

James C. Eisenach, M.D., Editor

**Sota Omoigui's Anesthesia Drugs Handbook, Third Edition.** By Sota Omoigui, M.D. Malden, Blackwell Science, 1999. Pages: 628. Price: \$39.95.

*Sota Omoigui's Anesthesia Drugs Handbook* is a pocket-sized handbook that lists more than 140 drugs used in clinical anesthesia practice. The book's forward states that, for attending anesthesiologists, the handbook is an up-to-date rapid reference for use in clinical practice, and, for residents, it is a concise overview for use in patient care and board examination preparation. Omoigui and his colleagues should be commended for their organizational skills. They have taken easily attainable information from readily available sources and brought it together into one concise and usable volume. But, it is only a handbook. The information provided is limited, and references are few.

The handbook is well-organized and easy to use. Agents are listed in alphabetical order by generic name, and there is an appendix that lists agents by brand and generic names. Each agent is presented in a standard format that describes drug uses, dosing, elimination, storage information, and a brief review of the pharmacology. The index is complete and lists drug names and other relevant topics, such as adverse reactions. However, the amount of information provided for each agent is scant. There is often significantly less than what is found in the manufacturer's insert.

Is there enough information presented for the handbook to be useful in clinical practice? By and large, yes. The information provided for aprotinin, for example, includes brief details about the use of this drug in cardiac surgery and its pharmacology. High-dose and low-dose regimens are listed (but there is no rationale for choosing between the two). Appropriate warnings are included regarding test dosing. For the lidocaine entry, the listed uses include regional anesthesia, treatment of ventricular arrhythmias, and attenuation of the "pressor response" to intubation. A dizzying array of dosing guidelines follows. Drug combinations are described without reference or explanation. For intravenous regional anesthesia, 200–250 mg lidocaine (40–50 mL solution, 0.5%) is suggested. The text instructs,

If desired, add fentanyl 50 µg to enhance the block and/or muscle relaxant (pretreatment doses only), for example, pancuronium 0.5 mg. This combination may enable the use of lower concentrations of local anesthetic (e.g., lidocaine 50 mL of 0.25% for upper extremity block).

Although these suggestions might be effective, how is the uninitiated student to sort through and come up with a safe and useful combination? Familiarity with the clinical use of many of the agents listed is needed for rational use of the handbook.

The handbook includes an appendix with several protocols and tables. The protocols (malignant hyperthermia protocol, advanced cardiac life support algorithms) are copied from the original sources. Tables provide information for various intravenous infusions (e.g., alfentanil, lidocaine) and epidural dosing (e.g., fentanyl, hydromorphone), and they list infusion rates based on body weight.

It is impossible to escape the entrepreneurial spirit of this publication; the book makes it clear that this and all of Dr. Omoigui's publications are available on the Internet. I could not resist looking to see what is offered. At [www.medicinehouse.com](http://www.medicinehouse.com), the homepages of State-of-the-Art Technologies, Inc. and The L. A. Pain Clinic are presented. Dr. Omoigui's handbooks are presented for sale alongside products that range from herbal supplements for weight loss to magnets for magnetic pain therapy. There is little useful information for patients or practitioners on the Web site. When the author states in the preface that the handbook is available on the Internet, he means available for purchase; the information in the handbook is not accessible from this Web site. *Sota Omoigui's Anesthesia Drugs Handbook* arranges clinically useful facts into a format that is concise, small enough to keep in a pocket, and well-organized. It allows quick access to brief descriptions

of many medications used in the clinical practice of anesthesia. A warning to anesthesiology residents: Do not use this handbook as a primary source to study for your boards—the examination is not that easy.

**James P. Rathmell, M.D.**, Associate Professor, Department of Anesthesiology, University of Vermont College of Medicine, Burlington, Vermont  
[james.rathmell@vtmednet.org](mailto:james.rathmell@vtmednet.org)

**Understanding Anesthesia Equipment, 4th edition.** By Jerry A. Dorsch, M.D., and Susan E. Dorsch, M.D. Philadelphia: Lippincott Williams & Wilkins, 1999. Pages: 1,066. Price: \$99.00

From a clinical and academic perspective, it was interesting to review a group of topics that remain in a state of continual evolution and development. In the preface to *Understanding Anesthesia Equipment, 4th edition* by Drs. Jerry and Susan Dorsch, the authors acknowledge this dynamic process:

Our goals in producing this book were to update subjects found in previous editions and to cover new topics important to anesthesiology care providers by bringing together as much of the relevant literature as possible. . . . It is our sincere hope that this book will be especially helpful to the anesthesia resident or student nurse anesthetist who faces the daunting task of absorbing new knowledge and applying it in practice. It should also be useful to the seasoned practitioner who finds the machine that was a familiar friend has been replaced by one with unfamiliar sounds and computer menus. Except for one omission, I believe that the authors have accomplished their goals.

This single volume is divided into five sections: "Gas Supply and Distribution Systems," "Anesthesia Machines and Breathing Systems," "Airway Equipment," "Monitoring Devices," and "Equipment Care and Planning." In section 1, the reader is introduced to many apparatuses and components. Fortunately, this section is rich with clear definitions. The reader can learn the definition and function of items, such as rupture disc, a fusible plug, and a manifold changeover device, while also noting the subtle, yet important, differences between a container and a cylinder. Furthermore, this section goes beyond simple definition of apparatuses and components through its in-depth discussion of the intended use of the devices, methods of operation, applications, and associated safety issues.

In section 2, through the use of copious definitions and descriptions and the review of physical principles, the reader can gain a thorough understanding of the anesthesia machine and breathing systems. This section is supported effectively with pictures and diagrams. However, color contrast for the various gases, in addition to the black and white shading found in the schematics, would have made for easier viewing and better understanding.

Section 3 focuses on airway equipment. Consistent with the marked increase in the use of the laryngeal mask airway (LMA) since the third edition of this text was published, the authors devoted an entire chapter to the description, use, and care of this device. Drs. Dorsch offer detailed information about LMA insertion, clinical situations in which the LMA may be of particular benefit, and complications and potential disadvantages of the use of the LMA. I was particularly pleased to see information about the role of the LMA for neonatal resuscitation because many practitioners do not appreciate or consider the use of the LMA for this clinical situation.

Section 4, replete with illustrations, evaluates monitoring devices. Again, the use of color would have made for more readily followed

schematics. The inclusion of electronic recordkeeping and perioperative information management systems was a worthwhile addition to this edition.

The final section, which includes a new and important chapter titled "Operating Room Design and Equipment Selection," nicely concludes this book—a text that may be used by those planning and developing operating room suites.

Another noteworthy feature found in this edition is the placement of board examination-type questions at the end of each chapter. The authors have included answers to all of the questions, along with some additional explanations to selected questions. These questions and answers are of use to all readers, not just those reviewing for the board examination.

This edition has one potentially significant omission. As is now well-recognized, inhaled nitric oxide is a selective pulmonary vasodilator gaining increased use in the treatment of pulmonary hypertension and hypoxemia. Delivery of nitric oxide can be accomplished by use of nasal cannulae, face mask, and critical care ventilators. Intraoperatively, nitric oxide may be administered by anesthesia machines. Nitric oxide delivery through the aforementioned devices is complicated because the inspired nitric oxide concentration depends on many variables, and its administration *via* an anesthesia machine may result in rebreathing. Furthermore, there are toxicity issues to be addressed regarding the safe delivery of nitric oxide because of the production of nitrogen dioxide. Because many anesthesiologists will deliver nitric oxide, it would have been useful to discuss methods of nitric oxide delivery and the associated monitoring and safety considerations.

In summary, clinical anesthesiologists use anesthesia equipment every day in practice, and, as such, they should have an excellent working knowledge of these devices and the associated clinical techniques. *Understanding Anesthesia Equipment, 4th edition*, a comprehensive, clearly written, polished, and referenced text offers anesthesiologists and anesthesia technicians this essential knowledge and insight. I strongly recommend reading this text and including it in all anesthesia libraries.

**Stephen B. Corn, M.D.**, Assistant Professor of Anaesthesia, Harvard Medical School, Attending Anesthesiologist, Brigham and Women's Hospital, and Children's Hospital, Technology Consultant, Children's Hospital, Boston, Massachusetts  
corn@zeus.bwh.harvard.edu

**Peripheral Nerve Blocks: A Color Atlas.** Edited by Jacques E. Chelly, M.D., Ph.D. Philadelphia, Lippincott Williams & Wilkins, 1999. Pages: 223. Price: \$95.00.

The editor's goal with the creation of this atlas is to provide simple, practical instructions for the performance of peripheral nerve blocks that "maximize success and minimize complications." There are 30 contributing authors, and the atlas is organized into four main sections: general concepts (including patient preparation, nerve stimulators, and local anesthetics), single-injection peripheral blocks, continuous peripheral blocks, and pediatric peripheral blocks. Each chapter regarding a particular block begins with brief notes about indications, patient position, and recommended needle type and local anesthetic volume. The bulk of each chapter is made up of figures (mostly color photographs), anatomic landmarks, technique, tips, and suggested additional reading. There is some inconsistency in the level of detail, use of figures, and content of the tips section among authors.

The atlas is modest in size, but it is unique in its focus on peripheral nerve block for surgery and postoperative analgesia. Most current regional texts include considerable information regarding central blocks and blocks for chronic pain management. The section about continuous techniques (40 pages) is particularly useful, with emphasis on the variation in approach needed with catheter *versus* single-shot

techniques. The concept of choosing various local anesthetics for each portion of a peripheral block for targeted differential recovery also is presented. Nearly every chapter includes a valuable and current additional reference list, and the table of contents and index are thorough.

This atlas is seriously flawed, however, by a remarkable number (more than 50) of errors in text and figures. Minor errors include word substitutions, such as "pilocarpine" for "prilocaine," and decimal shifts, such as 15 mA for 1.5 mA. Incorrect figures with mislabeled muscles and nerves are presented. More significant errors, including the substitution of adduction for abduction, lateral for medial, and distal for proximal, will hinder a trainee's ability to apply block descriptions. Although most of the figures are useful, some contradict the description in the text, some show too limited a view, and some do not appear to be the correct figure for the text. One figure, which appears in four places, shows eversion of the foot to be the result of stimulation of the tibial nerve. Finally, there are phrases that are wholly incomprehensible; perhaps these are the result of translation errors from international contributors. In the preface, the editor states: "Thus, a transarterial approach necessitates the performance of axillary blocks." In another section, the superficial cervical (plexus) block is described: "Twenty to 25 ml of 1% lidocaine is infiltrated into the subcutaneous from C anteriorly toward the mastoid process to a point 2 cm superior to the clavicle." There is no diagram to aid the perplexed reader.

In summary, this atlas may be valuable for the clinician who wishes to expand into performance of pediatric regional or continuous blocks and is familiar enough with regional techniques to recognize and ignore the errors. A resident, fellow, or clinician new to performing regional blocks, however, may have difficulty applying this text to clinical practice until the unacceptable number of errors has been corrected.

**Robert S. Weller, M.D.**, Associate Professor of Anesthesiology, Wake Forest University School of Medicine, Winston-Salem, North Carolina  
rweller@wfubmc.edu

**Spinal Drug Delivery.** Edited by Tony L. Yaksh, M.D. Amsterdam, Elsevier, 1999. Pages: 614. Price: \$127.00

*Spinal Drug Delivery* is a deep, sometimes tough, but always efficient, compendium edited by Yaksh *et al.* Its aim is to describe spinal drug delivery in human therapy. For more than a century, considerable work has been done to deliver medicines (*e.g.*, local anesthetics and, more recently, numerous other drugs) near the central nervous system, and essentially close to the dorsal horn of the spinal cord for provision of anesthesia, and, later, sustained analgesia for painful chronic (*e.g.*, cancer) and degenerative diseases. During the past 3 decades, a growing number of preclinical and clinical studies related to epidural or spinal drug delivery have been published. Yaksh and others were involved deeply in the preclinical studies that led to a better understanding of the mechanisms of action of opioid and nonopioid drugs in the dorsal horn of the spinal cord. *Spinal Drug Delivery* is a comprehensive review and analysis of the tremendous amount of data available.

This book is in the straight line of previous textbooks, such as *The Management of Pain* (Bonica J, ed.) and *Neural Blockade* (Cousins M, Bridenbaugh P, eds.). *Spinal Drug Delivery* is complementary to these texts, but its overall direction is toward anesthesiologists involved in pain treatment or regional anesthesia and also toward neurologists, chemists, and researchers. This book provides substantial information and new insights regarding the topics that will be helpful for these readers. This is not a handbook for residents, and some experience and a knowledge of the related literature is advisable.

The text, organized in 26 chapters, is clearly written, with nice iconography. The first chapter details the history of local anesthetic

formulation and delivery since J. L. Corning's pioneer administration in 1885. In the second section of chapters, the embryology and gross anatomy of the spinal column and the anatomy and physiology of the spinal meninges in animals and humans are reviewed extensively. The chapter dedicated to the mechanisms of neurotoxicity is especially interesting. The third section of chapters regards the factors that govern the movements of spinally delivered drugs through the parenchyma, vessels, and meninges. The mechanics and chemistry of the cerebrospinal fluid are emphasized by A. A. Artru in a well-documented chapter, and C. M. Bernards explores the drug movements in the epidural space and cerebrospinal fluid. This chapter is particularly relevant for anesthesiologists who administer opioids and local anesthetics in the cerebrospinal fluid and in the epidural space. The two following chapters by C. Nicholson and S. Shafer present a high level of mathematical modeling of drug movements that is perhaps overly complex for the uninitiated.

The fourth section of chapters reviews the technical problems related to spinal delivery, such as tissue inflammation, validity of animal models, evaluation of description of catheter properties, and pharmacologic problems, including delivery through liposomes and microspheres. Practical details are provided regarding the spinal devices and the formulation of infused drugs; these chapters are of special interest

for physicians working in pain clinics.

The fifth section begins with a chapter by T. L. Yaksh and J. C. Eisenach, who describe preclinical and clinical considerations regarding the safety of spinally delivered drugs. Laboratory and clinical investigators can benefit from these pages; useful guidelines are provided for the development and receipt of new drugs approved for spinal administration. Finally, the last chapters focus on the therapeutic effects of drugs used in analgesia, regional anesthesia, treatment of spasticity, chemotherapy, and radiology. Trends for the near future regarding neurotrophins in degenerative diseases or cellular implants in severe pain are presented.

In conclusion, a valuable feature of this book is the provision of important theoretical and practical information for pain medicine practitioners and anesthesiologists and the highlighting of critical considerations that enhance the safety of spinal drug administration.

**M. Gentili, M.D.**, Staff Anesthetist

**Francis Bonnet, M.D.**, Professor and Chair, Department of Anesthesiology, Intensive Care and Pain Clinic, University of Paris VI, Hôpital Tenon, Assistance Publique Hôpitaux de Paris, France  
francis.bonnet@tnn.ap-hop-paris.fr