy has researched massage therapy and cancer for several projects, includ-

ing one with Harvard Medical School's Osher Institute. She helped develop "Touch, Caring and Cancer," a DVD of massage instruction for caregivers. She was the 2003 AMTA Teacher of the Year. Tracy is the author of *Medical Conditions in Massage Therapy* (Lippincott Williams & Wilkins, 2009), a textbook for massage therapy students, professionals, and clinics.

**Ruth Werner, LMP, NCTMB**

Ruth Werner is a massage therapist, writer, and award-winning educator with a passionate interest in the role of bodywork for people who struggle with health. Her book, *A Massage Therapist's Guide to Pathology* (Lippincott Williams & Wilkins, 2008), is in its 4<sup>th</sup> edition and is used in massage schools worldwide. She writes columns for *Massage Today* and *Massage and Bodywork* magazine, and she teaches continuing education workshops all over

the country. She is also the Education Chair for the Massage Therapy Foundation, an organization dedicated to advancing the knowledge and practice of massage therapy by supporting scientific research, education, and community service.

## ABOUT THE AUTHOR



Dr. Joe Muscolino has been teaching musculoskeletal and visceral anatomy and physiology, kinesiology, neurology, and pathology courses at the Connecticut Center For Massage Therapy (CCMT) for over 22 years. He has also been instrumental in course manual development and assisted with curriculum development at CCMT. He has published *The Muscular System Manual*, *Musculoskeletal Anatomy Coloring Book*, *Musculoskeletal Anatomy Flashcards*, *Kinesiology: The Skeletal System and Muscle Function*, and *Flashcards*

for *Bones, Joints, and Actions of the Human Body*, as well as articles in the *Massage Therapy Journal* and the *Journal of Bodywork and Movement Therapies*. *Flashcards for Palpation, Trigger Points, and Referral Patterns* and *Mosby's Trigger Point Flip Chart with Referral Patterns and Stretching* will both publish in December of 2008. Dr. Muscolino runs continuing education workshops on such topics as anatomy and physiology, kinesiology, deep tissue massage, joint mobilization, as well as cadaver workshops. He is an NCBTMB approved provider of continuing education and CEUs

are available for Massage Therapists toward certification renewal. In 2002, Dr. Muscolino participated on the NCBTMB Job Analysis Survey Task Force as well as the Test Specification Meeting as a Subject Matter Expert in Anatomy, Physiology and Kinesiology. He is also a member of the NCBTMB Exam Committee and has served on the NCBTMB Continuing Education Committee. Dr. Muscolino is also a member of the Educational Review Operational Committee (EROC) of the *Massage Therapy Journal*.

Dr. Muscolino holds a Bachelor of Arts degree in Biology from the State University of New York at Binghamton, Harpur College. He attained his Doctor of Chiropractic Degree from Western States Chiropractic College in Portland, Oregon, and is licensed in Connecticut, New York, and California. Dr. Joe Muscolino has been in private practice in Connecticut for over 23 years and incorporates soft tissue work into his chiropractic practice for all his patients.

If you would like further information regarding Dr. Muscolino's publications listed above, or if you are an instructor and would like information regarding the many supportive materials such as Power Point slides, test banks of questions, or TEACH Instructor Resources, please visit <http://www.us.elsevierhealth.com>. If you would like to contact Dr. Muscolino directly, please contact him at his website: [www.learnmuscles.com](http://www.learnmuscles.com).



# FOREWORD

As a massage therapy educator and writer well into my third decade in this field, I know a few things about communicating with students and practicing therapists. I know that students and practitioners of massage and bodywork have remarkable diversity in age, ethnicity, and basic skill levels—and educators have to find a way to reach everyone regardless of these differences. People in this field often don't connect well with dry or abstract material; educators have to find a way to make information come alive. And massage therapists get especially excited when they find that what they are learning has a direct application to the work they want to do. The goal for educators is always to find ways to make their topics pertinent to the choices their students make in the session room.

Many massage therapy students approach the project of learning muscle anatomy with a certain degree of apprehension. They look at those long lists of muscles with attachments and functions, and feel utterly overwhelmed. The topic seems abstract, the language is unfamiliar, and the goal of truly "getting it" seems out of reach. Gifted educators find ways to make this information jump off the page, but the process is nonetheless daunting. What a gift to have a text that illustrates these concepts with thoroughness, clarity, and beauty.

Learning the muscles is a critical milestone in the education of every massage therapist, but those of us who have been in this business for a while know that it is only the first step. Putting that information to use—whether we're helping someone get a good night's sleep, recover from an injury, or train for a marathon—requires an ability to use facts about muscles in ways that can be hard to predict. This work requires a solid foundation in the basics, along with imagination and the ability to analyze subtle bits of information that only comes with experience. It helps, though, to have a text that instills this kind of thinking.

One of the features that truly distinguishes *The Muscle and Bone Palpation Manual with Trigger Points, Referral Patterns,*

and *Stretching* is its emphasis on how muscles don't act independently, but interact seamlessly in an integrated whole. This awareness helps users of the book to understand how weakness or restriction in one area can create pain and dysfunction in another. The critical thinking skills associated with this level of understanding are necessary for every outstanding massage therapist.

*The Muscle and Bone Palpation Manual* identifies the needs of massage practitioners and students, and consistently meets them with accessible language, beautiful art that represents a wide range of bodies, and a sharp focus on how this knowledge can inform the way every massage therapist touches another human being. Meticulous attention to detail and obvious care about accuracy is visible on every page. This book can provide tools for massage therapists and students not only to become soft tissue experts, but to communicate professionally with other health care providers in order to obtain the best outcomes for their clients.

I have always worked hard to raise the bar for massage education. In my writing, my work in the classroom, in continuing education workshops, and with the Massage Therapy Foundation I have looked for opportunities to make it clear that the potential for massage to impact lives is greater than we can imagine. *The Muscle and Bone Palpation Manual* is a tool that can help to launch new generations of therapists in that ambitious direction, and I am delighted to see it enter the marketplace. It, and texts like it, will continue to set the best possible standards in massage education: a goal that supports us all.

**Ruth Werner, LMP, NCTMB**  
Layton, Utah  
August 2008



# PREFACE

## ORGANIZATION

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*The Muscle and Bone Palpation Manual* is organized into three parts and contains a set of 2 DVDs.

Part I covers assessment and treatment techniques. Two chapters are provided that explain the art and science of how to palpate. These chapters simply and clearly explain the guidelines that will help you become an effective and confident palpator. There is also a chapter that explains how to reason out stretches for the muscles of the body, and explains how to perform advanced stretching techniques, such as contract relax (CR) stretching (also known as proprioceptive neuromuscular facilitation [PNF] stretching), and agonist contract (AC) stretching. Another chapter explains what trigger points are and how they are formed, along with what is likely a treatment method superior to ischemic/sustained compression. Given the crucial importance of body mechanics to the student and therapist, there is also a chapter that offers 10 guidelines that will appreciably improve the efficiency with which you work. Another chapter rounds out logistics of treatment by providing an atlas of massage strokes and draping methods for massage.

Part II is composed of three chapters that cover palpation of the bones, bony landmarks, and joints of the body, as well as covering the ligaments of the body. Effective palpation of the bones and bony landmarks of the body is a crucial first step before muscle palpation can be tackled. Effective palpation of the joints is also a necessary skill for assessment of clients. Each chapter in Part II also contains a thorough set of anterior, posterior, and lateral illustrations, depicting the ligaments of the body.

Part III is the masterpiece of the book. It contains 11 chapters that cover palpation of the skeletal muscles of the body. Each chapter presents a tour of the muscles of a region of the body. For each muscle, a step by step palpation is presented, with the reasoning given for the steps so that the palpation can be understood and easily remembered, instead of being memorized. The illustrations are superbly done with the bones and muscles drawn over photographs of real people, offering the most accurate and clear renderings of the muscles and muscle palpations possible. In addition, a unique muscle stretch illustration is given for each and every muscle covered, as well as trigger point and trigger point referral zone information and illustrations for all the muscles.

## ANCILLARIES FOR THE INSTRUCTOR

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In addition to the clear and simple, yet thorough, approach to the content of this book, the entire book is available in 50-minute Power Point presentations complimentary for any school that adopts this book into their curriculum. The Power Point presentations are accompanied by complete lesson plans along with learning objectives, critical reasoning questions, classroom activities, and more. An image bank containing every illustration in the book, as well as a 1,000 question test bank, are also available complimentary to schools that adopt this book.

## ELECTRONIC RESOURCES

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To enhance muscle palpation illustrations and text in Part III of this book, a set of 2 DVDs (included free in the book) contains over 4 hours of video demonstrating the muscle palpations of the book. This DVD set also contains cameo presentations by some of the most prestigious names in the world of massage therapy education, including Tom Myers, Leon Chaitow, Whitney Lowe, Bob King, Gil Hedley, and many more. Additional free online resources are included on the companion Evolve website, including technique videos for the intrinsic muscles of the hands and feet, interactive review exercises, a massage research PowerPoint presentation, and joint motion information.

## OTHER RESOURCES

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Also available for the student and practitioner is a companion set of full color flashcards covering all of the muscle and bone palpations, as well as the majority of muscle trigger point and referral zone illustrations. These flashcards provide an excellent study aid for the student and therapist alike to help learn the palpation protocols and trigger points. A full color practitioner flip chart containing the trigger point and referral zone illustrations and stretching illustrations is also available. This flip chart is an invaluable addition to every practice, offering a quick review at a glance of the trigger points and their referral zones as well as the stretches for your clients. It also serves as an excellent client education tool when explaining to clients how tight spots in their muscles can refer pain to other parts of the body, as well as visually showing your clients stretches that you recommend for them.

## FINAL NOTE

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No other book offers as much to you as *The Muscle and Bone Palpation Manual*. It contains the most thorough and clear palpation methods accompanied by the highest quality illustrations possible, and it includes a 2-DVD set demonstrating the palpations, too! Further, it offers a complete set of stretches and trigger point illustrations for the skeletal muscles of the body. With chapters on how to palpate, how to stretch, and understanding trigger points, a complete coverage of the ligaments, a compendium of all major massage strokes and draping methods, and a thorough chapter on body mechanics, *The Muscle and Bone Palpation Manual* will easily take the place of three or four books needed in your library.

Joseph E. Muscolino  
August 2008



X



# ACKNOWLEDGMENTS

The longer I have been writing, the more I have come to realize that a book of this scope does not come to fruition without enormous contributions from many, many people. I am so thankful that this Acknowledgements page offers me the chance to publicly thank everyone who helped create this book.

First, I am indebted to all of my students, both at the Connecticut Center for Massage Therapy (CCMT), and in the continuing education classes that I teach throughout the United States. Few people may realize it, but teaching in front of a group of sharp, motivated students is the best way to learn a subject! Each and every time a student questioned my presentation of content, it helped me to hone how to best say and present it the next time. This has helped me immeasurably as a teacher and as an author!

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# Chapter 1

## Introduction to Palpation

### Overview

This chapter is an introduction to the general principles of palpation. The two major objectives of palpation, location and assessment of the target structure, are discussed first. General principles that explain how to palpate are then presented. The importance of palpating not only during a client examination but also during treatment is emphasized. The chapter concludes with an exercise that can help develop palpation skills and a recommendation to incorporate the practice of palpatory skills whenever our hands are on a client.

Note: The introductory palpation information covered in this chapter is sufficient to allow the reader to successfully palpate the bones and bony landmarks of the skeleton presented in Chapters 7 to 9. Palpating skeletal landmarks is relatively easy because they are hard tissue surrounded by the many soft tissues of the body; therefore their many features, such as tubercles, shafts, fossas, and condyles, stand out amongst the surrounding tissues. However, muscle palpation can be more nuanced and challenging. For this reason, it is strongly recommended that Chapter 2, *The Art and Science of Muscle Palpation*, is read before attempting the muscle palpations covered in Chapters 10 to 20. Chapter 2 explores palpation in much greater depth and offers more subtle and sophisticated methods and guidelines that are directly applicable to muscle palpation.

### Chapter Outline

What Is Palpation?, 2

Objectives of Palpation: Location  
and Assessment, 2

How to Palpate, 3

When Do We Palpate?, 4

How to Learn Palpation, 4

### Chapter Objectives

After completing this chapter, the student should be able to perform the following:

1. Define the key terms of this chapter.
2. Discuss how palpation with mindful touch incorporates both the therapist's hands and mind.
3. State and discuss the importance of the two major objectives of palpation.
4. Describe the importance of moving slowly when palpating.
5. Discuss the importance of using appropriate pressure when palpating.
6. Discuss the importance of tissue barrier and how it relates to palpation.
7. Discuss the importance of the quality of palpation.
8. Discuss the importance of palpating not only during the examination of the client, but also when treating the client.
9. Describe one exercise that can be used to improve palpatory skills.
10. Explain the importance of constantly practicing palpation skills.

### Key Terms

appropriate pressure  
mindful intent  
mindful touch

palpation  
palpatory literacy  
target muscle

target structure  
tissue barrier

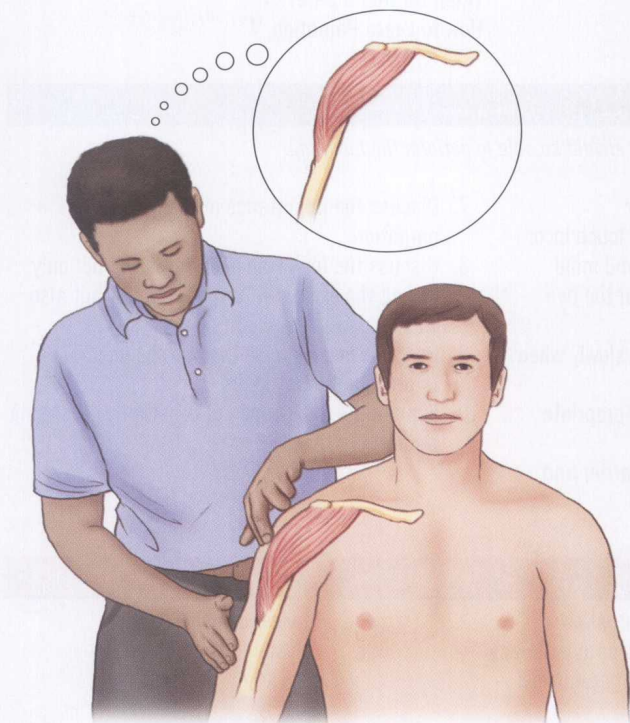


## What Is Palpation?

**Palpation** may be defined in many ways. The word *palpation* itself derives from the Latin *palpatio*, meaning “to touch.” However, defining palpation as simply touching is too simplistic because there is more involved. Inherent in the term *palpation* is not just touching, but also the act of sensing or perceiving what is being touched. In this sense, palpation involves more than just the fingers and hands. Palpation also involves the mind. Successful palpation requires us to feel with our brains as well as our fingers. When palpating, the therapist should be focused with a **mindful intent**; in other words, the therapist must *be* in his/her hands. All of the therapist’s correlated knowledge of anatomy must be integrated into the sensations that the therapist’s fingers are picking up from the client’s body and sending to the brain. The therapist’s mind must be open to the sensations that are coming in from the client, yet at the same time interpret these sensations with an informed mind (Figure 1-1). Incorporating mindful intent into examination and treatment sessions creates **mindful touch**.

### BOX 1-1

A therapist may touch and palpate the client with more than just the fingers or hands. Sometimes the forearm, elbow, or even the feet are employed to contact the client. As a rule, this text will refer to fingers or hands when referring to the therapist’s contact upon the client.



**Figure 1-1** Palpation is as much an act of the mind as it is of the palpating fingers. Sensory stimuli entering through the therapist’s hands must be correlated with a knowledge base of anatomy.

## Objectives of Palpation: Location and Assessment

There are two main objectives when palpating. Step one is locating the target structure. Step two is assessing the target structure.

### BOX 1-2

The term **target structure** is often used to name the particular structure of the body that the therapist is targeting to palpate. If the target structure is a muscle or muscle group, it is often called the **target muscle**.

The first objective, and indeed perhaps the major objective of the novice bodyworker, is to locate the target structure being palpated. This is no easy feat to achieve. It is one thing to simply touch the tissues of the client. It is an entirely different matter to be able to touch the tissues and discern the target structure from all the adjacent tissues. This requires the therapist to be able to locate all borders of the structure, superiorly, inferiorly, medially, laterally, and even superficially and deep. If the structure is immediately superficial to the skin, this may not be very difficult. Indeed, the olecranon process of the ulna or a well-developed deltoid muscle may be visually obvious and located without even touching the client’s body. However, if the target structure is deeper in the client’s body, locating the structure may present a great challenge.

### BOX 1-3

As a rule, it is always best to first visually inspect the region that is to be palpated before placing your hands on the client. Once palpating hands are placed on the client, they will block any visual information that might be present. See Chapter 2, The Art and Science of Muscle Palpation, for more on this idea.

As basic as palpation for the purpose of determining location seems, it is a supremely important first step because it follows that if a structure cannot be accurately located, it cannot be accurately assessed. Once the target structure is located, then the process of assessment can begin. Assessment requires interpretation of the sensations that the palpating fingers pick up from the target structure. It involves becoming aware of the qualities of the target structure; its size, shape, and other characteristics. Is it soft? Is it swollen? Is it tense or hard? All of these factors must be considered when assessing the health of the target structure.

It is worthy of note that as high-tech diagnostic and assessment equipment continues to be developed in Western medicine, palpating hands remain the primary assessment tool of a bodyworker. Indeed, for a bodyworker, palpation, the act of gathering information through touch, lies at the very heart of assessment. Armed with both an accurate location and an accurate assessment of the health of the target structure through careful palpation, the bodyworker can develop an effective treatment plan that can be confidently carried out.