

derstanding of a field with important clinical implications. It concisely and eloquently synthesizes a large body of work into an easily readable format. As such, every asthma researcher—indeed everyone investigating corticosteroids in any disease area, whether a pharmacologist, a basic biomedical researcher, or a clinical researcher—should have this book on his or her bookshelf.

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The author has disclosed no conflicts of interest.

**The Pulmonary Epithelium in Health and Disease.** David Proud, editor. West Sussex, United Kingdom: John Wiley & Sons. 2008. Hard cover, illustrated, 440 pages, \$200.

**The Pulmonary Epithelium in Health and Disease** consists of 20 chapters that provide a thorough, comprehensive review of the physiology and pathophysiology of the lung epithelium, ranging from the cellular structure and molecular mechanisms to its role in the pathogenesis of lung disease and as a target of therapeutic interventions. This book will provide a valuable reference tool for any reader with a particular interest in lung diseases and epithelial biology.

Despite its apparent simplicity, the lung epithelium is a highly complex tissue that plays a number of essential roles in the lung. Some of these roles include serving as a selective barrier, participating in host defenses, modulating the inflammatory response, and preserving the integrity of the air spaces by decreasing surface tension. The multiple roles of the epithelium are well covered in this book.

The initial chapters are focused on the normal epithelium, and discuss its cellular structure, the molecular adhesion systems, and the mechanisms of epithelial repair. This is followed by chapters discussing the best known functions of the lung epithelium: water and ion transport, the ciliary system, and the production of mucus and surfactant. Next, a series of chapters addresses the role of the epithelium in host defenses, including the epithelial mechanisms of pathogen

recognition, the role of the epithelium in the innate immune response, and the specific interactions of the epithelium with bacterial and viral pathogens. Finally, the book explores the role of the epithelium in inflammatory airway diseases, including the interactions of the epithelium with pollutants and allergens, the role of the epithelium in airway inflammation and remodeling, and the role of the epithelium as a target of therapeutic drugs.

Some chapters stand out. The chapter on pulmonary surfactant manages to convey the complexities of surfactant physiology in a particularly clear way, and the description of how surfactant stabilizes the alveoli by decreasing their surface tension is an example of how a complex physiological concept can be explained with refreshing simplicity. Equally informative and accessible were the chapters on the structure of cilia and the composition of the airway mucus. And the chapter on epithelial adhesion structures provides a concise yet thorough review of the ever increasing set of epithelial adhesion molecules. These chapters provide an outstanding introduction to some of the most important functions of the airway epithelium and are recommended reading to students, post-docs, and people who are entering the field.

One of the most important functions of the lung epithelium, which has been described relatively recently, is its role in the innate immune response. Once thought to be a simple barrier, the epithelium is now known to produce an array of cytokines and other mediators that play a key role in generating an inflammatory response to bacterial and viral pathogens, and this is true for both the airway and the alveolar epithelium. The book provides a good review of the role of the epithelium in the recognition of pathogens by way of pattern recognition receptors (perhaps too good—this discussion appears in at least 3 different chapters) and an outstanding description of the epithelium as a source of anti-microbial molecules. However, in general, the discussion of the epithelium and innate immune responses is focused on the airway epithelium, and perhaps it could have been expanded further to cover more extensively the role of the alveolar epithelium.

For example, in acute lung injury the role of the alveolar epithelium as an inflammatory tissue is being increasingly recognized. While it was previously thought that the

macrophage was the primary source of cytokines in the alveolar spaces, there is increasing evidence suggesting that, instead, the macrophage may serve primarily as a modulator of the inflammatory response by releasing “early” cytokines such as tumor necrosis factor alpha (TNF- $\alpha$ ) and interleukin 1 $\beta$  (IL-1 $\beta$ ), while the alveolar epithelium appears to be the primary source of neutrophilic cytokines, such as IL-8 or, in the mouse, keratinocyte chemoattractant (KC).

Perhaps one of the main weaknesses of this book, dedicated as it is to the totality of the lung epithelium, is that the different “lung epithelia” (large-airway, bronchiolar, and alveolar) are not always clearly differentiated in the discussions, and in many chapters the word “epithelium” is made synonymous with “airway epithelium”; for example the chapter on “epithelium as a target,” which explores the mechanisms linking epithelial damage with disease pathophysiology, completely ignores the alveolar epithelium and its key role in multiple disease processes, including emphysema, pulmonary fibrosis, and acute lung injury. One particular area that might have been covered with some additional detail is the role of epithelial apoptosis in the pathogenesis of lung disease. A growing body of evidence suggests that alveolar epithelial apoptosis, induced by both the receptor-dependent and the receptor-independent pathways, is a key step in the development of pulmonary fibrosis and lung injury. Experimental therapeutic approaches aimed at blocking alveolar epithelial approaches appear to be promising in animal models of acute lung injury and of pulmonary fibrosis. However, a discussion of this topic is notoriously absent from this book. Overall, the airway epithelium is better covered in this book than the alveolar epithelium, and perhaps the title should be modified to read “the *airway* epithelium in health and disease,” rather than the more general title, “the pulmonary epithelium.”

The book is nicely presented. The total number of pages is 440, many of which contain illustrations. There is a good index, and in general it is easy to locate information within the book.

In summary, **The Pulmonary Epithelium in Health and Disease** provides a well updated review of the structure and function of the pulmonary epithelium, with particular emphasis on the airway epithelium. Technicians, students, fellows and physicians involved in lung research and inter-

ested in an overview of the lung epithelium will find a useful introduction to the topic in this book.

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**Managing in Health Care: Business Strategy.** George B Moseley III MBA JD. Sudbury, Massachusetts: Jones & Bartlett. 2009. Hard cover, 344 pages, \$69.95.

This book is a must-read, and should be mandatory education for a much broader target audience than the students toward whom the author directs this work. His goal of educating students entering health care and biotech careers should target *all* levels of management in any health-care entity, beginning with their respective and most senior manager. The author takes simple concepts from traditional business practices, then develops and interlaces them with the health-care industry.

This book is very organized, constructed in a progressive and orderly fashion. The sequential build of strategic planning develops from concept to implementation and monitoring stages, and is well thought out. The description of each stage and factors influencing them, including competing forces, is discussed in such a fashion that it is not very difficult to comprehend for even the casual reader interested in this topic. The author takes exquisite measures to be thorough and to provide examples of each component of business strategy.

Each chapter is a foundation for subsequent topics providing details, examples, and stimulating questions that challenge the reader's comprehension. Preceding each chapter's discussion are helpful learning objectives. At the end of each chapter are study questions and learning exercises that solidify the reader's understanding of the chapter content.

Unlike many business-related books, this particular one is not cluttered with financial presentation and analysis. This is not a book of calculations or exotic formulas, but one that supplements the reader's knowledge of the issues that current and future leaders

must be aware of in the dynamically changing and competitive health-care industry. This is one of the remarkable positives of **Managing in Health Care: Business Strategy**. The length taken to explain the concepts, which the author intricately develops throughout, avoids exposing the reader to complex financial "overload," (which for the intent of this book is totally unnecessary). However, several important formulas are identified, described sufficiently, and interwoven as important principles that one must be attuned to in the development of strategic planning.

A refreshing approach throughout this book is clear demonstration of potential outcomes to specific strategies. If, for instance, initial plan A does not play out as anticipated, then awareness of other possibilities is demonstrated with examples. This book is not only current but well positioned with its constant theme of not accepting the status quo but appreciating the survival necessities of being prepared for the future by developing strategies.

An important feature of this book is that the author details the value of knowing your competing forces and how to be successful by utilizing the power of information. He explains what to analyze, why analyze, and where to obtain your source materials. He utilizes remarkable thoughtfulness in explaining the essential need to not only develop a strategic focus but warns how and why a particular focus can be lost if not properly implemented and monitored. Failure to do so has the ramification of remaining at status quo or worse, and with the probability of losing competitive advantage.

Market analysis is another very important discussion, beginning with the basic but historically overlooked concept of the need to identify with the patient: our customer. He explains the importance of viewing patient specifics in terms of their demographics, economics, lifestyle, sociocultural, geographic, purchase, and usage behaviors. The author discusses the need to identify market trends, specifying and targeting potential customers and the essence of focusing on their behaviors, lifestyles, and needs as a strategy to survive in modern health care.

There is an important analogy explaining when analysis of the targeted market is complete, it may not be prudent to "spread too thin" when the competitive intensity is excessive: the analogy being 20% share of a \$20 million dollar market segment is better than a 2% piece of a \$100 million dollar

market. There may be more attraction to and a greater share of a smaller market with few rivals, with the primary focus to obtain high profit margins. The need to focus on limiting future direction is explained in terms of what a business can succeed in and persuading the reader not to try and be everything for everyone.

One must know the competition and what strategies they are planning, if any. Consider competing in targeted markets not being addressed by your competitor's strategic plan, which would have the probability for success if non-threatening to them. It is also helpful to play out each competitor's possible responses to your strategic plan: a chess match of sorts that can involve multiple players with unpredictable results. The value of pre-implemented planning has the potential for high predictability and probability of success, as explained by the author.

The reader will find an outstanding blend of business concepts that are incorporated into today's modern health-care systems. Efforts are continually made to develop these concepts of strategic business strategies throughout the text. Future focus of health-care entities in the context of developing a business strategy is well defined by 4 essential outlines: the organization's mission, their vision, its values, and strategic objectives. Several examples of these documents from industry leaders are included, citing both the strengths and weaknesses of each.

The health-care business with a vision is more likely to achieve its objectives. This approach is better than staying on the sidelines and accepting numerous internal and external forces—in essence being controlled by the world around. This book promotes acting instead of reacting to the competitive business environment.

This is a survivor's guide, a planning tool, an aid to compete, and a desktop reference for keeping current objectives on target while paying equal attention to your competitor's position within your market.

Historical, present, and future directions of modern health care are explained in detail, leaving the impression that this industry is not for the faint of heart. It is truly a business, not unlike a business entity in the purest sense; one must embrace all of its intricate components, including knowing your competitors' strategies as well as you know—or should know—your own.

With such a comprehensive discussion on the complexities of the health-care busi-