anesthesia. The text maintains a handsome academic physical appearance. However, the blue background on the faceplate and side of the text peels rather easily, in a manner similar to a teflon frying pan. The list of authors continues to be impressive, and the mix does not overweight the editor’s home institution, minimizing the problem of institutional bias. Updating is extensive: I was surprised several times by the referencing of very recent works. The referencing is thorough, and I am particularly fond of the inclusion in the text of both the author and date for each reference.

The organization of the text continues to be in the same four parts as in previous editions. The first section on “Basic Principles in Pediatric Anesthesia” has the same six chapter titles, dealing largely with pediatric physiology and pharmacology. The chapter on cardiovascular physiology has been skillfully rewritten and expanded by Maureen Strafford in a manner that reflects her training in pediatric cardiology and her extensive experience in cardiac anesthesia.

The chapter on pharmacology remains one of my favorites, and has been improved through contributions by Jerrold Lerman. The second section, entitled “General Approach to Pediatric Anesthesia,” has undergone organizational changes and has added a new chapter on pediatric pain management. Chapters from the 5th edition, titled “Induction of Anesthesia” and “Endotracheal Intubation,” have appropriately been lumped together into one chapter, as have the chapters titled “Maintenance of Anesthesia” and “Normal Recovery from Anesthesia.” A chapter on pediatric pain has been added, authored by Charles Berde and Zeev Kain. This chapter is outstanding, but bears a striking resemblance in content (but not in wording) to the pediatric pain chapter that Berde co-authored for George Gregory’s Pediatric Anesthesia. The similarity is easily overlooked, because I can think of nobody better to write a chapter on pediatric pain than Berde. A cursory chapter on fluid and blood therapy has been dispensed, but one can still find most of this information in other sections of the new edition. The chapter on hypotensive anesthesia has appropriately been integrated into the chapter on blood conservation. The third section of the text deals with anesthesia for particular medical and surgical subgroups. The chapter titles are the same as in the previous edition, with the exception of the addition of a chapter on “Anesthesia & Sedation for Procedures Outside the Operating Room.” Five of the thirteen chapters have been redone by new authors. The chapters in this section are uniformly strong. There is considerable repetition, but this is understandable, because these chapters are clearly meant to stand alone. Of note is one apparent error, which pertained to an unusually low dose of morphine recommended in the chapter on anesthesia for dentistry. The fourth section is labeled “Associated Problems in Pediatric Anesthesia,” and represents a potpourri of subjects that do not fit well anywhere else. Because there is a new chapter on the history of pediatric anesthesia written by Robert Smith, the title of the section might need to be changed. I would prefer not to think of history as a problem. I thoroughly enjoyed Smith’s chapter and was immediately enchanted by the inclusion of some of the accomplishments of John Snow (one of my personal heroes). The remainder of the chapters in this section are titled as in the previous edition, with some revisions and lots of updates. The chapter on systemic disorders is well written and very useful, but does have a few errors in transcription (i.e., adenoid process instead of odontoid). Such errors were rare occurrences in this text. Lastly, this volume continues to include an appendix on syndromes and their anesthetic implications. This appendix is a real bonus, which has great value in the clinical setting. Many practitioners, myself included, find that, even with years of pediatric experience, it is nearly impossible to keep the syndromes straight.

In summary, this comprehensive textbook is outstanding and is well worth the price. It can be recommended to anesthesia practitioners at all levels who wish to improve their skills in pediatric anesthesia, or who simply need a strong reference text.

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“The dominant question is no longer whether to use [low flow anesthesia] but how to use it safely.” (H. J. Lowe and E. A. Ernst, 1981)

Despite the optimism of the above quote, low flow anesthesia has not been a popular feature in most U.S. anesthesia departments to date. And that is a shame, if for no other reason (and there are many other reasons) than the huge financial advantage of the technique. Consider that many anesthesia departments are limiting the selection of induction agents, opioids, and muscle relaxants as a means of cost containment. With low flow anesthesia, one achieves large cost savings, while still using the drug (sevoflurane somewhat excepted) one wants! If lack of understanding is to blame for the low percentage of practitioners using low flows, this book will help more people shed their old “gas guzzling” style.

The book is an English text revised from the original German. The book has 11 chapters—the early chapters discuss technical concepts of anesthesia systems and move onto pharmacokinetics. Next comes anesthetic methods/technical requirements, and monitoring and patient safety aspects—including a section on arguments against low flow anesthesia. Once the technical “base” has been achieved, a nice chapter on clinical practice is provided, and the book concludes with a section on perspectives and future technical developments. Although earlier books on low flow techniques (such as Lowe and Ernst’s The Quantitative Practice of Anesthesia) performed a wonderful job of explaining the pharmacokinetics of the inhalational anesthetics of the time, this new book discusses new inhalation agents, new anesthetic and monitoring equipment, and even reviews five computer programs for simulation of inhalational anesthesia (some programs are complete with operating room sounds!).

The future perspectives section is perhaps the most intriguing. Considering the financial advantages of closed and low flow anesthesia, will we reach a point where anesthesia machines will be manufactured on the basis of their closed and low flow function? Which would one rather buy—a potentially wasteful standard anesthesia machine, or a quantitative anesthesia machine like the new PhysioFlex (see chapter 7)? Due to electronic feedback control, a quantitative anesthesia machine would not allow the routine waste of anesthesiologists.

Whereas other anesthesia books contain large sections on the topic of pediatric regional anesthesia, *Regional Anesthesia in Infants, Children, and Adolescents* remains the only textbook currently on the market that is devoted entirely to the subject of pediatric regional anesthesia. The strongest feature of the book is that it is produced by a renowned group of authors who have a vast and broad experience in the use of regional anesthesia techniques in pediatric patients. They have taken the knowledge they have gained from their many protocoted outcomes studies and coupled this information with a thorough review of the world literature, not just the English language literature, to create a commendable piece of work.

The translation from French to English by Rita Khandawala is very professional, and leads one to believe that the book was originally written in English. However, the text is not without error, and some of the mistakes are substantial. Legends are reversed in tables, and several drawings, while anatomically correct, are incorrectly labeled. These errors lead this reviewer to suggest that this book may be more useful to the experienced regional anesthetist, who can recognize the errors, and may not be for neophytes just learning pediatric regional anesthesia techniques.

Two blocks are synonymous with the Dalens’ name, the fascia iliaca technique for neuroblockade of the lumbar plexus and the parascalene approach to blockade of the brachial plexus. It is this reviewer’s opinion that these blocks are major and important advances in pediatric regional anesthesia, however, in the original journal articles, the supporting artwork lacked detail, size, and color. These aspects made it very difficult to understand the landmarks and fascial planes inherent to the successful placement of these blocks. Unfortunately, once again, the plates in the textbook lack the size, labeling, and color needed to render them supportive and useful. Two full-color pages would have made a remarkable difference.

Perhaps the best single aspect of the book is the wonderful chapter on ‘Pharmacology’ by Isabelle Murat. In just 30 pages, she helps one understand why children obtain dense blocks with dilute local anesthetic solutions such as 0.125% bupivacaine and why neonates are at increased risk of local anesthetic toxicity. This chapter and the authorship by Professor Dalens on the majority of the remaining clinically relevant chapters in the book make it a reasonable buy for $105.00.

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Nitric oxide (NO), a simple free radical molecule, was classified for many years as a noxious air and smoke pollutant, but since 1986, it has become an exponentially increasing focus of biomedical research. (Fig. 1). The seminal observation that NO was endothelium-derived relaxing factor, and that NO was involved in the regulation of blood pressure, was also important as a neurotransmitter, and functioned as a defensive molecule to kill invading microorganisms has stimulated an enormous variety of research projects. The discovery of the use of inhaled gaseous NO as a selective pulmonary vasodilator, and bronchodilator rapidly transported this molecule into the fields of anesthesiology and critical care medicine, where we currently use it as an experimental therapeutic agent to reverse pulmonary hypertension and improve ventilation-perfusion matching in the lung. Nitric oxide interacts with oxygen and oxygen-derived molecules and radicals in the lung, reducing toxic effects. Balancing its beneficial roles, NO can bind with oxygen-derived superoxide to form the toxic radical peroxynitrite.

Drs. Weir, Archer, and Reeves compiled the results of their own research studies and the contributions of 66 authors from 14 states, Canada, and five European countries within the 27 chapters of this hardcover book. This compendium compresses an enormous variety of information (e.g., 1,700 references) between its covers. Unfortunately, it contains neither an introduction nor a preface by the editors. Each chapter appears to be written independently, some in the style of a review article, some original manuscripts with detailed methods. The 137 figures often have long legends, and many seem reprinted from the original reports. The 17-page index is quite inclusive and useful.

After an initial review of the chemistry and physiology of oxygen and oxygen-derived species, 15 chapters compose a section describing a variety of physiologic and biochemical interactions of various radicals and NO with mammalian cells (*i.e.*, lipid and protein oxidation, endothelial function, phosphodiesterase isoenzymes, oxidant defense mechanisms). The subsequent 10 chapters depict the close relation of NO metabolism to clinical pulmonary pathophysiology (*i.e.*, inducible NO synthase in sepsis, the interaction with cyclic guanosine monophosphate, the regulation of pulmonary vascular tone, the roles of exhaled and inhaled nitric oxide in the neonate, lung, and heart transplant patients).

Who should buy and read this book? The resident, fellow or attending, who uses NO in clinical anesthesia or intensive care medicine, or the researcher with an M.D. or Ph.D. background who is beginning a NO-related project? Each could profitably read at least one or two chapters and obtain a very good review of their subject. Thereafter, they would need to read the well-cited original references and textbooks to more completely understand the more complex molecular and biologic-related chapters, or obtain a broader overview.