

# Muscle Pain: Understanding the Mechanisms

Siegfried Mense • Robert D. Gerwin  
Editors

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 Springer

*Editors*

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ISBN 978-3-540-85020-5                      e-ISBN 978-3-540-85021-2  
DOI 10.1007/978-3-540-85021-2  
Springer Heidelberg Dordrecht London New York

Library of Congress Control Number: 2010927599

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*Cover design:* WMXDesign GmbH, Heidelberg, Germany

Printed on acid-free paper

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# Foreword

This edition of the companion volumes *Muscle Pain: Understanding the Mechanisms* and *Muscle Pain: Diagnosis and Treatment* is essential reading for those interested in clinical approaches to acute and chronic pain conditions involving muscle tissues and in the mechanisms underlying these conditions. The volumes cover a very important topic in pain medicine, since muscle pain is very common and can often be difficult to diagnose and treat effectively. Furthermore, chronic pain involving muscle and other components of the musculoskeletal system increases with age, such that it is a common complaint of those of us who are middle-aged or older. Indeed, as changing population demographics in “westernized” countries result in higher proportions of the population living longer and being middle-aged and elderly, chronic muscle pain will likely become even more of a health problem.

In the case of acute muscle pain, this can often be very intense, and in the short term can limit or modify the use of components of the musculoskeletal system associated with the sensitive muscle. Chronic muscle pain can also be intense, as well as unpleasant and disabling, and it is in many cases the over-riding symptom of most musculoskeletal disorders that are associated with long-term deleterious changes in musculoskeletal function. This can present a challenge both to the patient who has to live with the condition and to the clinician called upon to assist the patient, not only because of the physical or biomechanical impediment but also because of the presence of chronic pain reflecting persistent alterations in the peripheral muscle tissues and/or central nervous system. Chronic pain is now recognized as a multidimensional experience encompassing cognitive, emotional and motivational aspects as well as the sensory or perceptual dimension. Thus, as the editors of this work note in their preface, it can distort the patient’s life, including work, family and social relationships, and can change the patient’s perception of himself or herself from being an effective and independent human being to one who is ineffective and dependent. These features apply especially to patients with chronic muscle pain, and the range and impact of most musculoskeletal disorders and the pain that they manifest dictate that clinicians need to have a

good knowledge base about pain and adopt a broad biopsychosocial perspective in order to provide effective management of the patient. These companion volumes provide this knowledge base and perspective.

Although the etiology and pathogenesis of several muscle pain conditions are still unclear, recent advances have been made in understanding muscle pain mechanisms and in the management of the conditions. The chapters in these books collectively provide up-to-date details of these mechanisms and management approaches. The anatomy and neurophysiology relevant to muscle pain is covered in *Muscle Pain: Understanding the Mechanisms*. It offers a solid basic science underpinning for the more clinically oriented second volume, *Muscle Pain: Diagnosis and Treatment*, which outlines present knowledge of etiologic and pathophysiologic processes, and which also deals with current approaches to the management of the various conditions manifesting muscle pain.

Like its predecessor, these companion volumes should prove to be an invaluable resource not only to clinical practitioners wanting to have a basic understanding of pain mechanisms and clinical approaches currently available to diagnose and manage muscle pain problems, but also to basic and clinical pain scientists who are interested in an up-to-date and comprehensive review of the diagnostic and management approaches to muscle pain.

Toronto

Barry J. Sessle

# Preface

Disorders of the musculoskeletal system are the leading causes of disability in western societies. Musculoskeletal pain syndromes can be divided into two broad categories: (1) myalgias, which include the major condition of myofascial pain syndromes, as well as inflammatory and other myosites, and (2) articular disorders, which include all of the arthritides. Fibromyalgia has long been considered a chronic musculoskeletal pain syndrome, but recent research supports categorizing fibromyalgia as a widespread chronic pain syndrome. Ergonomic and postural and other structural dysfunctions, including pain associated with the hypermobility syndromes, can bridge these two categories, although they tend to fall more into the myalgic group of disorders.

A problem for the practitioner trying to understand a patient's pain is that pain is a subjective sensation that is colored by the patient's personal life experience, and ethnic and cultural background. Chronic pain is not simply a sensation, but a global experience that involves suffering and a distortion of the patient's role in all phases of life, including family, work and social relationships, and can change the patient's self perception of him- or herself from being an independent, effective human being, to being a dependent, ineffective person. Communication is particularly difficult with chronic pain patients, because chronic pain is such a personal experience of global suffering, rather than a simple sensation like touch. There is a definite effect of gender on pain perception. Therefore, when examining muscles in patients for painful conditions, the greater sensitivity of women to painful stimuli has to be taken into account.

Pain from muscle and skin is subjectively and objectively distinct. Muscle pain is described as aching and cramping, diffuse and poorly localized, whereas cutaneous pain is described as sharp and pricking, and precisely localized. Cutaneous pain is usually not referred to other body regions, while muscle pain is commonly referred to other deep somatic structures like tendons and fascia or other muscles, and viscera (viscerosomatic pain syndromes). Objective differences between muscle and cutaneous pain exist in the processing of neuronal information at the

spinal and brainstem level and continue up to the brain, where nociceptive activity from skin and muscle terminates in different regions. Some of the established pain terms used in this book are defined in chapter 1 of the volume “Muscle Pain: Understanding the Mechanisms”.

Heidelberg/Mannheim  
Bethesda

S. Mense  
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