BOOK REVIEWS

Orthotics and Prosthetics in Rehabilitation, 3rd Ed.

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St Louis, MO: Saunders Elsevier; 2013
ISBN-13 978-1437719369
829 p.
US\$110.00

This comprehensive text offers an up-to-date, evidence-based approach to rehabilitation for people with prosthetic and orthotic issues, with a focus on interdisciplinary model of care; it is a great resource for assessment, treatment planning, and outcome evaluations for prosthetic/orthotic students. For clinicians, the book reinforces the importance of ongoing evaluation of assessment tools and provides practical treatment strategies for orthotic and prosthetic rehabilitation.

Orthotics and Prosthetics in Rehabilitation is a collaborative effort with knowledgeable contributors from orthotics, prosthetics, physical and occupational therapy, medicine, and surgery. Learning objectives for each chapter are clearly identified. The tables and illustrations are of good quality and add value to the text. A thorough and up-to-date reference list at the end of each chapter indicates that information is current. Each chapter ends with case studies that challenge the reader to critically problem-solve clinical scenarios and develop intervention strategies.

The book is divided into three parts. Part 1 covers baseline knowledge of factors that can influence orthotic and prosthetic rehabilitation outcomes, such as multidisciplinary approach, ageing and activity tolerance, motor learning, gait assessment, and footwear. A chapter titled "Motor Control and Motor Learning" reviews the current understanding of human motor control and the process of motor learning. Concepts such as type of feedback, when and how feedback should be used, mental imagery and practice, the role of sleep in motor learning, and the importance of patient-centred goals will help practitioners to plan interventions that will enhance retention of motor learning for people with movement impairments.

Part 2 outlines the principles of designing and fitting orthoses for individuals with musculoskeletal dysfunction and neurological impairments. Information on orthotic management of various conditions, from bracing options for people with knee dysfunction to splinting techniques for contracture management for people with burns, is useful. The text emphasizes the benefits of soliciting input from all rehabilitation team members in selecting the most appropriate orthotic device to maximizing a person's function. The chapter on lower-extremity orthosis reviews factors to consider when prescribing an orthotic device and clearly outlines the criteria for prescribing stance-control orthotic knee joints in the knee-ankle-foot orthosis (KAFO) and who will benefit from this orthosis.

Part 3 is devoted to current rehabilitation prosthetics options. The chapter on wound healing and the high-risk foot discusses up-to-date options for managing wound-healing issues, from

dressings to orthotics to the use of therapeutic modalities. The chapters that follow, which cover amputation surgery levels and pre-prosthetic/prosthetic management, are augmented with clear illustrations and provide a sound knowledge base on the rehabilitation process following amputation.

The chapter dealing with early rehabilitation of lower-extremity dysvascular amputation includes a comprehensive, user-friendly table on common prosthetic gait deviations for the transfemoral and transtibial prosthetic user. The table separates possible causes of gait deviations into intrinsic (client-related) factors and extrinsic (prosthetic or environmental) factors, and will help guide therapists in their clinical decision-making for determining the possible reasons for gait deviations (i.e., client vs. prosthetic).

The chapter focusing on advanced rehabilitation for people with microprocessor knees covers common mobility problems and provides prosthetic and practical training solutions to asymmetric step length, stairs and ramps, sitting and squatting, and fall protection. The accompanying photographs are helpful in demonstrating treatment techniques.

This text is well written, covering the important aspects of orthotic and prosthetic care. It is a valuable clinical resource for practitioners involved in prosthetic and orthotic rehabilitation, and would be a well-used resource for both clinicians and students.

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DOI:10.3138/ptc.65.4.rev01

Exercise and Chronic Disease: An Evidence-Based Approach

John M. Saxton (editor)

New York: Routledge; 2011
ISBN-13 978-0-415-49861-6
390 p.
CAD\$65.13

The aim of this book is to provide an updated synthesis of the scientific evidence linking exercise training to health outcomes in chronic disease. Editor John Saxton, a professor of clinical exercise physiology, has contributed the introduction and co-authored one chapter; the remaining 16 chapters, each focusing on a specific chronic disease, are contributed by international health care professionals, researchers, and research groups. The introduction highlights key questions to consider when assessing the efficacy of exercise training, provides definitions of exercise terminology, describes levels of evidence, and discusses dose-response issues.

Several common chronic diseases are discussed, including cardiovascular and metabolic conditions (coronary heart disease, hypertension, stroke, peripheral arterial disease/intermittent claudication, type 2 diabetes); respiratory diseases (chronic obstructive lung disease, asthma); musculoskeletal and rheumatic disorders (osteoarthritis, osteoporosis, rheumatoid arthritis, ankylosing spondylitis, chronic fatigue syndrome, fibromyalgia syndrome); neurological conditions (multiple sclerosis, Parkinson disease); cancer (colorectal, breast, and prostate); and obesity. Kidney disease, despite being listed as a prevalent chronic disease in the introduction, is not covered elsewhere in the volume.

Evidence for exercise training, including both narrative and systematic reviews, is reported from a variety of study designs, with a particular focus on randomized controlled trials. Each chapter contains an extensive reference list that includes studies published up to 2010. Strong, comprehensive scientific evidence for exercise training is available for some chronic diseases, showing improvements in mortality and modification of the disease process and risk factors, while less rigorous and/or preliminary evidence supports exercise training for other chronic conditions. In addition to physiologic factors such as cardiorespiratory fitness, skeletal muscle function, and body composition, the authors discuss psychosocial outcomes, such as anxiety and depression, that commonly affect people with chronic disease. Functional outcomes, measures of quality of life, and disease-specific outcomes such as pain, bone-mineral density, spinal mobility, gait velocity, motor function, and fatigue are included where relevant.

The chapters vary with respect to structure, organization, format of exercise prescription recommendations, and presen-

tation of research studies. Aerobic and resistance training and safety are discussed consistently, however, and several chapters discuss hospital training versus community and home exercise. Issues repeatedly identified as warranting future research include clarifying the response to and efficacy of exercise training for specific sub-groups of patients (considering disease severity, symptoms and phase of treatment); determining optimal prescription parameters; and addressing adherence issues. Because people with chronic disease often present with comorbidities, the disease-specific chapter format provides a helpful resource to address the multiple needs of the chronic disease population.

I would recommend this book to clinicians to support evidence-based clinical practice, as well as to clinical researchers interested in investigating the effects of exercise as an adjunct treatment in chronic disease. Overall, *Exercise and Chronic Disease: An Evidence-Based Approach* provides a useful framework for examining existing and emerging evidence, summarizes current evidence to support clinical practice and inform clinical decision making, and emphasizes future research priorities and opportunities.

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DOI:10.3138/ptc.65.4.rev02