Contents

Preface xiii
Ali I. Musani

Evaluation and Treatment of Patients with Non–Small Cell Lung Cancer 1041
Laurie L. Carr, James H. Finigan, and Jeffrey A. Kern

Lung cancer is the most common cause of cancer-related death in the United States; however, recent clinical advances may change this outcome. New data on low-dose computed tomography for lung cancer screening, and technologic advances in surgery and radiation, have improved outcomes for those with early-stage disease. Identification of driver mutations in lung cancer has led to the development of molecular targeted therapy to improve survival of subsets of patients with metastatic disease. These advances now allow for treatment of many patients with lung cancer with comorbidities or poor performance status who would have had limited options in the past.

Pleural Effusions 1055
Richard W. Light

There are many diseases that cause pleural effusions. When a patient with a pleural effusion is first evaluated, one should determine if the patient has a transudate or an exudate. A diagnostic approach to the patient with an undiagnosed pleural effusion is outlined. The most common pleural effusions including those caused by congestive heart failure, cirrhosis, pneumonia, malignancy, tuberculosis, lupus erythematosus, rheumatoid disease, and chylothorax are discussed.

Interstitial Lung Disease: The Initial Approach 1071
Esam H. Alhamad and Gregory P. Cosgrove

In the last decade, significant progress has been made toward a better understanding of interstitial lung disease (ILD). A valuable tool for the clinician is high-resolution computed tomography, which aids in narrowing the differential diagnosis in patients with ILD and obviates the need for surgical lung biopsy when a usual interstitial pneumonia pattern is present. Clinicians evaluating and caring for patients with ILD need to recognize associated comorbidities. Substantial evidence shows that implementation of a multidisciplinary approach provides a high standard of care for patients, leading to improvements in the accuracy of clinical diagnosis that can significantly affect patient outcome.

Interventional Pulmonology 1095
David Hsia and Ali I. Musani

Interventional pulmonology is a rapidly growing field of pulmonary medicine. It is a procedure-based subspecialty focusing on minimally invasive advanced diagnostic and therapeutic interventions. Current interventions include advanced bronchoscopic imaging, guidance methods for diagnostic
bronchoscopy, therapeutic modalities for central airway obstructions, pleural interventions, and novel therapies for asthma and chronic obstructive pulmonary disease. This article is an introduction to pertinent interventions within the context of the diseases encountered by the trained interventional pulmonologist.

Asthma
Rodolfo M. Pascual and Stephen P. Peters

Asthma is a common disease encountered in internal medicine practice. In most cases, the diagnosis and management of asthma is straightforward; however, the management of severe asthma may require subspecialty consultation. Abnormal responses of resident cells to infections and antigens may cause asthma in early life and may chronically perpetuate asthma. The natural history of asthma remains poorly understood. In this article, the authors focus on the diagnosis and management of asthma in adults.

Chronic Obstructive Pulmonary Disease: A Concise Review
Ron Balkissoon, Steve Lommatzsch, Brendan Carolan, and Barry Make

Globally, chronic obstructive pulmonary disease (COPD) is a major cause of significant morbidity and mortality, and is now the third leading cause of death in the United States. Over the past 15 years there has been a surge of bench and translational research regarding the genetics and pathogenesis of COPD, and several large-scale clinical trials have introduced new treatment paradigms for COPD. Current research also demonstrates that COPD is not just a lung disease and that there are several potential extrapulmonary manifestations and comorbidities that should be evaluated and treated when one identifies an individual as having COPD.

Community-Acquired Pneumonia: An Unfinished Battle
Girish B. Nair and Michael S. Niederman

Community-acquired pneumonia remains a common illness with substantial morbidity and mortality. Current management challenges focus on identifying the likely etiologic pathogens based on an assessment of host risk factors, while attempting to make a specific etiologic diagnosis, which is often not possible. Therapy is necessarily empiric and focuses on pneumococcus and atypical pathogens for all patients, with consideration of other pathogens based on specific patient risk factors. It is important to understand the expected response to effective therapy, and to identify and manage clinical failure at the earliest possible time point. Prevention is focused on smoking cessation and vaccination against pneumococcus and influenza.

Eosinophilic Lung Diseases
Evans R. Fernández Pérez, Amy L. Olson, and Stephen K. Frankel

Accurate diagnosis of eosinophilic lung diseases is essential to optimizing patient outcomes, but remains challenging. Signs and symptoms frequently overlap among the disorders, and because these disorders are infrequent, expertise is difficult to acquire. Still, these disorders are not rare,
and most clinicians periodically encounter patients with one or more of the eosinophilic lung diseases and need to understand how to recognize, diagnose, and manage these diseases. This review focuses on the clinical features, general diagnostic workup, and management of the eosinophilic lung diseases.

**Hypoventilation Syndromes**

Ahmad Chebbo, Amer Tfaili, and Shirley F. Jones

The hypoventilation syndromes represent a variety of disorders that affect central ventilatory control, respiratory mechanics, or both. Obesity hypoventilation syndrome is a clinically important disorder with serious cardiovascular and metabolic consequences if unrecognized. Hypoventilation in asthma and COPD is caused by mechanical challenges imparted by airflow obstruction and increase in dead space. In neuromuscular disease, respiratory muscle weakness results in hypoventilation. Decreases in thoracic volume and limited expansion of the chest highlight the restrictive ventilatory impairments seen in hypoventilation associated with chest wall disorders. Despite the mechanism, effective hypoventilation treatment targets the underlying disease and use of noninvasive ventilation.

**Clinical Review of Pulmonary Embolism: Diagnosis, Prognosis, and Treatment**

James M. Hunt and Todd M. Bull

Pulmonary embolism (PE) is a common disease causing significant morbidity, mortality, and substantial socioeconomic costs. The correct diagnosis and management of PE, however, offers many challenges. As a result, ongoing research continues to develop and refine new and existing diagnostic and prognostic tools, as well as therapeutic interventions, leading to significant improvements in the care of PE over the past 2 decades. This article summarizes the current literature to aid the clinician in the correct integration and implementation of these advances in the treatment of PE.

**Sarcoidosis**

Nabeel Hamzeh

Sarcoidosis is a multisystem, granulomatous disease. In this article, the various clinical manifestations, approach to, and management of, pulmonary and extrapulmonary sarcoidosis are reviewed.

**Index**