

rapid-sequence intubation and nothing new for experienced providers.

In the end, **Rapid Sequence Intubation & Rapid Sequence Airway**, 2nd edition, is pleasant to look at but imparts too little knowledge to those who need it most. It seems a hastily gathered collection of “need to know” aspects of rapid-sequence intubation compiled in a slim format to allow for easy distribution at *Airway 911* seminars. Experienced providers will be challenged to find any new insight into the practice of rapid-sequence intubation. Neophytes will enjoy the book and find it a quick read, but will be educated just enough to be dangerous. I would recommend against acquiring this new book, and instead recommend reaching for an inexpensive used copy of one of the texts that Braude mentions in the preface.

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Particle-Lung Interactions, 2nd edition. Peter Gehr, Christian Mühlfeld, Barbara Rothen-Rutishauser, Fabian Blank, editors. *Lung Biology in Health and Disease* series, volume 241. Claude Lenfant, executive editor. New York: Informa Healthcare. 2009. Hard cover, illustrated, 319 pages, \$229.95.

This edited monograph is the second edition published under this title, and represents a successful updating of the original, which was released over 10 years ago. It will appeal to those with an interest in the roles of airborne particulate matter in inducing respiratory and systemic reactions, in delivering aerosol drugs to the desired targets, and in contributing to chronic respiratory and cardiovascular disease. There is also extensive information on the physical and pathophysiologic mechanisms by which airborne particles affect the lungs and heart. The editors recruited an impressive group of 41 authors, who contributed 16 chapters intended to summarize the state of the art in the field. Each chapter can be read independently and each serves well as a stand-alone review of its topic. There is relatively little overlap among the chapters. The editors encouraged the authors to incorporate information on nanometer-scale particles (“engineered nanoparticles” or simply

“nanoparticles,” defined as particles with at least one dimension < 100 nanometers or 0.1 micrometer) into each chapter, and most did so, thus producing a monograph that is timely in its coverage.

The monograph is organized into 5 major sections on lung structure and function; characteristics of airborne particles; fate of inhaled particles within the lungs; health effects of inhaled particles; and cellular and molecular mechanisms underlying health effects from inhalation. The first section contains one chapter, which summarizes the anatomic and physiologic characteristics of the lungs that are pertinent to inhalation of particles. The second section comprises 3 chapters—on characteristics of particles present in the lower levels of the atmosphere, on the relevant characteristics of engineered nanoparticles, and on the current technology for use of particles as vehicles for drug delivery. In the third section there is a single chapter on particle deposition, clearance, and translocation within the respiratory system. The fourth section includes 5 chapters on health effects, covering epidemiologic principles, cardiovascular effects and their autonomic mediation, respiratory viral infections, and the role of inhaled particles in inducing remodeling of the lungs’ architecture. The final section contains 6 chapters that explore current knowledge of the mechanisms that underlie the effects summarized in previous chapters, ranging from influence of particles on mucociliary action and on pulmonary surfactant function, to the means by which nanometer-scale particles enter cells, to the actions of particles with antigenic properties on the lungs’ role in the immune response, and to consideration of the general mechanisms of toxic response to airborne particles.

The monograph will be of greatest appeal to professionals concerned with the consequences of continuing human exposure to air pollutants, in both the workplace and general environmental settings, including the home. The development and use of advanced, high-technology materials based on engineered nanoparticles poses important questions for the health of persons involved in their manufacture, use, and disposal, and this volume provides a very useful summary of the issues surrounding these materials that are relevant to respiratory and cardiovascular well-being. It is worth emphasizing that in the specific case of inhalation therapy, where engineered nanomaterials may be used, health-care profes-

sionals can be exposed. Several chapters in this work offer an understanding of the nature of this risk and the means to address it. Other readers concerned with the diagnosis, treatment, and prevention of respiratory and cardiovascular diseases associated with inhaled particles of all types will find this volume a useful update on current science—one that includes an honest accounting of the strengths and weaknesses of the available information.

This second edition reviews the established knowledge and explores new developments. The monograph is logically organized, and each chapter is clearly written and with a useful summary at the chapter end. The overarching theme throughout the volume is the implication of the growing use of nanoparticles, but the editors and authors by no means neglected the other important issues related to the consequences of exposures to other airborne particles. The first 2 sections provide an interesting and relevant overview of the properties of the respiratory system and of airborne particles. The chapters on ambient tropospheric particles and on particulate carriers for pulmonary drug delivery are especially well written and interesting. Though the chapter on particle fate in the lungs (“Deposition, Retention and Clearance, and Translocation”) is comprehensive, it rightly contains much speculation regarding the consequences of inhaling nanoparticles, and points out that human data on these questions are lacking. In the section on health effects of particle inhalation, the chapter “Cardiovascular Consequences of Particles” is an excellent review, written in a clear style that will be of value to all professionals in this field.

There are also 2 chapters in this section on the role of airborne particles in mediating viral infections and inducing structural remodeling. The latter addresses the fibrotic diseases, which have long histories as occupational risks, and it also contains fresh insights on the nature of the cause-effect relationships of particulate hazards, such as asbestos and crystalline silica. This chapter also contains some important cautions regarding the replacement of long-known hazards with new potential but little-understood ones. The final section is highlighted by chapters on how inhaled particles affect clearance and surfactant, and by chapters on toxicological mechanisms.

The contribution on mucociliary clearance is rather advanced in content and will appeal most to a reader who is already well

versed in this subject and is looking for the most recent knowledge. The chapter on surfactant is a useful discussion of a property that is often neglected in the context of inhaled particulate agents that can alter surfactant function. Surfactant plays a role in determining the fate of inhaled particles, which underscores the notion that “interactions” is used appropriately in the book’s title.

The chapter on interactions between nanoparticles and epithelial cell membranes in the lung is clearly written and provides useful insight into the ways these particles enter cells.

The final 3 chapters deal with toxicological mechanisms, including one on the immunologic reactions to airborne particles. These are excellent review chapters that provide interesting discussions of the current controversies over questions such as: how do small particles interact with the various cell types in the respiratory system, and which of the several particle properties is the most relevant in determining the effective dose to the ultimate target cells or organelles? This latter issue is very timely, as there is much debate on whether nanoparticles should be characterized by their number, surface area, or mass, in determining the health risk they pose. The final chapter includes a fascinating analysis of data obtained in animal studies, which clearly show the superiority of particle surface area as the most relevant indicator of dose and risk. Whether this conclusion applies to humans remains to be seen.

I have 2 minor criticisms of this otherwise strong contribution to the outstanding *Lung Biology in Health and Disease* series. One is common to all multiple-author monographs: the chapters by different authors are not fully consistent in sophistication, terminology, or currency of information. The editors made a commendable effort to achieve consistency with respect to coverage of nanoparticles, but readers of the entire volume will find that some chapters are substantially more advanced in content than others. In my view, this is a small matter and one that can be forgiven in light of one of the monograph’s objectives: to use experts in the specific topics for the individual chapters. The second problem is that a few chapters are not up to date: fewer than half of the references cited in those chapters were published in the last 10 years. In a field where much valuable research has been published very recently, and more is expected to

emerge in the next few years, this seems an important point that all authors should have addressed.

The illustrations in each chapter are of consistently high quality and uniformly support and enhance the points made in the text. Finally, the monograph includes a useful index that will be helpful to readers who wish to explore a specific topic that might span several chapters. One disappointment in this regard is the absence of an index entry, and indeed of content in the chapters, on bacterial and fungal endotoxins associated with airborne particles. This is a topic of active investigation and might have been included in this volume.

Overall, this is a solid revision of the original volume on particle-lung interactions, containing state-of-the-art reviews by investigators who are active in this field. It will be of value to those pursuing research in these topics, but also to others concerned primarily with treatment and prevention of particle-related lung and heart conditions.

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Health Care Marketing: Tools and Techniques, 3rd edition. John L Fortenberry Jr MBA PhD. Sudbury, Massachusetts: Jones & Bartlett. 2010. Hard cover, 311 pages, \$74.95.

Health care as a market is widely encompassing. It includes health-care providers, hospitals, managed care systems, independent provider groups, home health-care service groups, pharmacies, and companies that develop and market pharmaceuticals, devices, and diagnostics, to name but a few.

While marketing tools and techniques are routinely used by all of these constituents to strategically assess their business, some of these tools and techniques may be more useful to some than others. However, **Health Care Marketing: Tools and Techniques** does not indicate which tools and techniques have been used successfully and more routinely by some businesses rather than others.

An important element emphasized throughout the book is that health care is very dynamic and there is need to review

and update plans frequently. Complacency could threaten the viability of any business in the ever-changing health-care market in the United States.

The book’s contents are divided into 7 marketing processes and 39 chapters, each of which is devoted to marketing and/or business tools and techniques used to explore the processes in more detail.

All the sections encompass the fundamental marketing processes any business (not just health care) needs for successful management. The tools and techniques outlined and described under each of these processes are described in a standardized format—so much so that the book clearly positions itself as a textbook for students new to marketing and business management. Learning objectives are situated at the beginning of each chapter, and exercises to explore the use of the specific technique are located at the end of each chapter. Most chapters are no more than 3–6 pages, so the descriptions of the techniques are at a very top-line level. Each chapter describes a technique developed by revered leaders in marketing, such as Theodore Levitt, Philip Kotler, Reis & Trout, and Michael Porter, as well as techniques used by well known health-care consulting companies such as the Boston Consulting Group and Booz, Allen, & Hamilton. Some of the newer marketing tools and techniques have also been described.

At no point in the book is there an evaluation of the benefit of using one technique versus another, which might have been helpful, since not all of these tools would be used by a single organization. In addition, there was no attempt to identify which tools might be more useful for some health-care organizations over others. In general, the marketing tools could have applicability to all organizations in the health-care marketplace, but some are used more commonly by different people within an organization. Senior leadership would more likely use corporate strategic tools, whereas a brand management team would most likely use the techniques that would lead to gaining greater product market share.

The first section, “Product Development and Portfolio Analysis Tools,” has 7 chapters, starting from the basics of the product life cycle, followed by a description of how a product is defined. Ensuing chapters describe how to evaluate the business value of a new product and then progress to presenting techniques that show how to strategi-