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Books, Films, Tapes, & Software

Dyspnea: Mechanisms, Measurement, and Management, 2nd edition. Donald A Mahler and Denis E O'Donnell, editors. *Lung Biology in Health and Disease* series, volume 208. Claude Lenfant, executive editor. Boca Raton, Florida: Taylor & Francis. 2005. Hard cover, illustrated, 472 pages, $199.95.

Respiratory care is a technologically intensive endeavor in which we easily become preoccupied with formulas and processes as we attempt to correct derangements in our patients' gas exchange and pulmonary mechanics. As a result, we sometimes lose sight of the fact that the subjective experiences of dyspnea (difficulty in breathing) and breathlessness (the unpleasant sensation of an urge to breathe) are the principal concerns of our patients. I was reminded of this preoccupation when I happened to come across the following quote: "There is something more terrifying than pain, and that is the inability to breathe."[1]

What grabbed my attention was that this *matter-of-fact* comment came from a Uruguayan army interrogator discussing "el submarino" or "water-boarding," an especially effective torture technique, in which the prisoner is repeatedly submerged under water until he begins to drown. Particularly unsettling to me was the fact that practitioners of this nefarious art clearly understand what sometimes escapes our focus: that the act of breathing is *the* primal sensation of life; the disturbance of which produces the most profound sense of dread.

In preparing this review I did a PubMed search, separately using the title words "dyspnea" and "breathlessness." Since 1965 there have been 2,182 publications in the peer-reviewed literature of which 186 have been clinical trials. Research on dyspnea and breathlessness began in earnest only in the past 25 years, as approximately 85% of all published reports have appeared since 1980. Yet, the topics of dyspnea and breathlessness have received little attention in the respiratory care literature. In reviewing the subject index of RESPIRATORY CARE journal from the years 1974 to 2004 I found that only 9 papers related to dyspnea have been published. Similarly, respiratory care textbooks typically devote only a few sentences to dyspnea, and sometimes a couple of paragraphs scattered throughout the book. The exceptions to this are textbooks specifically devoted to pulmonary rehabilitation.

The paucity of information on dyspnea and breathlessness is puzzling in a profession that is devoted to alleviating these symptoms. I think part of the explanation is that our profession was emerging at a time when little was known about the psychological and physiological mechanisms responsible for the sensations of dyspnea and breathlessness. Therefore, those writing respiratory care textbooks probably felt no particular need to devote much space to the topic. In addition, what makes dyspnea and breathlessness so intriguing is their inherent complexity and nuance. Thus, from a pedagogical standpoint, an in-depth discussion of dyspnea may not be conceptually appropriate for students struggling to grasp the fundamentals of respiratory physiology and pathophysiology. Nonetheless, as a maturing profession we need to move toward a more profound understanding of this important symptom.

Fortunately, a wonderful and comprehensive source has just been released. **Dyspnea: Mechanisms, Measurement, and Management** was edited by Donald Mahler and Denis O'Donnell, 2 preeminent investigators in the field, and is part of the excellent series *Lung Biology in Health and Disease* (Claude Lenfant, executive editor). The book contains 18 chapters, spanning 471 pages, and, as the title suggests, can be divided into 3 distinct sections: mechanism, measurement, and management. It begins with 2 chapters discussing the history of dyspnea and the phenomenon of dyspnea as it relates to the process of aging. Chapters 3 through 5 describe the mechanisms of dyspnea in the 3 major groups of patients who suffer from the symptom: those with chronic obstructive pulmonary disease, asthma, and chronic restrictive lung disease. Chapter 6 is particularly interesting, as it focuses on the language used by patients to describe dyspnea, its relationship to the underlying pathophysiologic disturbances, and the importance of vocabulary on the study of dyspnea. This chapter also provides a graceful transition from the topic of mechanism to that of measurement.

Chapter 7 reviews the issues surrounding the measurement of dyspnea in the clinical setting, and Chapter 8 describes the issues of provoking and measuring dyspnea in the laboratory setting. A separate chapter is devoted to the important issue of how dyspnea should be assessed in large-scale clinical trials. Chapter 10 deals with the particularly troubling issue of evaluating cases of "unexplained dyspnea," which necessarily sharpens the focus onto the patient. Again this provides a smooth transition from measurement to management.

Chapter 11 is an extensive review of assessing dyspnea in the context of quantifying health status and assessing the general issues of quality of life. The role of bronchodilators and inhaled corticosteroids in the treatment of dyspnea is described in Chapter 12, whereas a comprehensive review of the role of pulmonary rehabilitation programs on the treatment of dyspnea is covered in Chapter 13. Specific topics such as the role of inspiratory muscle training, oxygen therapy, coping and self-management strategies, and lung-volume-reduction surgery are presented in Chapters 14–17. The final chapter discusses the management of dyspnea in palliative care.

Although the writing is direct and each chapter is well organized, the content sometimes can be very densely detailed, as when psychophysics is discussed. **Dyspnea: Mechanisms, Measurement and Management** is geared primarily toward physicians and clinical scientists, and thus is not readily accessible to students. The exceptions would be the chapters "Language of Dyspnea" and "Coping and Self-Management Strategies for Dyspnea," which should be required reading for all respiratory care students. Overall, I think educators will find this book to be a useful resource for abstracting general concepts regarding dyspnea, which then could be reformulated to a level appropriate for students. Experienced respiratory care clinicians, particularly those specializing in rehabilitation and long-term care, seeking an in-depth understanding of dyspnea in different settings will find this book highly useful. Like other volumes in the *Lung Biology in Health and Disease* series, **Dyspnea: Mechanisms, Measurement and Management** is a hard-cover book with a sturdy, woven binding, using high grade pa-

per. This volume should be a welcome addition to anyone's medical library.

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REFERENCE

1. Quotation from an unidentified Uruguayan army interrogator, in Danner M. Abu Ghraib: the hidden story. The New York Review of Books, October 7th, 2004;LI(15): 46. http://www.markdanner.com/nyreview/100704 abu.htm. Accessed December 20, 2005.

Bioterrorism: A Guide for Hospital Preparedness. Joseph R Masci MD and Elizabeth Bass. Boca Raton, Florida: CRC Press. 2005. Hard cover, illustrated, 361 pages, $129.95.

Bioterrorism: A Guide for Hospital Preparedness is a timely and practical text regarding the threat of and response to bioterrorism. The book has 5 sections. Section I, "The Scope of the Problem," briefly reviews the history of bioterrorist attacks around the world, the sources of biologic agents, and the groups most likely to use them. A particularly cogent discussion of the social and economic costs of bioterrorism, which addresses the anthrax event of 2001, is important reading for all those involved in hospital preparedness. A subsection called "Trends in Terrorism" is a sobering review of the threat we face from murdering extremists from various backgrounds. The role of the United States public health system is reviewed, as are the results of the TOPOFF 2 ("Top Officials") mass-terrorism-casualty-care exercise conducted in May of 2003. Critical findings of the exercise were: (1) communications were inadequate and overwhelmed, (2) staff shortages were critical, and (3) means for isolating contaminated/infectious subjects were in short supply. This section devotes a third of a page to the "Strategic National Stockpile," but, unfortunately, mentions little about ventilator supplies.

Section II, "Improving Hospital Readiness and Response," is a concise and important review of how hospitals and communities can better prepare for bioterrorism. This preparation includes the creation of a "hospital emergency-incident command system" and the use of infection-control procedures. A point that is stressed throughout the book is the importance of effective communication, coordination, and control. Without effective communication, all the equipment in the world is useless in a mass casualty event. The authors point out the need to protect the caregivers from secondary contamination and the role of personal-protection equipment. This section is the strength of the text; it covers staff education, psychological effects, managing stress in caregivers, and communicating with the media. There are also some very helpful, simple questions and answers for the lay public.

Section III, "Prevention, Diagnosis, and Treatment of Likely Biological Agents," provides a brief overview of the agents likely to be used in a bioterrorist attack. Each agent is reviewed in a consistent format, which enhances readability and allows easy comparison. For the novice this is great information. For the clinician with experience and/or background in bioterrorism, this is a cursory review. A particularly helpful section about the effects on children is provided, and the chapter on Internet sources of information is helpful. Many of the links provided remain active, although a few are no longer accessible.

The final 2 sections, "Tabletop Exercises" and the appendixes section, are excellent sources of information and helpful in designing a program to educate, train, and evaluate staff. These sections provide real-world scenarios and exercises with answers.

This text is clearly intended for individuals responsible for hospital preparedness. I would recommend the book for those individuals without question. For respiratory therapists, nurses, and physicians who care for patients on a daily basis the information provided is a good overview of the important issues in bioterrorism. Having said that, clinicians should check it out of the library, not buy it.

This book was written by a husband-and-wife team, consisting of a physician and a journalist, and I think the text is readable and gives a wealth of information. Both the authors have expertise in the arena of bioterrorism. The book is well organized into bite-size chunks that can be readily digested. The illustrations are adequate, but few and far-between. Some photographs of the lesions associated with specific biologic agents would have been instructive. The cited references are current, and the index is effective.

This text can provide the hospital disaster preparedness committee with a wealth of information and helpful advice. The focus is narrow but appropriate and, in light of recent events, particularly topical.

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SARS: A Case Study in Emerging Infections. Angela R McLean, Robert M May, John Pattison, and Robin A Weiss, editors. New York: Oxford University Press. 2005. Soft cover, illustrated, 133 pages, $39.50.

The emergence of severe acute respiratory syndrome (SARS) presented a challenge to public health and health-care delivery systems worldwide. SARS was a previously unknown respiratory syndrome, characterized by nonspecific clinical symptoms, was highly transmissible in some circumstances, did not respond to antimicrobial therapy, and could rapidly progress to severe respiratory distress and death. SARS appears to have originated in Guangdong Province, China, but the global importance of this illness was not recognized initially by local health authorities.

When the World Health Organization issued a historic global alert about cases of severe atypical pneumonia on March 12, 2003, the outbreak had spread via international travelers from Guangdong Province to at least Hong Kong, Hanoi, Singapore, and Toronto. The sudden appearance and rapid spread of the virus alerted the world to the fact that emerging infections are a global problem. There was an urgent global need for diagnosis of the etiologic agent; detection and containment of probable cases; guidance on the health-care management of patients and potentially exposed persons; identification of measures to prevent and control infections; and timely public-health communications to a wide range of audiences. Living in an affluent society with a well-developed health-care system does not necessarily protect a person from such a life-threatening infections.

Although the United States was not as severely affected by the SARS epidemic as parts of Asia and Canada, the outbreak response demonstrated both known and unexpected strengths and weaknesses in United States national, state, and local public-health and health-care capacities to address major infectious-disease challenges. As of April