

which illustrate the bewildering complexity of the inflammatory reaction. However, the findings are not very encouraging, since novel drugs that inhibit single cytokines seem to have little therapeutic promise, although emerging research drugs that inhibit multiple cytokines may be more successful.

A novel aspect of the airway inflammatory response is discussed in the chapter on inhibitors of leukocyte endothelial adhesion. Such drugs could inhibit the migration of white cells into pulmonary tissue and thereby abort the bronchospastic response. This avant-garde approach to asthma introduces us to the various adhesion molecules, such as selectins and glycoprotein ligands, and to integrins, while epidermal growth factor and novel statins make cameo appearances. At this point the reader is sufficiently impressed with the ranks of dangerous cell invaders that it becomes disappointingly easy to envisage new drugs serving as hopelessly outnumbered border police that are designed to inhibit this dangerous trafficking across cell membranes.

The chapter on new anti-allergic drugs is slightly out of date, since the only truly interesting and innovative agent to emerge from research is the recently released rhuMab-E25, which we know as omalizumab. This should have been greeted with a greater fanfare, since it is the sole truly original asthma drug to be marketed, and it would have been useful if this chapter included more suggestions on how to position this agent in clinical therapy. The authors go on to provide an interesting discussion on deoxyribonucleic (DNA) acid vaccination, plasmid vaccination, and immunostimulatory DNA sequences combined with allergenic protein. However, much more clinical research will be needed before such agents enter into the daily practice of the allergist or pulmonologist. Similarly, as the following chapter on gene therapy points out, such cutting-edge research may have a relatively limited value in therapeutics, since the derived treatments would be cost-effective in only a small proportion of patients.

Clinical researchers will find the chapter on new drug evaluation to be very valuable, and this chapter is likely to be the one that is most appreciated by those who refer to this book selectively. It provides a general review of all the current tests and clarifies what end points should be sought. Although details are generally skimpy, the well-selected reference list will direct readers to relevant airway function tests, exercise eval-

uations, blood analyses, and even sputum analysis reports. Allergen challenge tests and herbal medicine challenge tests are also alluded to in this comprehensive review.

The final chapter by the 2 editors refers to about 100 references on novel anti-inflammatory therapies. The agents considered are a bewildering array of mediator antagonists, protease inhibitors, transcription factor inhibitors, signal transduction inhibitors, immunomodulators, vaccines, and remodeling agents. This skillfully organized account includes a variety of newly emerging terms that might be destined to become more commonplace, such as metalloproteinases, mitogen-activated protein kinase, GATA-3 (DNA sequence), calcineurin, nuclear factor (NF)-kappa β , c-Jun N-terminal kinase (JNK), and chaperonins. Unfortunately, an enormous number of drugs that have been designed to work on molecular pathways involving these agents have been shown to be unsuitable for clinical use. This information, however, could help the public understand how much effort with so many frustrating journeys into pharmacologic cul-de-sacs goes into bringing a suitable medication into the advertising pages of medical journals.

Overall, one must question the role of a book that evaluates such a wealth of material. Much of the research information is available in reviews or state-of-the-art articles in scientific or clinical journals, and the therapeutic uses of available drugs is presented in more practical format in numerous books and other published articles. Such a book can never be up to date, although a few of its listed references are as recent as 2002. Clinicians and investigators will be able to find most of the information on the Internet or in the abstracts of presentations at national meetings. This book could have made it easier to access its complex information by presenting more summaries in detailed tables or with more explanatory diagrams or cartoons. It is regrettable that the index in this book is a disaster, and it raises the question of whether an index is necessary, since each chapter provides a detailed tabulation of the chapter contents and a concise abstract that reviews the information.

Although I was pleased to have had the opportunity to review this book, it is evident that its main market will be research libraries rather than individuals or hospital libraries. More important, it makes one wonder if books such as this will be published in the future, since information retrieval is

becoming far less dependent on volumes that are filled with a mixture of chapters, each of which is likely to appeal only to a very selective audience, with most readers having little interest in the rest of the book. The volume is listed as number 161 in the series *Handbook of Experimental Pharmacology*, but it is now time to reclassify the series as "Shelfbook," since the truly useful books are metamorphosing into handheld personal libraries. For those who enjoy books for their evocative decorative appearance, this book may provide a welcome addition to this erudite series.

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ACSM's Exercise Management for Persons with Chronic Diseases and Disabilities, 2nd edition. J Larry Durstine PhD and Geoffrey E Moore MD. Champaign, Illinois: Human Kinetics. 2003. Hard cover, illustrated, 374 pages, \$49.

This is the second edition of this title, which surveys a broad range of chronic diseases and disabilities that may be represented among the expanding spectrum of persons referred for exercise testing or exercise prescription. The conditions covered range from cardiovascular diseases to orthopedic conditions to mental illness. The number of chapters has increased from 42 in the first edition to 49 in this edition, due to splitting some of the earlier edition topics into subsets and adding a few additional conditions.

The book is intended for exercise specialists, which would include respiratory therapists involved in an exercise testing laboratory or a rehabilitation service, as well as individuals with primary training in exercise science. It is written at a level that requires some familiarity with medical terminology but not extensive medical expertise. It does assume that the reader is familiar with exercise physiology and has the technical knowledge and proficiency for performing exercise testing and/or training.

The content is organized into 8 sections. The first section is mainly introductory, with considerable space given to explaining the editors' intent, the terminology used in the text, and the structuring of the individual chapters. A chapter on testing children is included here, apparently because it didn't fit neatly anywhere else. Subsequent sections include cardiovascular diseases, pul-

monary diseases, metabolic diseases, immunologic and hematologic disorders, orthopedic conditions, neuromuscular disorders, and cognitive, psychological, and sensory disorders. The large number of conditions included in the book dictates that no condition is discussed in detail, so this is not an in-depth reference on any one of the particular patient ("client" is the term used exclusively throughout this volume) populations.

To cover this broad range of topics there are approximately 60 contributors. A common problem of multi-authored texts is lack of uniformity in quality and style, and overlap in content from one chapter to another. The editors have made an explicit attempt to address this problem in their structuring of the book. Each individual chapter is organized in a highly standardized manner, using the following headings:

- Overview of the Pathophysiology
- Effects on the Exercise Response
- Effects of Exercise Training
- Management and Medications
- Recommendations for Exercise Testing
- Recommendations for Exercise Programming
- Special Considerations

Standardized tables of testing protocols and programming (training) goals are also included in most chapters, as is an example case study of an individual with the condition of interest. At the end of each chapter is a short list of references.

This standardized approach results in a uniform format and appearance in each chapter. The trade-off, of course, is that the standard outline isn't uniformly appropriate for each of the conditions addressed, and it results in some chapters having an awkward and artificial flow. For example, cancer and its treatments represent a heterogeneous set of conditions that may have diverse effects on exercise function, whereas bleeding disorders would not be expected to affect exercise function in any specific manner, and exercise in subjects with visual impairment represents a far more narrowly focused set of issues than the standard format was designed to address. The standardized format also results in chapters having roughly uniform length, even though some conditions, such as diabetes or obesity, could reason-

ably warrant a more extensive discussion because they are more common and/or more complex than others.

By far the most useful aspect of most chapters is the background information provided in the first half of each chapter. While this information will certainly be too limited to be a sufficient knowledge base for someone whose day-to-day work focuses on patients with a particular condition (eg, someone working in a pulmonary rehabilitation facility would want a more extensive understanding of chronic obstructive pulmonary disease than presented in this book chapter), it is a good starting point for someone who encounters individuals with a wide variety of medical histories and needs a resource for a quick introduction to different conditions. For example, reading the 3 pages of text in the chapter on cardiac transplant could quickly give an exercise professional unfamiliar with this population important information about what to expect during an exercise test on a transplant recipient. There are also chapters that are useful because they apply to a broad range of individuals, such as the excellent chapter on diabetes. Only a limited number of references are provided at the end of each chapter. The advantage of this is that they tend to be carefully selected reviews that provide the reader with a reasonable next step for finding more in-depth information. No references are cited in the body of the chapter, however, and the various authors do not always identify for the reader which statements are opinions and which carry the weight of scientific evidence.

In contrast to the narrative portions of each chapter, the standardized tables related to testing protocols and training programs are less useful. They take up considerable space in each chapter and in many cases contain redundant or unnecessary information. For example, almost every chapter's table on exercise programming contains a nearly identical row describing aerobic exercise as exercise involving large muscle mass for the purpose of increasing exercise tolerance. In addition, information within the tables, such as the recommended test protocol for determining peak oxygen uptake, is inconsistent from chapter to chapter. While in some cases this variability reflects important functional differences between different populations, it sometimes simply reflects idiosyncratic differences in the way individual chapter authors chose to fill in the table, and it is not always clear to

the reader which of these is the case. Using this reference as a guide to conducting tests in individual subjects could be confusing, therefore, and would result in systematic differences in testing protocols applied to persons having different diagnoses, even if their functional capacity and exercise needs were actually similar. The tabular presentations would certainly be more useful if related conditions were consolidated into summary tables that highlighted important differences between populations. The task of producing such a consistent set of guidelines relevant to a varied clientele is challenging indeed, and unfortunately is not accomplished in this volume.

The case studies at the end of each chapter were included specifically to highlight the editors' recommended approach to management of exercise problems using the S (subjective) O (objective) A (assessment) and P (plan) format, and are presented accordingly. The importance of this goal is a matter of opinion, but the cases seem to me of limited utility for illustrating either the diseases themselves or the exercise professional's assessment process. In some chapters the cases are presented as they might be written by the exercise specialist, while others contain elements such as plans for prescription of new drug therapies or medical interventions that imply the assessment of the treating physician. Some of the cases are simply not well integrated with the chapter information. For example, the chapter on vascular aneurysms indicates that maximum testing should not be performed in the presence of this condition, but results of maximum testing appear in the case study nonetheless. Overall I wish the space devoted to the cases had instead been offered to the chapter authors for discretionary use. Perhaps then some omissions that are probably due to space constraints could be remedied. For example, the chapter on cardiac pacemakers could benefit from illustrations of the appearance of pacemaker activity on the electrocardiogram tracing.

At the end of the book is a series of appendixes with supplementary information. The first is a compendium of drugs; these are organized by class, which makes it difficult to locate a particular drug by its name. It is followed by a more useful set of tables showing expected effects of cardiovascular drugs on selected cardiovascular responses to exercise. The third appendix is an ambitious but failed attempt to identify the effects of a wide range of medications

on exercise function. No distinction is made between statements extrapolated from isolated experimental conditions and information relevant to the clinical use of the drugs, nor is there any distinction made between Food and Drug Administration-approved uses and nonapproved uses for specific drugs. As a result, much information in this section is alarmingly misleading. The reader would be better served by having a *Physicians' Desk Reference* or similar drug guide at hand. The final appendix contains Web sites of major organizations relevant to the conditions covered in the book.

All in all, this would be a useful book to have on the shelf of the multi-function exercise laboratory. I would consider it a second-tier reference, after the more fundamental needs for technical and physiologic references are covered, and not a definitive reference for any of the conditions it reviews. The wide range of the subject matter makes it a unique resource, however, and its accessibility would be difficult to duplicate from any other source. Its most likely role will be as a quick guide to turn to when laboratory personnel find themselves faced with an individual with an unfamiliar diagnosis referred for evaluation or rehabilitation.

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Clinical Tuberculosis, 3rd edition. Peter DO Davies, editor. London: Hodder/Arnold/Oxford University Press. 2003. Hard cover, illustrated, 476 pages, \$149.50.

How often does a book not only inform and teach but also recruit new characters into the evolving story of an old disease? Peter Davies has brought together a selection of international leaders in tuberculosis (TB) research and control to contribute to the 3rd edition of a major international textbook. It is an excellent work, addressing the major issues with authority and diversity. It especially addresses the problems of TB outside of the most wealthy countries. Some readers may find that selected issues, including contact investigations and preventing transmission in institutions, require more thorough treatment than it provides. The tone and content of the text, however, more than make up for relatively minor limitations, in

showing how and why this global plight needs more attention from those with resources.

More explicitly than most textbooks, **Clinical Tuberculosis** targets a broader audience than its title implies, from its dedications and preface, through its content and conclusions. The clinicians and other practitioners who diagnose and treat TB and who implement the public health practices of TB control may compose the largest audience, but its most important target audience is more likely the policy makers who enable or restrain those efforts. Davies dedicates his 3rd edition of **Clinical Tuberculosis** to "the people of the United States of America in the hope that they will lead the world into greater equality of health and resources." Many authors have pointed out that TB control is a measure of resources and political will, since this disease, which has been preventable and curable for half a century, infects one third of the world's population and *continues to kill 2 million people every year*.

When the 1st edition was published in 1994, the industrialized world was just recovering from a historic resurgence of TB that has been attributed to several converging factors: the breakdown of public health infrastructure during the previous 2 decades; the emergence of a new virus, human immunodeficiency virus (HIV), which makes humans much more vulnerable than normal to TB infection and disease; the persistence of TB in most of the world, where the public in resource-rich countries paid it little attention; and migration of infected people to these resource-rich countries. Demonstrating one measure of this lack of attention, **Clinical Tuberculosis** was the first standard textbook on TB to be published in the United Kingdom since 1953.

Just 2 years earlier, another book came out in the United Kingdom, *Tuberculosis: The Greatest Story Never Told*, by Frank Ryan.¹ Dr Ryan recognized the historical importance of the resurgence and took the opportunity to engage the public by changing the title for the American edition to *The Forgotten Plague: How the Battle Against Tuberculosis Was Won and Lost*.² This popular book is a biographical and historical description of the discovery of modern diagnostics and treatments of TB. The attempt to influence readers through the persuasive power of a title subsequently was made by the Institute of Medicine in its authoritative assessment of TB control efforts, *Ending*

Neglect: The Elimination of Tuberculosis in the United States,³ and by Lee Reichman and Janice Tanne in *Timebomb: The Global Epidemic of Multi-Drug Resistant Tuberculosis*.⁴ In 3 editions of **Clinical Tuberculosis**, the title has been generic, but Davies has started to communicate his message just inside the front cover, with his dedications.

The 2nd edition of **Clinical Tuberculosis** was much longer than the first, with 11 chapters devoted to specific countries and regions of the developing world where TB is especially prevalent. These chapters were written mostly by specialists from those countries and regions, as part of an effort to maximize usefulness to TB control where it is most needed. That edition was dedicated to "Gordon Leitch [a contributor to the first edition], who died while helping to rescue friends in a swimming accident, Cyprus, July, 1996." This dedication invokes humanity's altruistic instinct and recalls another TB-related death from drowning in the Mediterranean 174 years earlier—that of the poet Shelley, who was seeking the prescribed cure for TB in the warm climate along the coast of Italy. His body was found with a book in his pocket by Keats, perhaps the most famous of the 19th century Romantic consumptives who died young, as described beautifully by Renee and Jean Dubos in *The White Plague: Tuberculosis, Man, and Society*.⁵

The publication of a 3rd edition of **Clinical Tuberculosis** attests to the success of the second. In his preface to this edition, Davies expresses the intention to provide "the essential information for the clinician managing tuberculosis wherever he or she may be working. The most important reason for the smaller size is to make it affordable to those working in poorly resourced countries, where tuberculosis is likely to be most prevalent." This edition is smaller than the second edition, largely from omission of most of the country- and region-specific chapters. However, it remains a substantial volume and is unfortunately more expensive, perhaps owing to rising publishing costs, than the 2nd edition, which is still available in the United States (at the time of this writing) for \$125.

The 3rd edition starts with a novel approach to understanding the history of TB, by Charlotte Roberts, reader in archaeology in Durham, United Kingdom, and Jane Buikstra, professor of anthropology in Albuquerque, New Mexico. Most histories of the disease in TB textbooks chronicle the social