Principles and Practice of Anesthesiology. Edited by

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 uncon-
ventional. 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 con-
sidered 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 mar-
gin 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 ad-
ressing 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 Contraindants,” should be mandatory reading for our medical col-
leagues, 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 physi-
ology. Eisenkraft’s chapter on “Anesthesia Delivery Systems” is out-
standing. He provides excellent explanations of the rationale un-
derlying machine checkout protocols (positive vs. negative pressure
testing). Measured flow vaporizers (e.g., the copper kettle) are dis-
cussed 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% × 760
mmHg = 5.7 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 neuraxial anesthesia 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 trans-
plantation. 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 be-
lieve 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 an-
esthesiologist. Among the latter is a brief chapter dealing with “Legal
Issues in Anesthesiology,” which addresses the processes and ter-
minology 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 ed-
itors 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 “pro-highlighting”
may be intended to direct one’s attention to the most important con-
cepts, I frequently thought that the wrong material was emphasized;
as a result, the boldface type proved distracting. Marking a text prob-
ably should be left to the individual reader.

Unfortunately, it appears that some errors escaped the editors’ no-
tice. 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 respira-
tory and metabolic acidosis (page 571), and that an intracranial 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 electrocon-
vulsive therapy. Neither the anesthetic considerations associated with
asymmetric sepal hypertrophy, nor the effect of the autonomic nerv-
ous 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 pul-
monary complications.

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

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sive textbooks in the field. I con 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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