Dawn A. Marcus Atul Deodhar

# Fibromyalgia

A Practical Clinical Guide





# Fibromyalgia

Dawn A. Marcus · Atul Deodhar

# Fibromyalgia

A Practical Clinical Guide



Dawn A. Marcus
Department of Anesthesiology
University of Pittsburgh
3550 Terrace St.
A-1305 Scaife Hall
Pittsburgh, PA 15261, USA
dawnpainmd@yahoo.com

Atul Deodhar, MD
Division of Arthritis & Rheumatic
Diseases (OP09)
Oregon Health & Science University
3181 SW Sam Jackson Park Road
Portland, OR 97239, USA
deodhara@ohsu.edu

Additional material to this book can be downloaded from http://extras.springer.com

ISBN 978-1-4419-1608-2 e-ISBN 978-1-4419-1609-9 DOI 10.1007/978-1-4419-1609-9 Springer New York Dordrecht Heidelberg London

Library of Congress Control Number: 2010932233

#### © Springer Science+Business Media, LLC 2011

All rights reserved. This work may not be translated or copied in whole or in part without the written permission of the publisher (Springer Science+Business Media, LLC, 233 Spring Street, New York, NY 10013, USA), except for brief excerpts in connection with reviews or scholarly analysis. Use in connection with any form of information storage and retrieval, electronic adaptation, computer software, or by similar or dissimilar methodology now known or hereafter developed is forbidden.

The use in this publication of trade names, trademarks, service marks, and similar terms, even if they are not identified as such, is not to be taken as an expression of opinion as to whether or not they are subject to proprietary rights.

While the advice and information in this book are believed to be true and accurate at the date of going to press, neither the authors nor the editors nor the publisher can accept any legal responsibility for any errors or omissions that may be made. The publisher makes no warranty, express or implied, with respect to the material contained herein.

Printed on acid-free paper

Springer is part of Springer Science+Business Media (www.springer.com)

## **Preface**

Fibromyalgia affects about 2–3% of adults worldwide, with women affected three to six times as often as men. While fibromyalgia is a chronic pain disorder, patients with fibromyalgia typically present with a complicated constellation of painful and non-painful complaints, including disabling fatigue, sleep disturbance, and neuropsychological symptoms. Anxiety, mental distress, and cognitive dysfunction are reported by nearly two in every three fibromyalgia patients. One in three fibromyalgia sufferers reports current depression, with a history of depression in over half. Headaches are also common. Evaluating fibromyalgia patients requires an understanding of the complex nature of this condition and the myriad of likely fibromyalgia-related complaints.

Fibromyalgia is often poorly understood and unrecognized. Failure to identify and treat fibromyalgia patients effectively can lead patients to feel misunderstood, confused, and frustrated that their symptoms are not believed by their healthcare providers, and discouraged about leading a full and rewarding life. Fibromyalgia typically affects adults during what should be fulfilling and productive years, when they are caring for families, developing careers, and making a strong impact on their communities. The good news for our patients is that fibromyalgia is straightforward to diagnose, with symptoms effectively reduced using a wide range of proven medication, non-medication, and non-traditional treatments.

When I told a friend who is also a fibromyalgia patient about this new book, she responded, When I was diagnosed with fibromyalgia almost 10 years ago, there wasn't as much information as there has been in the last few years. I'm glad to see that the medical community is finally recognizing this condition and treating fibromyalgia more seriously and with more compassion.

Fibromyalgia: A Practical Clinical Guide consolidates years of experience in identifying and treating fibromyalgia from pain management and rheumatology perspectives. The authors' wealth of clinical practice and research has been combined to provide easy-to-understand and practical tips for clinicians caring for

vi Preface

fibromyalgia patients. Case presentations and quotations from active fibromyalgia patients help highlight complaints and concerns commonly experienced by fibromyalgia sufferers. Dr. Dawn A. Marcus is a neurologist, pain management specialist, and professor at the University of Pittsburgh, with expertise treating and researching fibromyalgia. She is an active writer and lecturer on topics related to chronic pain and fibromyalgia and has authored several practical books for both healthcare providers and lay audiences. Dr. Atul Deodhar is a rheumatologist, associate professor of medicine at the Oregon Health and Science University, and director of Rheumatology Clinics at Oregon Health and Science University. Drs. Marcus and Deodhar previously collaborated to produce *Chronic Pain: An Atlas of Investigation and Management*.

Fibromyalgia: A Practical Clinical Guide is designed to cut through the hype about fibromyalgia and provide clinicians with up-to-date information about fibromyalgia pathogenesis and clinical evaluation, as well as evidence-based guidelines for effective treatment. This book includes fully referenced, cutting-edge information on this fast-growing field and provides practical pointers for effectively managing fibromyalgia patients. Treatment recommendations focus on targeting symptoms most likely to respond to therapy and prescribing medication, non-medication, and alternative/complementary treatments that have been proven to reduce fibromyalgia symptoms. Boxes, tables, and figures are used widely throughout the text to provide quick reference for the busy clinician seeking information. Clinically proven tools to help evaluate and treat fibromyalgia patients include handouts for recording and monitoring fibromyalgia symptoms and severity, exercise instructions, and self-help guides for psychological pain management techniques. Additional materials may be accessed through Dr. Marcus' Web site www.dawnmarcusmd.com. Both authors are eager to receive comments and suggestions for additions and improvements to the book through a link available at this Web site.

Pittsburgh, Pennsylvania Portland, Oregon Dawn A. Marcus Atul Deodhar

# **Contents**

Part I Background
Introduction
Summary
References
Fibromyalgia Definition and Epidemiology
Defining Fibromyalgia
Epidemiology of Fibromyalgia
Co-morbid Conditions
Fibromyalgia Burden
Summary
References
Pathophysiology of Fibromyalgia
Nerve Abnormalities
Structural Changes
Functional Changes
Neurotransmitters
Musculoskeletal Abnormalities
Muscle Dysfunction
Cervical Spine Abnormalities
Hormonal Factors
Growth Hormone
Thyroid Function
Neuroendocrine Abnormalities
Inflammatory Markers
Genetics
Free Radicals and Antioxidants
Trauma
Predictive Factors
Summary
References

viii Contents

Assessment and Diagnosis	41
Assessment of Fibromyalgia	42
Pain Assessment	43
Assessment of Treatable Co-morbid Symptoms	45
Diagnosis of Fibromyalgia	48
Summary	50
References	50
Part II Common Co-morbidities and Fibromyalgia	
Headache	55
Pathophysiology of Headache and Fibromyalgia	56
Evaluation and Diagnosis	58
Migraine	61
Treatment	63
Acute Treatment for Migraine and Tension-Type Headache	65
Prevention Treatment for Frequent Migraine or Tension-Type Headache.	67
Injections and Alternative Treatments	68
Cluster Headache Treatment	70
Summary	70
References	71
Chronic Fatigue Syndrome	75
Defining Chronic Fatigue Syndrome	76
Epidemiology of Chronic Fatigue Syndrome	78
Co-morbidity	78
Pathophysiology of Chronic Fatigue Syndrome	79
Role of Immune Deficiency in Chronic Fatigue Syndrome	81
Assessment of Chronic Fatigue Syndrome	82
Treatment of Chronic Fatigue Syndrome	83
Summary	86
References	87
References	
Irritable Bowel Syndrome	89
Irritable Bowel Syndrome (IBS)	92
Definition and Epidemiology	92
Evaluation and Diagnosis	93
Treatment	95
Summary	98
References	98
Sleep Disturbance	101
Consequences of Sleep Disturbance	103
Cardiovascular Disease	104
Obesity	104
Diabetes	105
Pain Sensitivity	105

Contents ix

x Contents

Minimal Efficacy Medications	152
General Fibromyalgia Medication Recommendations	152
Emerging Therapies	153
Summary	155
References	155
Non-medication Treatments	159
Physical Treatments	161
Exercise	161
Hydrotherapy	162
Manual Therapy	164
Yoga	164
Work Simplification and Pacing	164
Acupuncture	165
Psychological Treatments	165
Cognitive-Behavioral Therapy and Operant-Behavioral Therapy	166
Lifestyle Modifications	167
· · · · · · · · · · · · · · · · · · ·	167
Smoking Cessation	170
Sleep Hygiene	
Weight Management	171
Developing a Treatment Program	171
Summary	172
References	173
Nutritional Supplements	175
Intravenous Nutrient Therapy	177
Chlorella Pyrenoidosa	177
Methionine	179
Melatonin	180
Vitamins	181
Vitamin C	181
Vitamin D	181
Minerals	182
Coenzyme Q10	182
Carnitine	184
Omega-3 Fatty Acids	184
Summary	184
References	185
Clinical Handouts	187
Charting Assessment and Treatment Documentation Forms	187
Charting Documentation Form 1: Fibromyalgia Tender Point	100
Examination	188
Charting Documentation Form 2: Fibromyalgia Patient	100
Assessment Recording Sheet	189

Contents xi

Charting Documentation Form 3: Revised Fibromyalgia Impact				
Questionnaire [FIQR]				
Charting Documentation Form 4: Screening for Psychological Distress . 19				
Charting Documentation Form 5: Screen for Locus of Control				
Patient Educational Handouts	. 194			
Patient Handout 1: Understanding Fibromyalgia	. 195			
Patient Handout 2: Whole Body Stretches for Fibromyalgia	. 197			
Patient Handout 3: Exercise for Fibromyalgia	. 203			
Patient Handout 4: Pain Management Techniques				
Patient Handout 5: Relaxation Techniques				
Patient Handout 6: Sleep Management for Fibromyalgia Patients				
Patient Handout 7: Nutritional Supplements for Fibromyalgia				
References				
Part IV Special Populations				
Fibromyalgia and Pregnancy	. 215			
Epidemiology of Fibromyalgia During Pregnancy				
Fibromyalgia and Pregnancy				
Fibromyalgia Post-partum				
Fibromyalgia and Breastfeeding				
Treating Fibromyalgia Throughout Pregnancy				
Pre-conception Planning				
Pregnancy				
Modifying Non-medication Treatments During Pregnancy				
Safety Rating Systems				
Analgesics				
Antidepressants				
Antiepileptics				
Sodium Oxybate				
Anti-emetics				
Labor and Delivery				
Safety Determinations with Breastfeeding				
Analgesics				
Antidepressants				
Sodium Oxybate				
Antiepileptics				
Planning for Nursing Success				
Summary				
References	. 232			
Fibromyalgia in Seniors	. 237			
Fibromyalgia Assessment				
Fibromyalgia Treatment in Seniors				
Non-medication Therapy	. 242			
Medications	. 244			

xii Contents

Summary	246 247
Gender and Ethnic Issues	249
Gender Differences in Fibromyalgia Symptoms and Treatment Response	250
Fibromyalgia Symptoms	251
Consultation	252
Treatment Response	253
Ethnic Differences in Fibromyalgia Symptoms and Treatment Response	254
Fibromyalgia Prevalence	255
Treatment Response	256
Summary	257
References	257
Index	259

# Part I Background

## Introduction

#### **Key Chapter Points**

- Fibromyalgia-like symptoms were first discussed in the 1800s.
- The American College of Rheumatology published classification criteria for a unique and specific syndrome of fibromyalgia in 1990.
- Today's fibromyalgia should not be confused with previously identified vague and non-specific syndrome diagnoses, like muscular rheumatism and fibrositis.
- Fibromyalgia sufferers are very interested in having healthcare providers who take their complaints seriously and treat them as credible patients.
- Fibromyalgia patients need to receive a diagnosis from their doctors that does not imply their symptoms are entirely explained by stress or psychological distress.

**Keywords** Classification · Credibility · Diagnosis · Fibrositis · Muscular rheumatism

Fibromyalgia patients endorse a plethora of physical and psychological symptoms that they generally attribute to their diagnosis of fibromyalgia (Table 1) [1]. The wide range of seemingly unrelated symptoms has led many healthcare providers to view fibromyalgia complaints with skepticism. Healthcare providers may wonder if patients can truly experience such a wide mixture of symptoms or if these reports are embellished or exaggerated when they contrast with the seemingly unremarkable general physical examination that characteristically accompanies the diagnosis of fibromyalgia.

Fibromyalgia is a relatively new diagnosis that continues to be shrouded in controversy, skepticism, and misperceptions within the healthcare community [2]. Today's diagnosis of fibromyalgia has been described by various terms throughout history (Box 1) [3]. A consolation of symptoms including aches, pain, stiffness, sleep disturbance, and fatigue had long been termed *muscular rheumatism* to differentiate symptoms from those caused by joint disease. As doctors evaluated patients with muscular rheumatism, they began to describe tender points and nodules, generally attributing these to an inflammatory disorder and muscle pathology. In 1904, Sir William Gowers introduced the term *fibrositis* to describe what he believed were

4 Introduction

Symptom category	Patients experiencing symptom (%)	Patients attributing symptom to fibromyalgia <sup>a</sup> (%)
Constitutional		
Fatigue	94	95
Weight loss	15	12
Sleep difficulties	68	62
Neurological		
Pain	92	90
Headaches	54	32
Dizziness	44	29
Musculoskeletal		
Stiff joints	87	85
Weakness	78	82

46

12

11

16

25

 Table 1
 Symptoms endorsed by fibromyalgia patients (based on van Ittersum [1])

## Box 1 History of Fibromyalgia (Based on Inanici [3])

63

25

31

21

52

21

- *Muscular rheumatism* used to describe non-joint-related generalized pain and constitutional symptoms in the 1800s.
- Neurologist Beard introduced the term *neurasthenia* to describe generalized pain and constitutional symptoms as the result of physiological impact from psychological stress in 1880.
- Gowers coined the phrase fibrositis to denote inflammatory nature of rheumatism in 1904.
- Terms *myofascitis, myofibrositis, and neurofibrositis* suggested by Albee in 1927, Murray in 1929, and Clayton in 1930, respectively.
- Interstitial myofibrositis suggested by Awad in 1973.
- Fibromyalgia coined in 1976 by Hench.

Gastrointestinal
Stomach upset

Breathlessness Wheezing

Nausea Respiratory

> Sore eyes Sore throat

Other

- Fibromyalgia confirmed as a unique symptom constellation in a controlled study by Yunus and colleagues in 1981.
- American College of Rheumatology established classification criteria for fibromyalgia.

<sup>&</sup>lt;sup>a</sup>Most participants only answered the question about symptom attribution to fibromyalgia if they experienced the symptom in question; in some cases, however, fibromyalgia participants not experiencing a symptom reported that they believed that symptom would be attributed to fibromyalgia if it occurred. For this reason, more people attributed fatigue and weakness to fibromyalgia than actually were experiencing those symptoms.