

Sleep Medicine: A Guide to Sleep and Its Disorders, 2nd edition. John M Shneerson MA DM FRCP. Oxford, United Kingdom: Blackwell Publishing, 2005. Hard cover, illustrated, 325 pages, \$125.

Sleep medicine is a multidisciplinary medical specialty, newly recognized by the American Board of Medical Specialties. Physicians practicing sleep medicine have backgrounds in many fields, including pulmonary medicine, internal medicine, neurology, and psychiatry. Sleep disorders afflict many people and many remain undiagnosed because of lack of clinical recognition of the more than 90 sleep diagnoses. Physicians play a critical role in recognizing sleep disorders and play a key management role in their diagnosis and treatment. Respiratory therapists and polysomnographic technologists also play key roles in diagnosing many sleep disorders, especially sleep-disordered breathing. Respiratory therapists are instrumental in providing therapy for many sleep disorders, by providing nasal continuous positive airway pressure, bi-level positive airway pressure, nocturnal ventilation, and oxygen therapy to patients with sleep-disordered breathing. Because sleep medicine crosses many medical specialties and is a rapidly changing field, it is a challenge to remain up to date, but Shneerson provides a relatively up-to-date, concise review of sleep medicine and its more than 90 sleep disorders. Since he is the sole author, the book suffers less interchapter repetition than do multi-author books. The book is divided into 12 chapters. The first chapter deals with normal sleep and sleep development. It examines sleep throughout our life cycle and provides a backbone for further discussion in the second chapter, which concerns physiology and control of sleep. The third chapter, "Assessment of Sleep Disorders," provides a short review of various diagnostic techniques used in sleep medicine. The fourth chapter discusses how drugs impact sleep, including drugs used to treat sleep disorders and the adverse effects of some drugs on sleep. The remainder of the book (Chapters 5 through 12) discusses the many sleep disorders. The book presents the disorders more from a symptomatic standpoint than from a specific disease standpoint. This is appropriate, since patients present with symptoms, not diseases.

Chapter 5 examines circadian rhythm disorders. Chapter 6 examines disorders asso-

ciated with excessive daytime sleepiness. Chapter 7 discusses the complex and often perplexing topic of insomnia. Chapter 8 discusses dreams and nightmares, causes and treatments. Chapter 9 discusses motor disorders, including the parasomnias (motor activities such as sleepwalking, sleep talking, and rapid-eye-movement sleep-behavior disorder). Chapter 10 covers obstructive sleep apnea, which has received much press lately. Chapter 11 discusses central sleep apnea and hypoventilation. The final chapter examines medical disorders and how they can impact sleep. There are 10 appendixes, among which are validated questionnaires that are very useful in the practice of sleep medicine.

The author's key audience is physicians, including sleep specialists, pulmonologists (respirologists), neurologists, psychiatrists, and general/internal medicine physicians who evaluate patients with sleep disorders. Pediatric aspects of sleep are integrated throughout the text, so pediatricians may or may not find this book useful. Although not specifically written for respiratory therapists or nurses, the book may be helpful as a reference. Since this book does not go into detail concerning polysomnography, it is probably not useful for polysomnographic technologists who want specific technical information.

Shneerson is from the United Kingdom and has a fine command of syntax and grammar. He provides clear explanations for very complex topics. It is easy to follow his thought processes, because the writing is very clear, concise, and readable. This is a book that you could sit down and read cover to cover. It is not intended to be a reference book on sleep disorders, so it is not heavily referenced, but it provides limited references after each chapter.

It is up to date, as evidenced by references to the most recent International Classification of Diseases for sleep disorders. Furthermore, Chapter 4, "Drugs and Sleep," discusses medications recently released by the U.S. Food and Drug Administration, including pregabalin, ramelteon, and eszopiclone. I think the book's illustrations will be especially helpful for understanding sleep/wake mechanisms and pathophysiologic aspects of many sleep disorders, including obstructive sleep apnea and central sleep apnea. The author effectively uses tables to describe the differential diagnoses of sleep-related symptoms and differentiate sleep disorders that present with common symptoms. One

example is in Chapter 7, "Insomnia," which examines the various hyperarousable states that can lead to insomnia.

In general, the material is well selected and organized. I am most impressed with the author's ability to present complex topics and concepts in a naturally flowing, easily understood narrative. This is particularly evident in the chapter on the physiologic basis of sleep and wakefulness. Furthermore, the presentation on drugs and sleep is outstanding. It describes drug effects on sleep stages and the circadian rhythm, and discusses pharmacokinetic aspects of specific medications and mechanisms of action. Very few books have examined drugs and sleep in such a concise and well-done manner.

Another outstanding aspect of this book is Chapter 9, "Motor Disorders," which discusses parasomnias, including sleepwalking, sleep terrors, arousal disorders, hypnic jerks, epilepsy, chorea, and tics. For the non-neurologist this section is especially helpful. The statements, in general, are accurate, although sometimes they are simplified for clarity.

This book includes only an introduction to polysomnographic methods; it would not be adequate for physicians, respiratory therapists, or sleep technologists seeking to gain expertise in polysomnography. Limited information is provided on sleep-stage scoring and technical aspects of polysomnography, which is covered in only 14 pages. The diagnostic criteria used in the United States are not included. For instance, sleep-disordered breathing in the United Kingdom is often diagnosed without the use of polysomnography. Practice parameters recommended by the American Academy of Sleep Medicine are not described. One example is the diagnosis of narcolepsy. Though the information presented is accurate, different countries have different diagnostic and treatment paradigms for sleep disorders, and this book provides the United Kingdom perspective.

An outstanding feature of the book is the extensive descriptions of differential diagnoses of symptoms for many sleep disorders. Chapter 6, "Excessive Daytime Sleepiness," discusses not only sleep deprivation and its effects, but also other disorders and how they present throughout the life cycle. It gives a *complete* differential diagnosis, as evidenced by the inclusion of narcolepsy, upper-airway-resistance syndrome, disorders of the pons

and mid-brain, disorders of the hypothalamus, Kleine-Levin syndrome, Prader-Willi syndrome, diffuse organic neurologic disorders, and rare disorders such as African sleeping sickness. The author also lucidly describes the disease processes of common disorders such as Parkinson's disease, and how the disease impacts sleep. This aspect of the book would be highly useful to a respiratory therapist to provide optimal care of patients with secondary sleep disorders that arise from neurologic diseases and other medical disorders. This section also includes a nice description of how sleep can influence respiratory conditions, including asthma, chronic bronchitis, chronic obstructive pulmonary disease, cystic fibrosis, and parenchymal lung diseases.

The book is very well organized from a topical standpoint, though sometimes the subheadings and the subsubheadings are difficult to distinguish from each other. The subsubheadings are in italics, which I think readers will find helpful, especially in the chapter on motor disorders, where it is not always clear whether clinical features are specific for one disease or many. The references are up to date into 2005. An example is in the first chapter's review of the classification of sleep disorders, which was released in April of 2005. The index is carefully cross-indexed, which makes it very easy to find a diagnosis or symptom and find the appropriate material in the text.

In conclusion, **Sleep Medicine: A Guide to Sleep and Its Disorders** is an up-to-date, easy-to-read, well-organized text that examines sleep and wake mechanisms and frequent presenting symptoms of sleep disorders. It will serve as a reference for respiratory therapists, especially when patients with different sleep disorders come to the laboratory for evaluation. Although it does not focus on the technical aspects of sleep medicine, it does provide an easy-to-understand introduction to the spectrum of sleep disorders.

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Cystic Fibrosis in the 21st Century. Andrew Bush, Eric WFW Alton, Jane C Davies, Uta Griesenbach, Adam Jaffe, editors. *Progress in Respiratory Research*, volume 34, CT Bolliger, series editor. Basel, Switzerland: S Karger. 2006. Hard cover, illustrated, 329 pages, \$180.

This is an imperiously named textbook, considering that the 21st Century was only 4 years old when these chapters were written. But once you get past that hyperbole and into the book, you will find it beautifully written and well organized. Many of the world's experts have been brought together to produce this superb reference.

There are 40 short and well-referenced chapters, which cover all aspects of the science and clinical care of the patient with cystic fibrosis. Each chapter provides a concise and up-to-date review. However, only Chapter 38 has direct clinical relevance to the practice of respiratory care. That chapter is a "must-read" for all respiratory therapists who care for patients with cystic fibrosis.

The book is well illustrated and comprehensive. The first half of the book will be a hard slog for readers who are not basic scientists. Unfortunately, some of the clinical chapters are not quite as up to date or accurate as is the basic-science half of the book. As an example, Chapter 23, on lung transplantation, has a number of inaccuracies in its explanation of the pathogenesis of cystic fibrosis lung disease. This book best serves as a reference text. The research directions are stated clearly, and for the most part the clinical recommendations are sound and evidence-based. This book is an outstanding reference for scientists and will be of interest to physicians who care for patients with cystic fibrosis, but it will be of passing interest for respiratory therapists who primarily provide clinical care for persons with cystic fibrosis.

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Lung Surfactant Function and Disorder. Kaushik Nag, editor. *Lung Biology in Health and Disease*, volume 201, Claude Lenfant, executive editor. Boca Raton, Florida: Taylor & Francis. 2005. Hard cover, illustrated, 493 pages, \$199.95.

Volume 201 of the *Lung Biology in Health and Disease* series is devoted to lung surfactant function and disorder. It covers all major areas of research about lung surfactant, including chemistry, biochemistry, physics, genetics, computer science, physiology, and medicine. The book has 19 chapters and 3 parts. Each chapter is written by several well-known investigators, and the authors hail from many parts of the world.

Part 1 consists of chapters on the composition, structure, and function of lung surfactant. Surfactant phospholipids composition in children changes both with postnatal development and with disease. The first part of Chapter 1 describes surfactant phospholipids molecular species in adult lungs, and during fetal and postnatal development. The last part of this chapter discusses modification of surfactant phospholipids molecular species in various lung diseases. Chapter 2 discusses surfactant composition, synthesis, and secretion. This chapter emphasizes how temperature regulates the biophysical properties of surfactant and discusses in detail the factors that regulate secretion of surfactant, such as ventilation, phorbol esters, vasopressin, lipoproteins, and adrenergic and cholinergic agonists. Both Chapters 1 and 2 are valuable for learning the basics of surfactant.

The next 2 chapters are dedicated to hydrophilic surfactant proteins, surfactant proteins A and D. The discussion covers detailed structure, tissue distribution, and function of these proteins in the context of other structurally related proteins such as mannose-binding lectin and the first component of complement C1q. There is specific emphasis on various domains of these proteins, which, after binding to surfactant and microbial membranes and alveolar and inflammatory cells, perform different functions, ranging from protection against alveolar collapse to innate host defense. Several receptors and/or binding proteins for surfactant proteins A and D are also discussed.

Chapter 5 addresses the importance of hydrophobic surfactant proteins B and C: their evolutionary origin, biological and clinical importance, and structure-function relationships. All 3 chapters on surfactant pro-