sus-tidal-volume calculations. Chapter 22 introduces capnography in the indirect determination of cardiac output, utilizing a modified Fick equation and partial rebreathing technique. Clinical scenarios include evaluation of hypotension, thready pulse, hypovolemia, and using capnography to determine intra-operative bleeding.

Part 2, "Physiological Perspectives," has chapters that blend the clinical perspective with abnormal physiologies and how they manifest capnographically. There is a review of CO_2 transport, ventilation/perfusion abnormalities, and acid-base balance. Included are discussions on rarely considered clinical situations, such as inherited mitochondrial disorders, and clinically relevant situations such as cyanide poisoning and calcium disorders. There is also an excellent discussion on the effects of bicarbonate administration on CO_2 and other unusual acid-base presentations where capnography might be a beneficial tool.

Chapter 31 is very detailed. It provides extensive information about the theoretical basis of capnography and compares ideal and pathologic capnograms. There is a detailed explanation of volumetric capnography, with references and numerous abnormal capnograms.

The final chapter of the "Physiological Perspectives" section covers the "single-path model," which is the true theoretical basis for volumetric capnography. The author provides the inquisitive reader with specific calculations used in today's instruments. The original published studies that validated the single-path model concept are referenced and discussed, giving a thorough understanding of the inferences.

Part 3, "Historical Perspective," has 5 chapters, which describe the development of time-based and volumetric capnography and how instruments were created to meet research and clinical needs as the understanding of respiratory physiology was increasing. Smalhout and Fletcher, who were early pioneers of capnography, are contributing authors of this section. An interview with Liston, who built the first instruments, is also included.

The final section, "Technological Perspectives," departs from the rest of the book's clinical approach, but this is necessary for a thorough understanding of capnography. These chapters address the technical specifications, standards, and design considerations of the instrumentation. Chapter 40 details the measurement techniques—infrared, acoustic, colorimetric, and mass-spectrometric—used in today's instruments. Jaffe does an excellent job of presenting instrument technology, design, and function at the component level. A comparison of mainstream and sidestream measurement techniques includes a pro's and con's table. The final chapter is devoted to flow-measurement technology. Included are excellent descriptions of the designs and styles of pneumotachographs used clinically today. The chapter discusses how flow is integrated and matched with the capnography signal for the volumetric capnography application.

I found this book very informative, and the format made it easy to read in multiple sessions. Each chapter is a select body of information that stands alone, and the cumulative information gives the reader the entire scope of capnography. The illustrations and tables appropriately supplemented the text rather than just restating the same information. Since capnography is a graphical portrayal, the figures were invaluable in understanding the subtle difference in clinical applications. This book would be useful to physicians, nurses, and respiratory therapists, both as a reference and as a teaching aid to enhance the clinical application of capnography.

Kenneth D Hargett RRT
Respiratory Care Services
The Methodist Hospital
Houston, Texas

Supportive Care in Respiratory Disease. Sam H Ahmedzai and Martin F Muers, editors. (*Supportive Care* series, Sam H Ahmedzai and Declan Walsh, series editors). Oxford, United Kingdom: Oxford University Press. 2005. Hard cover, illustrated, 540 pages, $135.

Supportive care is a comprehensive, concentrated, and interdisciplinary approach to the care of individuals with chronic illness. Supportive care attempts to ameliorate symptoms and improve the quality of life throughout a patient's course of illness, from curative and life-prolonging interventions through dying and death. In 2002, over 10% of people over the age of 65 died from chronic obstructive pulmonary disease, lung cancer, and other respiratory disorders.[1] The cumulative burden of chronic progressive respiratory disorders is increasing in concert with the increase in the percentage of aged people and the increasing prevalence of tobacco- and occupation-associated lung disorders.[2] The vast majority of patients with late-stage chronic obstructive pulmonary disease or lung cancer experience troublesome shortness of breath, and this symptom is prevalent across progressive terminal diseases.[3–4] **Supportive Care in Respiratory Disease** is part of a new series from an international cadre addressing supportive care, and it is unique in its focus on the comprehensive care of patients with diseases that affect respiration. The text fills a sorely needed gap in the care of the chronically ill, beyond pain and end-of-life needs.

Although the authors of this book's 32 chapters come from more than 10 countries, the book has a British flavor and a strength for those practicing in the British National Health Service, reflecting its primary origin in the United Kingdom. However, the text's strength is its strong grounding in theoretical models and primary research from an international perspective, and thus it has applicability wherever medicine is practiced. Its approach is contemporary and reflects the trends in health services toward disease management, interdisciplinary team approaches, and earlier combined palliative and curative therapies.

The material is well selected and organized, reflecting a comprehensive approach from both a scientific basis and a holistic focus on patient-centered and family-centered outcomes, such as a full chapter on health-related quality of life and another on complementary and alternative medical approaches. The book is useful as a comprehensive synopsis of supportive respiratory care for health-care practitioners, including respiratory therapists, nurses, and physicians, and as a sufficient reference manual in a subject where there had been none. It provides overviews on specific clinical issues with sufficient detail in the art and science of medical practice to aid in practice and provide contemporary and classic references for further information.

Supportive Care in Respiratory Disease is organized into 7 parts. Part I provides an excellent introduction into supportive and palliative care theory as it relates to pulmonary disorders and symptoms, and provides sufficient anatomic and physiologic background.

Part II provides one of the best synopses yet assembled of mechanisms of dyspnea and its assessment in clinical practice and

research, limited only in its depth by space constraint and in its clarity by the state of the art, in that much remains unknown in this field.

Part III deals with various modalities to manage dyspnea, and this section is far-reaching in its comprehensiveness and presented with excellent precision. The book's presentation of therapies occasionally suffers from being too concise and therefore not providing sufficient detail to guide individual patient management. For example, although the drug-management chapter includes nearly a dozen different classes of medication, only 2 paragraphs concern bronchodilators, which is not enough to provide balanced guidance across symptom experiences or disorders. The chapter on oxygen therapy, by contrast, includes depth in available research knowledge, combined with practical guidelines and nuanced detail. It includes information on subjects such as the multiple storage and delivery systems that will better serve researchers, physicians, respiratory therapists, and nurses. Two excellent chapters on exercise and rehabilitation cogently support the utility of cardiovascular evaluation, and interventions such as education, breathing retraining, and exercise prescription. The section is well rounded by chapters in nonpharmacologic and psychosocial interventions, nutrition, and occupational therapies. These chapters are, by necessary design, too short to provide sufficient clinical management skills to specialized practitioners, such as respiratory and occupational therapists, but serve well the goal of providing a solid basis in multidisciplinary management. The management section provides an excellent overview of diverse modalities for both the practitioner and researcher interested in respiratory management.

Part IV applies the modalities of dyspnea management to specific clinical entities, including obstructive and restrictive disorders, upper-airway pathology, disorders of insufficient respiration (especially neuromuscular and motor neuron disease), and hyperventilation disorders. The chapters in this part attempt to associate the background pathophysiology and management strategies from the prior sections into inclusive and cogent care strategies for specific conditions. The chapters are busy, due to the laudable goal of comprehensiveness, but often they miss the mark in achieving a cohesive disease-management approach. Lapses also include inadequate information in disease trajectory and prognosis in the emphasized disorders, and inadequate practical applications of ethics in palliative and end-of-life care.

Parts V and VI address cough, hemoptysis, and respiratory-associated pain disorders. The pain section suffers from having insufficient space to summarize background, mechanism, and management, but the authors provide key points and adequate references.

The last part, which addresses certain diseases, is excellent, but unfortunately it tackles only cancer, human immunodeficiency virus, and tuberculosis. Although other disorders are addressed elsewhere in the text (eg, cystic fibrosis is discussed in the section on cough and hemoptysis), inclusion and review of other primary respiratory disorders—most notably chronic obstructive pulmonary disease and idiopathic pulmonary fibrosis—in Part VII's format would have added to the reference-shelf utility of the text and its organizational structure.

The text appropriately avoids excessively controversial issues; it provides balanced and grounded data where available and avoids speculative claims or expert opinion on under-researched interventions. Although the book is comprehensive in theoretical and physiologic background, assessment of symptoms and patient experience, and palliative approaches and therapy, it has sparse data on cost, with the exception of an introductory chapter on economic analysis, and it fails to incorporate its interdisciplinary approach into individual management chapters. Sleep medicine is also under-represented in this first edition. The text has an extensive and useable index, and overall is a comfortable and asthetic read. Figures, graphs, and photograph-radiographs are in grayscale black-and-white.

Supportive Care in Respiratory Disease is a desperately needed addition to the world's medical literature, as a well-written and scientifically-supported summary of the expanding knowledge base in supportive and palliative care. The text has as its strength a solid foundation in contemporary health-care-delivery theory and a comprehensive backbone of the available knowledge in pathophysiology and therapy of respiratory symptoms. The volume succeeds in bringing together the art and science of respiratory medicine and is a major contribution.

Richard A Mularski MD MSHS
Pulmonary and Critical Care Medicine
Department of Medicine
Veterans Affairs Greater Los Angeles
Healthcare System
Los Angeles, California

REFERENCES

1. Leading causes of death and numbers of deaths, according to age: 1980 and 2002. National Health Center for Statistics. http://www.cdc.gov/nchs/data/hus/tables/2003/03hus032.pdf. Accessed October 7, 2005.
2. Sorenson HM. Dyspnea assessment. Respir Care 2000;45(11):1331–1338.
3. Pauwels RA, Buist AS, Calverley PM, Jenkins CR, Hurd SS; GOLD Scientific Committee. Global strategy for the diagnosis, management, and prevention of chronic obstructive pulmonary disease. NHLBI/WHO Global Initiative for Chronic Obstructive Lung Disease (GOLD) Workshop summary. Am J Respir Crit Care Med 2001; 163(5):1256–1276.
4. Lorenz K, Lynn J, Morton SC, Dy S, Mularski R, Shugarman L, et al. End-of-life care and outcomes. Summary. Evidence Report/Technology Assessment: Number 110. AHRQ Publication Number 05-E004–1, December 2004. Agency for Health Care Research and Quality, Rockville, Maryland. http://www.ahrq.gov/clinic/epcsums/eolsum.htm. Accessed October 7, 2005.

Adventures of an Oxy-Phile. Thomas L Petty MD. Irving, Texas: American Association for Respiratory Care. 2004. Soft cover, illustrated, 96 pages, $5.95.

It is hard to separate the writer from the writing when the author is a living legend. Equal parts autobiography, journal, operator's manual, and advice column, **Adventures of an Oxy-Phile** imparts Thomas Petty's perspective as both a pioneer in the field of oxygen therapy, and, ironically, as a long-term-oxygen-therapy (LTOT) patient.

Dr Petty initially made respiratory care history in 1965 when he challenged preconceived and ill-founded fears by "giving oxygen to (so-called) chronic obstructive pulmonary disease cripples." His subsequent studies on the benefits of LTOT laid the cornerstone of nocturnal and ambulatory oxygen therapy. A pulmonologist and a professor of medicine at both the University of Colorado Health Science Center, in Denver, Colorado, and the Rush-Presbyterian/St