

BOOK REVIEWS

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Principles and Practice of Anesthesiology. Edited by M. C. Rogers, J. H. Tinker, B. G. Covino, D. E. Longnecker. St. Louis, Mosby-Year Book, 1993. Pages: 2,592. Price: \$179.00.

A comprehensive textbook of anesthesiology must fulfill multiple roles. It should be readable, so that residents can learn from it throughout their training; it should be well referenced, so that it is useful as a starting point for research on diverse topics; and it should be a guide to patient management, rather than merely serve as a repository of facts distilled from the literature. Rogers *et al.* seem to have fulfilled these goals in the first edition of *Principles and Practice of Anesthesiology*.

At first blush, the organization of the text seems somewhat unconventional. Rather than dealing with the principles of anesthesia *per se*, the first section contains 34 chapters (more than 600 pages) addressing the "Approach to the Patient." Management of healthy patients, from preoperative visit to postoperative recovery, is considered in the first eight chapters. This material is written in a manner that makes it useful to even the most junior of residents. However, the chapter on the "Anesthetic Plan" primarily addresses the issue of regional *versus* general anesthesia rather than discussing the actual techniques to be used. I was particularly encouraged to note the emphasis on spontaneous ventilation as providing an additional margin of safety in Gomez's chapter on "Planning for Monitoring in Healthy Patients." The remaining 26 chapters of part 1 discuss the management of patients with various underlying disease states. Although not a substitute for *Anesthesia and Uncommon Diseases* (edited by Katz, Benumof, and Kadis), the material covers everything from asthma to Zellweger's syndrome (small mandible, short neck, with contractures and cardiac anomalies). Complete chapters addressing the evaluation of parturients, neonates, and children are included here, rather than being relegated to subsections of chapters elsewhere in the text. Lee and Goldman's chapter, "Use and Misuse of Consultants," should be mandatory reading for our medical colleagues, as well as for anyone ordering preoperative consultations: "Clearance" implies a guarantee of a good outcome, which is, of course, impossible to provide."

The second part of *Principles and Practice of Anesthesiology*, "Anesthetic Care," includes sections on patient safety, monitoring, inhalation anesthesia, intravenous sedation and analgesia, regional anesthesia and analgesia, and autonomic and neuromuscular physiology. Eisenkraft's chapter on "Anesthesia Delivery Systems" is outstanding. He provides excellent explanations of the rationale underlying machine checkout procedures (positive *vs.* negative pressure testing). Measured flow vaporizers (e.g., the copper kettle) are discussed both to introduce the principles of vaporizer operation and because they are still found in anesthesia machines supplied to the military. The emphasis on minimum alveolar concentration (MAC) as a partial pressure rather than an inspired concentration at standard atmospheric pressure (e.g., the MAC of halothane is $0.76\% \times 760 \text{ mmHg} = 5.7 \text{ mmHg}$) should be especially helpful to those who have pondered the fine points of vaporizer operation at altitude while taking in-training, board, or CDQ examinations.

The third part of *Principles and Practice of Anesthesiology* is a compendium of in-depth chapters dealing with subspecialties of

anesthesiology. The chapter on neuroanesthesia provides a critical review of the literature, whereas the chapter on anesthesia for thoracic surgery deals with topics ranging from the physics of lasers used for airway surgery to the physiology of ventilation following lung transplantation. A feature that I found particularly useful was the "How I do it" examples in each chapter. These unify many of the theoretical concepts, providing insight into the authors' priorities in dealing with complex and sometimes conflicting physiologic concerns. I believe that the information is presented in sufficient depth to eliminate the need to purchase texts dealing with subspecialties other than one's primary area of interest.

The last two parts of *Principles and Practice of Anesthesiology*, although not as extensive, address important issues of postoperative recovery and complications as well as practical issues for the anesthesiologist. Among the latter is a brief chapter dealing with "Legal Issues in Anesthesiology," which addresses the processes and terminology associated with malpractice litigation. The importance of informed consent in the risk management process is emphasized with a statement that, "in many states there is a specific legal obligation to inform the patient that death is a possibility, however rare."

As compared with other comprehensive anesthesiology textbooks, I found *Principles and Practice of Anesthesiology* to be extremely readable. It is apparent that the chapters have been edited to ensure a consistent style throughout. Cross-referencing within chapters is good; however, there are few between-chapters references. The editors have provided two additional features: At the end of each chapter is a summary of "key points," presented in a concise style, along with a list of "key references." Also, throughout each chapter, some sentences are printed in boldface type. While this "pre-highlighting" may be intended to direct one's attention to the most important concepts, I frequently thought that the wrong material was emphasized; as a result, the boldface type proved distracting. Marking a text probably should be left to the individual reader.

Unfortunately, it appears that some errors escaped the editors' notice. Among these are statements that a 2-mm ST-segment depression corresponds to 2.0 mV on a voltage-calibrated electrocardiogram (page 81), that standard bicarbonate increases during mixed respiratory and metabolic acidosis (page 371), and that an intraarterial catheter should be inserted to aspirate gas in case of an air embolism (page 1831). Some of the errors are potentially dangerous: maximum safe dose of sodium nitroprusside 6–8 mg/kg (page 141); appropriate dose of heparin for cardiopulmonary bypass 3,000–5,000 IU/kg (page 854).

Although it may seem surprising that anything of significance could be missing from a 2,500+-page book, several topics on which I sought information during the last few months were addressed inadequately. For instance, there is no information on anesthesia for patients with Parkinson's disease or for depressed patients undergoing electroconvulsive therapy. Neither the anesthetic considerations associated with asymmetric septal hypertrophy, nor the effect of the autonomic nervous system in regulating coronary blood flow is addressed adequately. Despite its prevalence in perioperative patients, adult respiratory distress syndrome is relegated to two brief paragraphs: one in the chapter on burns and the other in the chapter on postoperative pulmonary complications.

In summary, *Principles and Practice of Anesthesiology*, although not perfect, is among the best of the currently available comprehen-

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sive textbooks in the field. I can recommend it to both residents and practitioners as a primary source of up-to-date information on most aspects of the specialty. The bottom line is that I put my money where my word processor is: I purchased the book before being provided with a copy for review.

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