

are difficult to read, the editing is inconsistent, and the content that was omitted indicates that “efforts to bring this work from conception to fruition in less than one year” (as stated in the book’s acknowledgments section) prevented this book from being a “gold standard” text.

Marie E Steiner MD MSc

Department of Pediatrics
Divisions of Pulmonary/
Critical Care and Hematology/
Oncology/Blood and Marrow
Transplantation
University Children’s Hospital, Fairview
University of Minnesota
Minneapolis, Minnesota

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Intensive Care Medicine in 10 Years.

Mitchell P Fink, Peter M Suter, William J Sibbald, editors. *Update in Intensive Care and Emergency Medicine* series, volume 43, Jean-Louis Vincent, series editor. Berlin: Springer-Verlag. 2006. Hard cover, illustrated, 435 pages, \$179.

The responsibilities of a capable critical-care leader extend beyond clinical knowledge at the bedside. Critical care is distinguished by the absolute need for its clinical leaders to understand and practice interdisciplinary teamwork, and to be knowledgeable about systems of care delivery, workflow dynamics, budget and resource management, workforce issues, and performance and quality measurement. In addition, because of an aging population, an increasing number of debilitated people with “long-term” end-organ-failures, and increasing numbers of immunocompromised patients, we are witnessing the emergence of critical illness as a chronic disease(s). What does this mean to the future practice of critical care? Clearly there are more questions than answers to this not-so-rhetorical query. Where does one start? How does one begin planning for this uncertain future?

Springer-Verlag, under the editorial guidance of Jean-Louis Vincent, publishes a series called *Updates in Intensive Care and Emergency Medicine*, and Fink, Suter, and Sibbald have guest-edited **Intensive Care in 10 Years** as volume 43 of this series. Their intent was to use the development of intensive care over the last thirty years, as well as the current, evolving demands, as data points to plot a plausible future trajec-

tory for critical care medicine. The book is divided into sections entitled “Setting the Stage,” “Diagnostic, Therapeutic, and Information Technologies 10 Years From Now,” “How Might Critical Care Medicine Be Organized and Regulated?” “Training,” and “The Critical Care Agenda.” Each section consists of a series of essays/chapters that discuss various aspects of the topic, and all the sections have solid scientific support and bibliographies. The individual topics span the entire range of critical-care clinical practice, administration, quality and safety, and so forth. The contributors are acknowledged senior clinical and scientific leaders in critical care medicine from around the world.

The “Setting the Stage” section includes “Managing and Leading in Critical Care,” “Critical Care From 50,000 Feet,” “Expectations Around Critical Care: 10 Years On,” “The Quality and Safety Agenda in Critical Care Medicine,” “The Challenge of Emerging Infections and Progressive Antibiotic Resistance,” “Technology Assessment,” and “Trends in Pediatric and Neonatal Critical Care in the Next 10 Years.” Each of the sections displays similar depth, quality of authorship, and provocative subject matter. Most essays/chapters are excellently written, although a few are only average—where the sizzle of the title and substance of the chapter are perhaps about equal. On balance, excellent chapters outnumber average chapters by about 4 to one (there are 31 chapters). In particular, I found the section on critical care organization and regulation most useful. It addresses hospital and medical school organization of critical care services, intensive-care-unit physician staffing, research, conducting outcomes investigations (really, it’s population health research for critical care), funding and accounting structures, and other topics.

Here at Mayo Clinic, like many (perhaps most) other critical care enterprises, we are at a crossroads, a nexus point. We are actively planning our future critical care delivery models based on the immutable realities of chronic critical illness, cost, patient volumes, the need for data visibility, safety, medical simulation, etc. I have shared this book with some of my fellow colleagues and leaders in critical care, because it is provocative, offers a number of fresh ideas, and conceptually lays out several pertinent/useful concepts in charts, diagrams, and tables. This is not a clinical book, per se, but rather a book that may facilitate or help

initiate a planning process for leaders who recognize the imperative for change and adaptation in critical care. Accordingly, I recommend this book to individuals and groups engaged in all aspects of critical care management, now and in the future.

J Christopher Farmer MD

Department of Medicine
Mayo Clinic
Rochester, Minnesota

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Mechanical Ventilation: Physiological and Clinical Applications, 4th edition. Susan P Pilbeam MSc RRT FAARC and James M Cairo PhD RRT FAARC. St Louis: Mosby/Elsevier. 2006. Soft cover, illustrated, 651 pages, \$58.95.

As respiratory therapists and many other health care professionals know, some of the most complex patient care involves mechanical ventilation, both invasive and noninvasive. This is true throughout intensive care units, rehabilitation centers, skilled nursing facilities, within patient’s homes, and during patient transport. Mechanical ventilation is an essential, life-sustaining measure for many patients, but it can also harm the patient. **Mechanical Ventilation: Physiological and Clinical Applications**, now in its 4th edition, is a well-recognized textbook that has served the respiratory care profession for the past 20 years. The authors do an excellent job of taking the reader on a detailed, evidence-based journey through the complexities of mechanically ventilating and caring for critically ill patients.

In general, the sequence of the chapters mirrors the general course that many patients follow: initiating ventilation, managing the course of treatments, addressing complications, weaning, and liberation from the ventilator. The authors thus create a “familiar flow” that is easy to follow, as well as making the book a reference in which to find specific content on many aspects of mechanical ventilation.

The text has 8 parts and 23 content-heavy and extensively referenced chapters. The chapters are highly organized, and each includes an outline, key terms, and learning objectives, thus creating a clear, consistent road map for the reader. The typeface is clear and easy to read. The single-color (green) and black-and-white illustrations are clear and relevant to the topics discussed.

This edition includes new chapters that I believe improve the text. Pharmacology, cardiovascular complications, noninvasive mechanical ventilation, and long-term ventilation were mentioned in previous editions, but in this edition they receive entire chapters. Though each of these content areas has whole texts devoted to it, as a respiratory care instructor, I find it beneficial to have additional resources for these topics built into this text, despite these new chapters' relative brevity.

Each chapter is loaded with critical-thinking questions, clinical rounds scenarios, and key points, all deriving from a long history of mechanically ventilated patients. An appendix contains the answers, with discussions and rationales. The authors also provide historical perspectives on how current, evidenced-based practices regarding mechanical ventilation and critical care have evolved over the years, and they incorporate many of the American Association for Respiratory Care (AARC) clinical practice guidelines to support their rationales.

A new feature I like as a respiratory care educator is the addition of related questions similar to those on the Certified Respiratory Therapy (CRT) and Registered Respiratory Therapy (RRT) examinations administered by the National Board for Respiratory Care. Though there are many other resources that prepare students and practitioners for these examination questions, I like the way the authors relate them to specific content in each chapter.

One consistent feature and strength of this text that continues to improve with each new edition is the discussion and illustrations dedicated to ventilator waveform graphics. For many clinicians, and especially students, it can be difficult to conceptualize what is happening physiologically in the thorax/lungs by looking at pressure, volume, and flow scalars and loops.

Waveform graphics are introduced early, and illustrations are utilized often throughout the entire text. The authors begin with normal, negative-pressure breathing patterns and then discuss more complex, positive-pressure modes of mechanical ventilation. Another appendix contains multiple waveform graphics exercises to outline different ventilation modes and changes in chest-wall and lung mechanics. I liked the way the authors utilized patient case scenarios/studies to discuss a range of pathologies and lung-mechanics changes. There is discussion of considerations in ventilating patients

with chronic obstructive pulmonary disease, asthma, neuromuscular disorders, acute respiratory distress syndrome (ARDS), and cardiac conditions, just to name a few, that gives some perspective on the differences in ventilation goals and strategies.

This new edition also includes an entire chapter on ARDS, and the challenges in improving oxygenation and ventilation in patients with ARDS. The ARDS Network study regarding smaller tidal volume for lung protection is incorporated into this chapter, and the authors emphasize the importance of clinicians embracing the lung-protection concept when managing patients with ARDS.

Overall, I highly recommend this text for all respiratory therapists, physicians, and nurses who work with mechanically ventilated patients, regardless of the care setting. In a discussion with fellow respiratory care clinicians at the AARC Summer Forum in July 2006, I found there was consensus that **Mechanical Ventilation: Physiological and Clinical Applications** ranks high among educators and managers as the text of choice for learning and referencing any aspect of mechanical ventilation.

As an educator I recently used this text for the first time in courses related to mechanical ventilation and critical patient care, and I found that I spent a lot of time "simplifying" certain concepts and terms from a long list of topics in each chapter, whereas in previous years, when I used other texts, that are a bit more basic and student-friendly, I spent more time "expanding" and "building" on basic mechanical ventilation concepts and terms.

One beneficial option in using **Mechanical Ventilation: Physiological and Clinical Applications** is the availability of a workbook designed to accompany the textbook. The workbook uses additional case studies, review questions, crossword puzzles, and legitimate Internet sites pertaining to specific content within the textbook. I like these additional learning tools, as I believe they broaden students' knowledge on specific content and they reach out to various learning styles.

Mechanical Ventilation: Physiological and Clinical Applications can be overwhelming at times for students and clinicians beginning their quest to understand mechanical ventilation, because of the breadth and depth of the content in each of the extensively referenced chapters. Regardless, I strongly believe that this is a thor-

ough and scientifically sound text that offers a practical, evidence-based approach to understanding mechanical ventilation.

One statement in the foreword epitomizes my sentiments toward this text: "Relatively few texts possess such staying power. As this fourth edition clearly demonstrates, this success requires not only currency and clarity of expression but also relevance that builds on a solid foundation of immutable knowledge." I welcome this text to our curriculum, knowing that our students will begin their careers with a high level of preparedness for understanding and applying basic concepts of mechanical ventilation.

Jonathan C Jahns MA RRT
Clinical Education
Highline Community College
Respiratory Care Program
Des Moines, Washington

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Ventilator-Induced Lung Injury. Didier Dreyfuss, Georges Saumon, and Rolf D Hubmayr, editors. *Lung Biology in Health and Disease* series, volume 215, Claude Lenfant, executive editor. Boca Raton: Informa/Taylor & Francis. 2006. Hard cover, illustrated, 738 pages, \$199.95.

As a practicing pulmonary and critical care physician and junior faculty member, I must admit that I rarely take the time to read books on subjects in our field. Many of the basic principles that one would normally find in respiratory medicine books I have already learned. For new information, there's an overabundance with which to keep up in the latest journal articles. Is there then a purpose to taking the time to read a book on ventilator-induced lung injury (VILI)? I believe there is.

Ventilator-Induced Lung Injury provides a fresh look at some of the principles behind lung injury associated with mechanical ventilation, and introduces some of the newer advances in the field in the way that journal articles usually do not. As a book, it is not completely up to date, but it does provide a good review of the basic principles of lung injury and of the new science and clinical management of VILI. For that reason, I think it can be a useful resource.

The book aims to "describe the different steps of basic research that allowed the comprehension of ventilator-induced lung injury, their clinical consequences, and the new av-