care of critically ill patients, because certain contributors make some controversial statements without mentioning the report or data on which the statement is based. For example, one contributor states what appears to be an opinion, that the use of invasive positive-pressure ventilation "may inhibit venous drainage from the head [and] result in a rise in intracranial pressure," without immediately providing references to support the assertion. The advanced reader, if he questions this statement, must sift through the chapter's reference list to find the data from which the statement originates, or conclude that the statement is a de novo opinion. In the case of invasive positive-pressure ventilation and intracranial pressure elevation, there are conflicting opinions.[1]

Still, the majority of the chapters are up to date, with excellent references, many of which I have added to my files. This handbook does provide a concise, affordable, brief reference that discusses many of the important aspects of and recent developments in ICU care.

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Pediatric Critical Care Medicine. Anthony D Slonim MD DrPH and Murray M Pollack MD MBA, editors. Philadelphia: Lippincott, Williams, & Wilkins/Wolters Kluwer. 2006. Hard cover, illustrated, 921 pages, $149.

Pediatric Critical Care Medicine is a moderately sized volume, "conceived as a core text and reference text" for critical care medicine trainees and practicing physicians alike. The book is fairly evenly divided into an initial pathology and pathophysiology review, followed by corresponding organ-system-based clinical medicine chapters, "purposely designed to be short and concise." The chapters pertaining to respiratory physiology, mechanics, and disease, well-represented in the text, will be of special interest to the respiratory therapist.

The text has an attractive blue hard cover, but its glossy surface wears quickly and scratches easily. The semi-gloss pages are sturdy and the print legible.

Part 1, on pathology and pathophysiology, has 10 chapters. Each chapter summarizes state-of-the-art information on its topics, including the 30-page basic science chapter, "The Cell." The 100-page chapter on immunology, inflammation, and infectious diseases has 3 sections, and the one on infectious diseases is partitioned into novel discussions, including "Foundations of Infectious Diseases in the Pediatric Intensive Care Unit," "The Microbial Agents," "The Clinician and the Clinical Microbiology Laboratory," and "The Antimicrobial Agents." Included are global overviews on endocrinology and metabolism, hematology/oncology, nephrology, gastroenterology, shock and shock syndromes, and neurosciences.

The 45-page chapter on cardiac physiology and pathophysiology includes longer sections on cardiac performance and cardiopulmonary resuscitation, and brief sections on cardiomyocyte function, electrophysiology, cardiopulmonary interactions, and the pathophysiology of chronic myocardial dysfunction. The 69-page pulmonology chapter includes more involved sections on embryologic and postnatal airway and lung development, respiratory system physiology, mechanical breathing, and acute lung injury, but only very brief sections on airway structure and function, defense mechanisms of the pulmonary tree, movement of fluids and solutes and blood flow within the lung, alveolar function, pulmonary gas exchange, and cardiorespiratory interactions.

The chapters in Part 1 have irregular content and structure editing. In particular, the chapters of cardiac physiology/pathophysiology and pulmonology include several very brief (a few pages) sections that seem purposefully partitioned in excess of the overall desire to be concise, and the sections on cardiopulmonary interactions and cardiorespiratory interactions should have been combined into a single section. However, within each chapter, some sections are quite complete and well written (eg, those on cardiac performance and mechanical breathing).

Part 1 does contain some novel and conveniently compiled material (eg, review of immune response and inflammatory modulators, and metabolic pathways of interest to the intensivist). However, several chapters or topics cite only a limited number of other review references and do not refer to original, definitive manuscripts or synthesize a broad palate of information. Also, unfortunately, there is no material on "oncology" in the hematology/oncology physiology chapter.

The sections in Part 2 fare somewhat better. The 8 sections cover endocrine, host defense, hematologic, oncologic, cardiac, respiratory, neurologic, renal, and gastrointestinal disorders. The clinical medicine overviews are accompanied by helpful tables of differential diagnosis strategies, therapeutic algorithms, and dosing schedules. The exceptional sections on pulmonary hypertension, dysrhythmias, and mechanical ventilation are very complete, and the sections on therapeutic apheresis and inborn errors of metabolism are unique. Most sections cite less than a dozen references, however, which seems superficial.

There are no chapters on multiple-trauma, burns, ingestions, environmental medicine, transport medicine, solid-organ transplantation, monitoring basics, or pharmacology basics.

In general, the table titles are easy to read, but the text font is variable, often quite small, and the use of space is not optimal; I would have preferred 2 columns of larger text in a category block instead of one column with tiny type. There is some use of bullets. Many of the figure legends, especially of the borrowed figures, are in very small print and quite lengthy. Many of the borrowed figures are gray and lack crisp resolution, and they often do not add substantially to the chapter. Most of the color plates of these grayscale items are not especially helpful or relevant either. The book would have benefited from illustrations of intracardiac pressure tracings during pulmonary-artery-catheter placement, airway anatomy, pacemakers, and a dialysis circuit.

The index is generally helpful in finding major subject areas.

In **Pediatric Critical Care Medicine** some sections are very well written and complete, but the book as a whole is not as rigorously or precisely authored as other well-known critical care texts. The graphics

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.

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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 trajectory 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.

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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.