

REVIEWS OF EDUCATIONAL MATERIAL

James C. Eisenach, M.D., Editor

Atlas of Cardiovascular Monitoring. By Jonathan B. Mark. New York, Churchill Livingstone, 1998. Pages: 362. Price: \$79.00.

Accurate integration and interpretation of cardiovascular monitoring data are paramount to proper care of patients. However, this standard is not always met, as is evidenced by numerous studies during the past decade or so that question the safety and effectiveness of invasive hemodynamic monitoring. Whether this deficiency is caused by the monitor itself, improper usage, or inadequate education is open for debate, but the *Atlas of Cardiovascular Monitoring* by Jonathan Mark goes a long way toward combating the problem of inadequate education.

The *Atlas of Cardiovascular Monitoring* consists of 20 relatively concise chapters, each followed by extensive examples of various tracings, waveforms, and diagrams that discuss invasive and noninvasive cardiovascular monitoring. The text is well-written, accurate, and thorough without being oppressive, which allows for quick review when needed. The strength of this book, however, is in the diagrams. The diagrams are clear and well-captioned enough to stand on their own, and complement the text. They extensively show normal physiologic, diseased, and artifactual states that are frequently (and infrequently) seen during the care of patients in both the operating room and the intensive care unit. The diagrams emphasize, as is stressed and repeated throughout the entire book, the more accurate picture seen when various monitoring methods are integrated together.

The first two chapters discuss general definitions of monitoring and waveform interpretation and its relation to the cardiac cycle. Chapters 3–6 discuss the basic waveforms found when floating a pulmonary artery catheter, identification and interpretation of the wedge pressure, artifacts encountered and how to recognize them, and the prediction of left ventricular end-diastolic pressure in both normal and diseased states. The next three chapters discuss invasive and noninvasive arterial blood pressure measurement and interpretation and thoroughly explain the technical aspects of monitoring systems, damping coefficients, and the like. The next two chapters discuss basic electrocardiology (lead placement, systems, and selection) and electrocardiographic detection of myocardial ischemia, including limitations and artifacts. The next three chapters (12–14) integrate information discussed previously to combine electrocardiographic and hemodynamic data for more accurate detection of myocardial ischemia, heart rate, and heart rhythm. The final six chapters focus on pressure–volume relations, interactions between the respiratory and circulatory systems, and various pathophysiologic states, including valvular heart disease, pericardial disease, changes during cardiopulmonary bypass, and proper interpretation of intraaortic balloon counterpulsation data.

The *Atlas of Cardiovascular Monitoring* is one of those books that should be on all bookshelves. It is applicable to all levels of training and is appropriate for anesthesiologists, intensivists, cardiologists, and surgeons who rely on cardiovascular monitoring for diagnosis and guidance of therapy. At \$79.00, it is reasonably priced (especially considering the information contained within), and it is of reasonable size to fit in my briefcase along with my laptop and go from the office to the operating room to the intensive care unit and home, without wearing me down.

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(Accepted for publication January 24, 2000.)

Operating Room Management. By Ronald A. Gabel, John C. Kulli, B. Steven Lee, Deborah G. Spratt, Denham S. Ward. Boston, Butterworth Heinmann, 1999. Pages: 224. Price: \$65.00.

The authors have written an outstanding introductory textbook in operating room (OR) management. I wholeheartedly recommend it to hospital administrators with responsibility for the OR suite, OR material management specialists, nurses, anesthesiologists, and surgeons who want an introduction to management concepts. The authors' figures are clear. The text is lucid. The examples are good. The index is complete. The book is so well-edited and the chapters are written in such a complementary fashion that there were virtually no statements about which I disagreed.

This textbook is analogous to 200-page books for medical students and resident rotators from other specialties in anesthesiology. After reading such a textbook in 10 h or so, the reader has a good feel for the issues in the specialty. For example, for hospital administrators, the book explains "that true life-or-death emergencies are often related to uncontrolled bleeding or nearly complete airway obstruction." For physicians and nurses, the book defines terms such as "incremental cost" and "debt service coverage ratio." The book contains no references. At the end of each chapter, there are some recommended readings, but no scientific articles from the medical or management sciences literature.

This book is very easy to read because it describes principles, not details. For example, the chapter about material management explains the importance of maintaining a low inventory to decrease costs while not "allowing the absence of critical items at the time of surgery." Words are used—there is no calculus (economic order quantity theory) or probability theory (safety stock concepts). Consequently, the book does not tell the OR manager how to achieve goals, only what goals to achieve. As another example, the book explains that "the OR information system should be used to schedule all persons who work in the OR suite . . . schedules . . . should reflect historical utilization patterns of the OR suite." Again, in that linear programming algorithms are not discussed, the OR manager is told what to do but not how to do it. As long as the reader does not naively begin to think that by combining practical experience with having read this book they actually know how to manage the OR, he or she is set.

In summary, this book is absolutely terrific as an introductory textbook. If you are an anesthesiologist or nurse anesthetist who cares about OR suite finances but does not need the mathematical equations to actually make management or staffing decisions, I am confident that you will find purchasing this book to have been a first-rate decision. I congratulate the authors for having written such a superb textbook.