new standards for polysomnographic scoring. Though it is not likely there will be major changes, such changes would put this volume out of date.

Overall, the book is a useful adjunct for sleep specialists and a practical reference for the busy clinician. I highly recommend it.

Adnan Naeem Habib MD
Department of Medicine
Division of Pulmonary Critical Care and Sleep Medicine
University Of Kentucky
Lexington, Kentucky

The author reports no conflicts of interest related to the content of this book review.

Surgical Management of Sleep Apnea and Snoring. David J Terris and Richard L Goode, editors. Boca Raton: Informa/Taylor & Francis. 2005. Hard cover, illustrated, 492 pages, $199.95.

Amidst the many volumes dedicated to sleep disorders and sleep-disordered breathing, this is just the third book devoted to surgical treatment of snoring and obstructive sleep apnea. Part of the explanation lies in the relative newness of sleep surgery as a field. Since the initial description of uvulopalatopharyngoplasty (surgery of the soft palate) as a surgical treatment of snoring, by Ikematsu in 1964,[1] and the application of this procedure to treat patients with obstructive sleep apnea, by Fujita et al in 1981,[2] the past 25 years have witnessed the development of many procedures designed to treat the soft palate and other regions of the upper airway.

This text is designed as a reference for surgeons interested in surgical techniques for treatment of snoring and obstructive sleep apnea. Others may find (1) the description of patient evaluation and nonsurgical treatment too brief, and (2) the discussion of surgical procedures too detailed and esoteric. While surgeons will probably need to supplement the text with additional reading and training, the book provides a sound framework from which the interested reader can approach the patient with snoring or obstructive sleep apnea, with an awareness of available procedures.

The chapters cover the anatomy and physiology of sleep and sleep-disordered breathing, nonsurgical treatments (such as positive airway pressure therapy and oral appliances), and surgical evaluation and management. Approximately two thirds of the chapters are devoted to specific procedures, and the detailed discussions of techniques and the role of surgery in the treatment of sleep-disordered breathing are the core of the book. The illustrations, photographs, and radiographs throughout are clear and very useful in elucidating key points.

No surgical text would be complete without a discussion of anatomy. This book not only offers an excellent chapter on upper-airway anatomy but also a thought-provoking evolutionary perspective on that anatomy. The subsequent chapters on the physiology of sleep, sleep-disordered breathing, and nonsurgical evaluation of sleep-disordered breathing are good but perhaps not as clear and thorough as those that can be found elsewhere in the literature. Admittedly, these subjects are not the primary focus of the book, so relatively little space is devoted to them. One exception was the chapter on home sleep studies, which thoroughly reviews the validation studies for various home sleep study technologies.

As a sleep surgeon, I thought the editors' selection of individual procedures and combinations of procedures in a surgical plan was based, in some cases, on limited information. The devotion of an entire chapter to the Friedman staging system, which can be used to select patients more likely to have good outcomes after uvulopalatopharyngoplasty, was warranted. This chapter gives a clear summary of the work that has been reported in several separate publications and is valuable reading for any surgeon interested in snoring and obstructive sleep apnea. In contrast, other surgical evaluation techniques, such as radiographic imaging and video sleep endoscopy, did not receive the same attention and/or did not get as thorough a discussion of their association with surgical outcomes. A more complete assessment of the growing literature would have been welcome.

With the emphasis on surgical treatment, not surprisingly the discussion of nonsurgical options, such as positive airway pressure and oral appliances, is limited. However, the chapter on oral appliances was thorough enough and very practical; the presentation of many devices, with photographs, is appropriate for surgeons, who may not be providing these devices themselves but should be aware of their characteristics.

Patient (and procedure) selection and anesthesia management (intraoperative and postoperative) are both far-reaching topics, and the authors of these 3 chapters faced daunting tasks. Although sleep surgery has made tremendous strides, these topics constitute much of the art of surgical treatment. As with the surgical evaluation of patients (mentioned above), a more comprehensive discussion of these topics would have been helpful. In particular, the anesthetic management of patients with sleep-disordered breathing—both for upper-airway surgery and nonupper-airway surgery—has increasingly become a topic of interest for physicians and major specialty organizations such as the American Society of Anesthesiology and the American Academy of Otolaryngology–Head and Neck Surgery. Though the existing literature is sparse, coverage of this topic should be expanded in future editions, to reflect the attention that has been devoted to it in the last few years.

The bulk of this book is dedicated to surgical techniques, and this is the book's greatest strength. A book written, by and large, by surgeons and for surgeons should provide an understanding of procedures and their application, and, indeed, this is the case. The high quality of the illustrations is invaluable. They do not provide as much detail as those in the commonly-used surgical atlases of otolaryngology and head-and-neck surgery that describe procedures other than those included in this book, but the illustrations and accompanying text are more than sufficient. Each chapter presents specific aspects of patient selection and discusses technique and potential complications.

In several cases the contributors (who in many cases are the surgeons who developed the procedure or made important technical modifications) incorporated technical modifications that they have developed since the original publications that described the procedures. For transpalatal advancement pharyngoplasty, these modifications are not found elsewhere in the literature. Others, such as the chapter on tracheotomy, present a range of techniques that are summarized clearly. Some of the chapters (eg, those on distraction osteogenesis and maxillomandibular advancement) are somewhat brief or simply do not provide sufficient detail for the reading surgeon to be able to perform the procedure. Nevertheless, the book otherwise succeeds with flying colors in its presentation of surgical procedures and their technical aspects.

The final 2 chapters are more philosophical than the rest and provide editorial perspective in 2 areas: the evaluation of surgi-

cal outcomes and the "Ideal Procedure for Snoring and Obstructive Sleep Apnea." Together, they provide much food for thought for sleep surgeons and other health-care providers. Despite the progress of the past 25 years, sleep surgery remains in its infancy in terms of the available procedures, the selection among them, and the understanding of outcomes. Advances in our understanding of upper-airway physiology, snoring, and obstructive sleep apnea will enable better application of existing procedures and the development of new procedures to build on the foundations described in this book.

Eric J Kezirian MD MPH
Department of Otolaryngology
Head and Neck Surgery
University of California, San Francisco
San Francisco, California

REFERENCES

1. Ikematsu T. Study of snoring, 4th report: therapy. Nippon Jibiinkoka Gakkai Kaiho 1964;64:434–435.
2. Fujita S, Conway W, Zorick F, Roth T. Surgical correction of anatomic abnormalities in obstructive sleep apnea syndrome: uvulopalatopharyngoplasty. Otolaryngol Head Neck Surg 1981;89(6):923–934.

The author reports no conflicts of interest related to the content of this book review.

Respiratory Genetics. Edwin K Silverman MD PhD, Scott T Weiss MD MSc, David A Lomas PhD ScD, and Steven D Shapiro MD, editors. London: Hodder Arnold/Oxford University Press. 2005. Hard cover, illustrated, 527 pages, $149.50.

Now that there is a much improved understanding of our genome, the search for genes that either directly cause disease or are associated with susceptibility or outcome in respiratory diseases has become a vibrant and fast-expanding field. This book has met the daunting challenge of summarizing the major findings in the genetics of multiple lung disorders and providing relevant methodological and clinical information.

The book has 4 major divisions: key concepts in respiratory genetics; obstructive lung diseases; interstitial lung diseases; and miscellaneous pulmonary conditions. Part 1, which focuses on key concepts in respiratory genetics, is divided into 8 chapters that introduce background information on the multifaceted research in respiratory diseases. The first chapter gives a very brief overview of human genetics and is well written, but could have been strengthened by expanding the focus beyond coding variation and by providing more details regarding haplotypes and microsatellites as key elements of disease susceptibility or modifying the phenotype (and not simply as tools to map the functional variants). The second chapter highlights the importance of environmental impact on the setting of the disease, and the heterogeneity of disease status. For the latter, the author's proposition of using different tests to characterize the phenotype is more than justified, with several tests listed, including measurement of lung function, airway responsiveness, allergy testing, and inflammation.

Chapter 3 provides a very good background on the methods for the study of association of genetic variants with disease susceptibility and how linkage disequilibrium is utilized in association studies, the advantages and disadvantages of cohort and case-control studies, environmental effects and the importance of power, and the spurious associations that can be caused by population stratification. Although without providing a definition or a clear scheme of what a haplotype is, the authors highlight the importance of haplotypes in association studies, in terms of power.

Chapter 4 guides the reader through basic procedures for sample collection and characterization of genetic variation, with helpful information on how to start the sample collection (which brings up issues of the ethics of managing data and how to collect the samples, depending on the interests and the number to collect) along with the most extended methods for extraction of deoxyribonucleic acid. The chapter ends with a very well organized and written summary of the types of genetic variation, the appropriate use of the different types, depending on the study design, and up-to-date methods to genotype and search for variation, with special emphasis on single-nucleotide polymorphisms (SNPs) and high-throughput approaches. Quality controls are needed to recognize and incorporate genotyping errors and reduce the chance of false positive or negative associations.

Chapter 5 is dedicated to bioinformatics methods; it provides a basic guide to several public databases to retrieve relevant bibliographic material (PubMed), sequences (Blast-Like Alignment Tool [BLAT]), and polymorphism information (dbSNP and SNPper) of the gene(s) of interest. Because of their relevance in association analyses, tools for power calculations and the exploration of linkage disequilibrium are expertly discussed. It would have enhanced this book to include other key databases for association studies, such as the HapMap, and the resequencing efforts of hundreds of inflammatory genes, such as the Seattle SNPs, the National Institute of Environmental Health Sciences (NIEHS) project, or the Innate Immunity database. The last portion of the chapter concerns microarray methods, practical guidelines to perform these experiments, probe alternatives, normalization, and detection of differentially expressed genes, clustering, and annotation. Chapter 6 outlines the available strategies to characterize and study the functional consequences of genetic variation and gives useful information about algorithms to allocate the genetic variation in the context of a gene (eg, promoter, splice site, and poly-A signal). The chapter also deals with the expression and purification of recombinant proteins, the biochemical and biophysical characterization of the "mutant" protein, and the determination of protein structure.

Expression of the "mutant" protein, particularly in mice, is an invaluable approach to study the phenotypical consequences in a cell context and constitutes the key bridge to the study of the functional consequences of the mutation, by providing additional physiologic changes that do not take place in a single cell; this is the focus of Chapter 7. This chapter presents the basics of obtaining genetically modified mice, several models used for different respiratory diseases, and a complete guide on general issues in mouse genomics, including quantitative trait loci (QTL) mapping, useful software, statistical interpretations, and their application to respiratory diseases.

Chapter 8 describes the respiratory-disease-related side of pharmacogenetics, which is a growing field with promising applications. This is a well written overview of the field; it discusses unequivocal measured phenotypes and has in-depth discussion of relevant examples related to smoking cessation, lung cancer, and asthma, among others.

The book's second part comprises 3 chapters that concentrate on the 3 best genetically characterized respiratory diseases: asthma, chronic obstructive pulmonary disease (COPD), and cystic fibrosis (CF). The chapter on asthma (Chapter 9) is a meticu-