lous review of the genetic findings in asthma, including genetic factors in asthma susceptibility. The astounding data collected by the authors include a review of twin studies, the evidence from linkage analysis and the use of isolated populations, the support from association studies, a review of the 10 most replicated genes, and mouse models in asthma. Lastly, the correlation of data derived from QTL mapping in mouse models with those from linkage studies in humans confer to this chapter the closing support for the connections of genetic variation and the susceptibility to asthma.

The chapter on COPD (Chapter 10) provides key COPD epidemiologic data, definitions of COPD, characterization of COPD severity, and the genetic basis of the disease. Though this is discussed primarily in the context of alpha-1 antitrypsin deficiency, a large list of genes associated with COPD is also provided, with occasional linkage to evidence from knockout mice. Because the major risk factor for COPD is tobacco smoke, genetic aspects of susceptibility to nicotine dependence are also discussed.

Chapter 11 reviews the genetic basis of CF caused by mutations in the CF transmembrane conductance regulator gene (CFTR) and the epidemiology and organ manifestations of the disease. The complexity of the gene, the number of known mutations, and the spectrum of phenotypes is discussed and connected to the animal models (knockouts or mice harboring mutations found in humans) and their use in clinical testing. Adequately discussed is the role of genetic testing in CF diagnosis. However, a significant number of CF patients with F508 mutations in CFTR do not develop the disease, so the stratification of mutations in human populations as a major drawback of genetic testing for diagnosis of CF should have been considered in this chapter.

The book's third part has 2 chapters, which focus on idiopathic pulmonary fibrosis and sarcoidosis. Chapter 12 presents a thorough list of clinical features of idiopathic pulmonary fibrosis and emphasizes the changes in lower lung function, and morphological and histological changes in the lungs. Very useful information is provided on the epidemiology of the disease and current treatments. The evidence supporting the involvement of genetic factors in the development of the disease is based on clues from monogenic disorders associated with pulmonary fibrosis and from animal models.

Chapter 13 introduces the evidence on the genetic basis of sarcoidosis, the most apparent coming from the epidemiology of the disease, since it is more common in populations of African descent than in Asian or European populations. The authors also present the hypothesis that sarcoid antigen triggers the disease, which is congruent with the described seasonal clustering of this condition and current experimental data. Although only a few linkage studies have been conducted to date, the candidate gene association studies are congruent in that they show the contribution of the human leukocyte antigen region, cytokines, and chemokines in the development of the disease. Although there have been no animal models for this disease, other relevant conditions (eg, chronic beryllium disease) are discussed to provide new candidate genes that may be useful for unraveling the pathogenesis of sarcoidosis.

The book's fourth part has 5 chapters, which introduce pulmonary hypertension, lung cancer, respiratory infections, congenital, metabolic, neuromuscular diseases, and rarer lung diseases. Particularly well written is the discussion of genetic anticipation in the younger generations in families with primary pulmonary hypertension and the links to candidate genes that affect the disease. In this respect, the bone morphogenetic protein receptor type II (BMPR2) gene is deeply examined with regard to how known mutations exert the phenotype.

Chapter 15 describes the genetics of lung cancer and provides a detailed and well-written discussion of studied candidate genes and somatic mutations that accumulate in cancers and how this information may drive the choice of chemotherapies in the future.

Chapter 16 reviews the involvement of genetic variation in susceptibility to respiratory infections, but the chapter does not have the depth of the earlier chapters, particularly with regard to genetic polymorphisms associated with respiratory infections, given that several candidate genes have now been associated with sepsis and acute lung injury.

Chapters 17 and 18 constitute a brief background on rare monogenic and complex diseases that compromise pulmonary function, and the chapters include excellent illustrations for human diagnosis.

In summary, the book is an excellent review of the most common tools and applications in the exploding field of human genetics and is a state-of-the-art opus for investigators of common but complex lung diseases. This is a major text and an invaluable aid to nascent translational scientists interested in the basics of the study of genetic variation and its functional consequences in respiratory disease.

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The authors report no conflicts of interest related to the content of this book review.

**Pulmonary Rehabilitation**. Claudio F Donner MD, Nicolino Ambrosino MD, and Roger S Goldstein FRCP(c), editors. London: Hodder Arnold/Oxford University Press. 2005. Hard cover, illustrated, 405 pages, $149.50.

Within the past decade, pulmonary rehabilitation has become more recognized and valued in treating chronic lung disease. Despite this professional acceptance, there is a paucity of pulmonary rehabilitation texts. Donner et al collaborated with North American and European authorities to create a comprehensive text on current pulmonary rehabilitation techniques and conventions. This text is divided into 4 parts and 40 chapters. Each chapter is succinctly written and well referenced; lists of key points provide clear and concise content summations.

Part 1 is divided into 6 chapters that cover the foundations of pulmonary rehabilitation, including: definition and rationale for pulmonary rehabilitation; international trends in the epidemiology of chronic obstructive pulmonary disease (COPD); pathophysiologic basis of pulmonary rehabilitation in COPD; influence of tobacco smoking on lung disease; genetics of airflow limitation; and using rehabilitation literature to guide patient care. Overall, these topics evidence pulmonary rehabilitation justification and application. For example, Chapter 6 emphasizes the importance of evidence-based medicine in pulmonary rehabilitation direction and optimization.

Part 2 (11 chapters) addresses the need for outcome measurement and the assessment of lung function and respiratory mechanics, respiratory muscles, peripheral muscle function, respiratory function dur-

ing sleep in chronic lung disease, cardiopulmonary interaction during sleep, pathophysiology of exercise, physiologic basis of dyspnea, measurement of dyspnea, impact of health status (quality of life) issues in chronic lung disease, evaluation of impairment and disability, and outcome measures for rehabilitation, and the economics of pulmonary rehabilitation and self-management education for patients with COPD. All these chapters provide illustrations and tables that promote the importance of pulmonary rehabilitation outcome measurement. While not all of these chapters (especially 13–15) focus on the pulmonary rehabilitation setting, all provide an important comprehensive view of how chronic lung disease influences physical and psychosocial well-being.

In 7 chapters, Part 3, "Delivering Pulmonary Rehabilitation: General Aspects," covers fundamental components of pulmonary rehabilitation. The chapters include: establishing a pulmonary rehabilitation program, respiratory physiotherapy, exercise in stable COPD, the role of collaborative self-management education, treatment of tobacco dependence, nutrition and metabolic therapy, and pharmacologic management in chronic respiratory diseases. These chapters competently advocate a comprehensive therapeutic approach to pulmonary rehabilitation applications. The chapters on exercise training and collaborative self-management education are especially noteworthy in that they clearly evidence this content's central role in pulmonary rehabilitation.

Part 4, "Delivering Pulmonary Rehabilitation: Specific Problems," comprises 16 chapters that examine a wide range of pulmonary rehabilitation settings. Two chapters cover rehabilitation for typically encountered diseases in facility-based (eg, hospital out-patient) locations, such as the chapters on asthma and COPD, and 3 chapters address the rehabilitation of patients usually found in home settings: thoracic wall deformities, neuromuscular disease, and cystic fibrosis. In addition, there are 11 chapters on rehabilitation of patients with special needs: lung-volume-reduction surgery, transplantation, long-term oxygen therapy, pulmonary rehabilitation in the intensive care unit and transition to home, chronic ventilatory assistance in the hospital, ventilatory assistance at home, the challenge of self-management, exacerbations in chronic lung disease, long-term compliance after COPD rehabilitation, ethical/regulatory issues concerning long-term mechanical ventilation, and end-of-life issues in advanced COPD.

In sum, the editors prepared a well-organized, coherent, and consistently themed advocacy for pulmonary rehabilitation. This text is an ideal resource for pulmonary rehabilitation program staff and (especially) administrative leaders. As further pulmonary rehabilitation guidelines evolve, this text (resource) will improve understanding of and optimize pulmonary rehabilitation patient care. In a future edition I would suggest expanding the content on the status of global pulmonary rehabilitation applications, which could better substantiate the global generalizability of North American and European findings. Pulmonary rehabilitation efficacy as a valid and reliable treatment for chronic lung disease depends on evidence-based medicine credibility. To this end, this text succeeds.

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

**Hospital Medicine**, 2nd edition. Robert M Wachter MD, Lee Goldman MD, and Harry Hollander MD. Philadelphia: Lippincott Williams & Wilkins. 2005. Hard cover, illustrated, 1,290 pages, $99.

There is a certain impracticality to the idea of a textbook of hospital medicine, since hospitalists spend the bulk of their days roving the wards, away from the usual settings where a textbook might be read. Many hospital physicians—many of whom finished residency training within the past decade—would probably identify among their top ward references the resources offered for handheld electronic devices and on point-of-care Web sites accessible from any computer workstation. Some hospital physicians also carry a pocket-sized handbook for rapid consultation. These media can be updated as new evidence for a diagnostic or treatment modality emerges; the same cannot be said for a textbook.

In any case, **Hospital Medicine**, the founding textbook for the young specialty by the same name, has survived to a second edition, released in 2005. The editors, Wachter, Goldman, and Hollander, are professors of medicine from the University of California, San Francisco. As we are frequently reminded, Wachter and Goldman brought us the term "hospitalist" 10 years ago; they and colleagues have brought us much of our current knowledge of hospitalist practice in the intervening years. (Goldman is now Dean of Health Sciences and Medicine at the College of Physicians and Surgeons, Columbia University.) Their objectives for this edition were 2-fold: to capture the fast-and-furious advances in hospital practice, and to tighten the book's focus on management of in-patients.

The book begins with a broad, diffuse view of the skills and knowledge necessary to practice hospital medicine. The 21 chapters in this opening section address topics such as quality-of-care measurements, patient safety practices, clinical information systems, and hospital ethics, and they survey clinical arenas such as treatment of pain in the hospital and care of the geriatric inpatient. An intriguing chapter examines physician interfaces in the hospital, including the interfaces between the patient and the hospitalist, the emergency physician and the hospitalist, and the primary physician and the hospitalist; the point about the centrality of skillful communication in hospital medicine is well made. This section as a whole is less of a ward reference than it is a proposal for a hospitalist knowledge base, and practicing or aspiring hospitalists may benefit from reading this section straight through. The chapters are well written, in accessible language, with succinct bullet points to summarize each chapter. The references are timely, and the suggested reading list is of a manageable size.

Following this is a short section on critical care medicine. This section covers the basics of sepsis, shock, organ failure, acute respiratory failure, and mechanical ventilation. There isn't enough here to make **Hospital Medicine** the "go-to resource" for someone with a complicated intensive care service, but the material will be a useful review for providers who manage hospital patients. There is a chapter on the common bedside procedures, including central lines, lumbar punctures, paracentesis, thoracentesis, and joint injection. The segment on joint injection provides enough detail on anatomy and technique to suit my tastes, but the piece on subclavian vein cannulation (the procedure that troubles me most) offered less clinically helpful advice and illustration than I hoped for.