

ety and European Respiratory Society on standardized lung function testing will prove useful for quality-control initiatives. The chapter on cardiovascular diagnostic testing provides a basic overview of cardiac electrical activity and measurement of function, but I was disappointed at the absence of newer minimally invasive cardiac output monitoring systems.

The next few chapters are dedicated to blood gas monitoring and mechanical ventilation. The chapter on blood gas monitoring is virtually unchanged from the 7th edition, yet provides a good review of the intricacies of arterial blood gas analysis, both invasive and noninvasive. As a respiratory care manager who feels that the art of managing mechanical ventilators requires well educated, astute RTs, I think the chapters covering modes and devices for adult, pediatric, and neonatal intensive care applications are a necessary read for all clinicians. As mechanical ventilators become more sophisticated and industry trademarked modes muddy the waters, Chatburn's classification of ventilation modes is a great addition to the 8th edition and helpful to those just learning the finer points of mechanical ventilation. While I found the table titled "Common Modes on Five ICU Ventilators Used in the United States" quite helpful, I also found the landscape orientation quite cumbersome. In short, the chapters addressing mechanical ventilators are updated to include newer equipment for neonates through adults in both critical care and home care settings, leading readers to certainly find something to their liking.

The concluding chapter on sleep diagnostics provides a brief overview of normal sleep patterns, polysomnography, and the pathophysiology of sleep apnea. As this is a growing specialty within the respiratory care world, I suspect this chapter will grow in future editions, to include additional health concerns associated with sleep disorders.

New to the 8th edition of **Mosby's Respiratory Care Equipment** is the workbook, by Karpel. At 336 pages, the workbook adds an exciting way for readers to apply the knowledge contained in **Mosby's Respiratory Care Equipment**, with crossword puzzles, helpful Web sites, and National Board for Respiratory Care type questions that correspond to the 15 chapters of the main text. I believe the textbook will help individuals entering the exciting profession of respiratory care to learn about the

equipment essential to who we are as professionals.

I found the 8th edition of **Mosby's Respiratory Care Equipment** and the **Workbook** to be well written and updated to include newer devices in the ever-changing health-care industry. While the 8th greatly resembles the 7th edition, the changes implemented by Cairo and Pilbeam this time around are surely worth investigating if one wishes to stay abreast of respiratory care technology.

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The author has disclosed no conflicts of interest.

The Little ICU Book of Facts and Formulas. Paul L Marino MD PhD, with contributions from Kenneth M Sutin MD. Philadelphia: Wolters Kluwer/Lippincott Williams & Wilkins. 2009. Soft cover, illustrated, 781 pages, \$48.95.

The Little ICU Book of Facts and Formulas, at 781 pages, "is a smaller, more condensed version of its older sibling, *The ICU Book*, and is intended as a compact reference for the bedside." It measures roughly $10 \times 18 \times 2$ cm and will fit into a lab coat, but not easily into a pants pocket. It is divided into 15 sections and 46 chapters. There are 3 appendixes: units and conversions; selected reference ranges; and additional formulas. The book "is intended to be a compact reference for the bedside."

As a condensation of a standard-size textbook in critical care, it appears to be intended for all members of the critical care team. Its main utility to respiratory therapists (RTs), nurses, and other non-physician team members is its compact summary of the relevant topics that come up in the every day care of critically ill patients.

I used this book over a period of 3 months, and compared it to *UpToDate*, a commonly used reference, easily accessed at the bedside hospital information system or on my cellular phone. I also asked a 4th-year medical student and some RTs to review selected topics in the book and to compare the information to the corresponding *UpToDate* material.

I found the topics to be appropriate and well organized. Some subjects, such as pulmonary hypertension and use of intra-abdominal pressure monitoring, are not covered, and the coverage of some others (eg, poisons/toxins) is markedly abbreviated.

In general the covered material was easy to read, which was especially useful when historically difficult physiological concepts for new students were discussed. My favorite chapters, in this regard, were those on acid-base disorders and renal and electrolyte disorders, which were excellent, concise, and clinically useful reviews that my senior medical student found easier to understand and use than the same topics in *UpToDate*.

My favorite section was the one on disorders of circulatory flow.

I was somewhat frustrated with some of the individual chapters, either because of lack of inclusion of pertinent clinically useful material, or for summary opinions that seemed unjustified. For example, the chapter on systemic oxygenation was very well written, with a clear description of the derivation and physiologic importance of the oxygen-extraction ratio and its relation to the mixed venous oxygen saturation. There was no reference to the now widely used application of this concept with the central-venous-oximetry measurement (S_{cvO_2}) (eg, with the PreSep triple-lumen catheter, Edwards, Irvine, California) in the management of sepsis, using the central-venous-oximetry signal as an index of resuscitation.

Further on in the book, the chapter on inflammation and infection in the intensive care unit describes the "early goal-directed therapy" protocol, which directs efforts to achieve a normal S_{cvO_2} and therefore a normal oxygen-extraction ratio ($> 70\%$) with intravenous fluids, vasopressors, inotropes, and blood if necessary. After describing the Severe Sepsis Bundle, the author makes the astonishing assertion that "optimizing oxygen transport variables is not recommended." This is completely contradictory. In the face of high metabolic demand and increased oxygen consumption, the only way to decrease oxygen extraction ($S_{cvO_2} > 70\%$) is to optimize oxygen delivery to meet the demand.

The chapters that may be of greatest interest to RTs, "Modes of Positive-Pressure Breathing," "The Ventilator Dependent Patient," "Discontinuing Mechanical Ventilation," and "Analgesia and Sedation," are also of mixed quality. The chapter on ventilation

modes is very short and incomplete. Some of the author's opinions are parochial and not supported by current literature. For instance, he states that intermittent mandatory ventilation should be used only in patients who are rapid breathers at risk of air trapping, and should never be used for weaning; and that continuous positive airway pressure should primarily be used in non-intubated patients with acute lung injury, cardiogenic pulmonary edema, and sleep apnea. I also disagreed with his statements on the indications for, levels of, and adverse effects of positive end-expiratory pressure. Airway pressure-release ventilation and other less commonly used ventilatory techniques are not discussed.

The chapter on acute respiratory distress syndrome needs to be updated to include more recent information.

The section on pneumothorax describes the 3-bottle chest-drainage system, which I haven't seen in years. It would have been valuable to discuss how that system transformed into the disposable systems we use today.

The chapter on discontinuing mechanical ventilation is up to date.

The section on anesthesia is a good review of sedative agents and their potential adverse effects, but the discussion on propofol and dexmedetomidine is dated and asserts that they should be used for only 24 hours. There is no discussion of intensive-care-unit delirium in that chapter, but it is covered in the chapter "Disorders of Mentation."

Did this book meet its stated goal as a compact reference for the bedside? With computerized access to nearly unlimited information at the bedside and via handheld computer, most printed documents become out of date very soon after they are printed—some before they are printed. As a comparison, *UpToDate* is more timely with its capacity to update frequently, with nearly unlimited space for additions and references as new information becomes available. However, as a concise, clearly written review of critical care topics, I think this book has a niche.

My medical student found **The Little ICU Book of Facts and Formulas** easier to read and understand than *UpToDate* in several topics and decided to purchase the book. The RT may not find the section on mechanical ventilation comprehensive or timely, but may find the other sections offer a short concise review of topics that come up frequently in intensive-care patients. Nurses, house staff, and other members of the critical care team may find the book valuable for quick reviews, which can then lead to further, more detailed reading.

I use my copy as a teaching tool and loan it out frequently to members of our critical care team to supplement discussions that come up on multidisciplinary rounds. I appreciate Marino's efforts to provide brief reviews, and I understand the compromises that must be made to limit the size of the chapters.

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The author has disclosed no conflicts of interest.