

Sleep Apnea: Implications in Cardiovascular and Cerebrovascular Disease, 2nd edition. T Douglas Bradley and John S Floras, editors. *Lung Biology in Health and Disease* series, volume 231, Claude Lenfant, executive editor. New York: Informa Healthcare. 2010. Hard cover, 448 pages, \$299.95.

It has been 10 years since the first Lenfant edition of **Sleep Apnea: Implications in Cardiovascular and Cerebrovascular Disease**, edited by Bradley and Floras (volume 146, 2000). The current, second, edition is desperately needed for several reasons. First, the ongoing obesity epidemic has brought considerable attention to (particularly obstructive) sleep apnea, both as it affects individuals and as a public health issue. A single resource that describes the mechanisms through which sleep-disordered breathing impacts the cardiovascular system, and that can define the magnitude of these effects in terms of outcomes meaningful to patients would be of great value for clinicians. Indeed, this is one of the goals of this edition, stated by Lenfant, that the current work “ensure a critical synthesis of all the new available data to facilitate the work of practicing physicians.” Second, the last 10 years have witnessed a tremendous amount of research on these very topics. The editors highlight the fact that their first edition was based largely on the results from single-center mechanistic trials, while the current edition now incorporates evidence based on epidemiological and clinical trials. Again, this kind of information is sorely needed by physicians who must help patients make informed decisions about sleep apnea and treatment.

Does the book fulfill its goal? The answer is a qualified yes. The book is excellent in many ways; however, its value in clinical practice is uncertain. The book is excellent overall, due to the editors’ selection of world-renowned researchers who are able to communicate their ideas effectively through their writing. Thus, most of the chapters are informative and worth reading in their own right. In fact, the book is most outstanding where it is arguably the least clinical: when it reviews advanced cardiopulmonary physiology. A couple of chap-

ters in particular deserve mention. For example, Magder’s chapter on “Mechanical Interactions Between the Respiratory and Circulatory Systems” should be required reading for medical students, residents in the intensive care unit, and pulmonary, sleep, and cardiology fellows, because of its clarity and accessibility. It concisely describes and explains commonly encountered and clinically relevant cardiopulmonary interactions. Similarly, Khoo’s chapter on models of periodic breathing clearly explains some very difficult and potentially confusing ideas, such as loop gain. Again, the author successfully integrates these concepts and shows how they help explain clinical problems, such as Cheyne-Stokes respiration in heart failure.

The emphasis of the book has shifted slightly since the 2000 edition, which does bring the book up to date and away from the bench and closer to the bedside. As the editors intended, sections focused on animal model studies relevant to sleep apnea have been removed. Instead, new chapters on the treatment of hypertension in obstructive sleep apnea and treatment of heart-failure patients with sleep apnea have been added. In fact, most of the topics and the contributing authors are new, compared to the 2000 edition. These chapters are timely and well researched and written. For example, I appreciated that Naughton and Arzt, in their chapter, “Treatment of Obstructive and Central Sleep Apnea in Patients with Heart Failure,” present a treatment algorithm for patients with central sleep apnea based on the Canadian Positive Airway Pressure (CANPAP) trial, which failed to show a mortality benefit from continuous positive airway pressure, except in a post-hoc analysis. Although the optimal treatment is not known definitively, the authors’ recommendations seem reasonable based on all the currently available evidence. As long as the quality of the data is acknowledged, I believe that practicing physicians would be eager for expert opinion and guidelines in such murky areas.

Unfortunately, the example above is relatively rare. Although thoroughly researched and well written, the book may not greatly facilitate the work of clinicians because it rarely concretely links new re-

search with the clinical practice of sleep and/or cardiovascular medicine. Because of this, the book’s readership will probably be sleep and cardiovascular researchers rather than general practitioners in either specialty. Additionally, the level of detail in some sections (such as Guyenet’s excellent discussion on brainstem control of the cardiorespiratory system) is beyond that desired by practicing clinicians, or most other health-care providers (such as respiratory therapists and polysomnographic technologists) who focus on sleep medicine. Some of the best sections (such as those mentioned above) will require multiple readings and time for reflection, based on the depth of the material. In some of the most clinically relevant chapters, such as Punjabi’s “Sleep Apnea and Alterations in Glucose Metabolism”—which is bound to be a commonly encountered clinical scenario—guidelines for the practicing physician might have been helpful, while still acknowledging that much work and research remains.

The book consists of 19 chapters, organized into 4 parts. Part I examines the influences of sleep and respiration on the cardiovascular system, but also includes chapters on sleep and glucose metabolism, inflammation, and leptin. The remaining parts are “Sleep Apnea and Hypertension,” “Sleep Apnea, Ischemic Heart Disease, and Cerebrovascular Disease,” and “Sleep Apnea and Congestive Heart Failure.” In general, each of these parts contains a chapter on the epidemiology of the problem, another focused on known or hypothesized mechanisms, and a section on treatment. The tables, figures, and graphs are all clearly presented and easy to understand. The book appears well edited, with few typographical errors. The index is very complete and useful, given the large number of abbreviations used and trials mentioned. One possible criticism is that some of the chapters recapitulate information presented elsewhere. For example, the CANPAP trial is discussed in 3 different sections. Although the volume could have been more concise, some readers may prefer this format if they selectively read only a few chapters. That is, some repetition is probably desirable. Finally, certain topics are heavily emphasized (eg, Cheyne-Stokes respiration) while oth-

ers are barely mentioned (eg, atrial fibrillation).

The second edition of **Sleep Apnea: Implications in Cardiovascular and Cerebrovascular Disease** reflects the great advances made in this area in the last 10 years. However, it also reflects our still incomplete understanding of the impact of sleep apnea on overall health. This edition will bring those interested up to date in this area, and will help to define what needs to be done in the coming years.

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Tuberculosis: The Essentials, 4th edition. Mario C Raviglione, editor. *Lung Biology in Health and Disease* series, volume 231, Claude Lenfant, executive editor. New York: Informa; 2010. Hard cover, 400 pages, \$299.95.

Although respiratory therapists and many other healthcare professionals in the United States may see a case of active tuberculosis (TB) only on occasion, TB remains one of the leading causes of death worldwide; approximately 2 million people die of TB annually, while 2 billion people (one third of the world's population), are infected with *Mycobacterium tuberculosis*. The current epidemiology underscores that TB is one of the most important pathogens in the world today. Indeed, in many areas in the United States a devastating global epidemic continues to present local health challenges. International cities are especially vulnerable to TB, while the globalization of economy and society continues and the epidemic of TB in many countries in the world has not been controlled.

Tuberculosis: The Essentials, 4th edition, is an important textbook to review the global issues of TB control. This new edition, edited by Raviglione, discusses the new developments and updates in knowledge since the last one published in 2006. This textbook is part of the National Institutes of Health's *Lung Biology in Health and Disease* series (executive editor Claude Lenfant). This is a multi-author textbook and many authors are internationally distin-

guished experts in the field. The book has a hard cover, 390 pages, and 15 chapters

The book is most suitable for pulmonologists, infectious disease specialists, and public health practitioners involved in the field of TB, especially international TB control. On the other hand, its advanced content may be less attractive for general physicians, respiratory therapists, and other healthcare professionals who do not often encounter the issues related to TB.

There are complete and current reference lists at the end of each chapter. Most chapters contain many tables and figures that highlight important points in the text. The index is comprehensive and accurate.

The first 3 chapters describe the epidemiology and pathogenesis of TB. The authors from the World Health Organization discuss the global TB epidemic, which disproportionately affects many resource-limited countries. There is a well-thought-out discussion on a model of TB pathogenesis and epidemiology, focusing on the risk factors for TB exposure as well as TB progression from latent TB infection, with 348 references. The third chapter updates us on the recent knowledge and new insights of basic science concerning TB pathogenesis.

The next 2 chapters deal with clinical aspects (diagnosis and treatment) of TB management. The chapter on TB diagnosis includes the new technologies, such as microscopic-observation drug-susceptibility (MODS) assay, molecular methods to detect *M. tuberculosis* and its drug resistance, and interferon-gamma release assays (IGRA). However, it emphasizes the importance of clinical suspicion of TB and underscores that the diagnosis of TB is a complex clinical exercise that requires integration of all available information.

The chapter on TB treatment describes the history of the development of TB chemotherapy, the current use of TB medications and regimens (the combination of drugs and duration), the role of directly observed therapy (DOT), and treatment in special situations and extrapulmonary TB. The next 7 chapters discuss the critical issues of global TB control; the interaction between human immunodeficiency virus (HIV) and TB, and drug-resistant TB, especially multi-drug-resistant TB and extensively-drug-resistant TB. The World Health Organization's new Stop TB Strategy recognizes that the epidemic of HIV and the spread of drug-resistant TB are the greatest threats to global TB control. While 15% of new cases of TB

in the world are estimated to occur among people living with HIV, implementation of the "Three I's for HIV/TB" is emphasized: Intensified TB case finding, Isoniazid preventive therapy, and TB Infection control. The chapter on diagnosis and treatment of drug-resistant TB reviews the new challenges that the emergence of multi-drug-resistant TB and extensively-drug-resistant TB have presented and the efforts to control the development of drug-resistant TB and the spread of the disease.

The last 3 chapters of the book review current knowledge and address the key items of TB control on the horizon: new diagnostics, new drugs, and TB vaccine.

There are a few areas that can be improved. First, the typeface may not be the easiest to read, perhaps because of a long sentence line, instead of 2 separated columns. Second, there are some illustrations in which the color prints would have been more beneficial (eg, World Health Organization statistics and graphs, pathology slides) but I understand the cost issue.

In summary, **Tuberculosis: The Essentials**, 4th edition, is a valuable reference textbook for clinicians and policy makers who are interested in global TB control activities. As the research of TB, especially at the global level, has become a dynamic field, this book also provides the research scientists with the updated knowledge and the tools to develop innovative approaches for TB control research.

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Respiratory Care Exam Review: Review for the Entry Level and Advanced Exams, 3rd edition. Gary Persing RRT. St Louis: Saunders/Elsevier. 2010. Soft cover, 288 pages, \$69.95.

In the fall of every year in my respiratory therapy program, I encourage the seniors to fastidiously review material prior to taking the board examinations for respiratory therapists. When they ask what they should study, I reflect on the breadth and depth of material that one must review to be truly