

Mark A. Warner, M.D., Editor

**Atlas of Ultrasound- and Nerve Stimulation-guided Regional Anesthesia.** By Ban C. H. Tsui, M.D. Consulting Editors: Vincent W. S. Chan, M.D., Brendan T. Finucane, M.B., B.Ch., Thomas Grau, M.D., Ph.D., and Anil H. Walji, M.D., Ph.D. New York, Springer Science+Business Media, 2007. Pages: 302. Price: \$170.00.

Regional anesthesia has made rapid advancement over the past 30 yr with the introduction of electrical stimulation to guide needle placement and the most recent addition of ultrasound. The key to a successful block is to deliver the local anesthetic to the target nerves. *Atlas of Ultrasound- and Nerve Stimulation-guided Regional Anesthesia* illustrates how to combine ultrasound and nerve stimulation to advance the art of regional anesthesia to a more scientific approach.

The book's first two chapters are brief introductions into the logistics of establishing a block room and garnering the supplies needed. They also include a comprehensive review of the physics of nerve stimulation and features of the equipment needed. The authors emphasize that nerve stimulation can be very helpful to novices as they learn to incorporate ultrasound into their regional practices, with the goal of confirmation that nerves on images and reactive to stimulation are actually nerves.

Chapters 3 and 4 provide an elementary look at the ultrasound basics, including physics and workings of the ultrasound machine. These chapters provide guidance in choosing the correct ultrasound probe (linear *vs.* curved array), which is essential for obtaining adequate images that will identify nerves. Tissue sonoanatomy, required to identify the various structures within ultrasound images, is introduced. After identifying the nerve, one of the more difficult issues to learn is to track the needle to the target nerve. Practical tips are given to assist clinicians in observing and maintaining the trajectory of the needle. The author introduces a "training wheel" laser light attachment system that he has developed to aid the beginner in aligning the ultrasound beam with an in-plane technique in guiding the needle to the nerve.

The remainder of the book is divided into chapters describing the most common regional blocks. The author is consistent with his stepwise approach to convey an easy and clear method in performing the various blocks with introduction of clinical anatomy followed by surface anatomy. Anatomical dissections, corresponding magnetic resonance imaging images, and ultrasound images are used for comparison to provide clinicians with a comprehensive view of anatomy. The message is clear that performing a successful regional block is dependent on a thorough understanding of anatomy. The chapters describe how to position the ultrasound probe to obtain the best images to perform the block. Comparison ultrasound scans of labeled and unlabeled images are educational tools used to learn the sonoanatomy of the different blocks. Appropriate motor responses to nerve stimulation are listed for each of the individual target nerves. Clinical pearls and troubleshooting suggestions are detailed at the end of each chapter.

Chapter 16 explores the role of ultrasound with regional catheter placement and stimulating catheters. As the author notes, there is not an abundance of information in the literature regarding ultrasound guidance of catheters and stimulating *versus* nonstimulating catheters. The chapter is based primarily on the author's clinical experience and gives several helpful suggestions on placement of catheters.

One of the challenges of ultrasound imaging is learning sonoanatomy and being able to identify nerves. Examples of the ultrasound images throughout the book were adequate but challenging. In several of the images, it was difficult to clearly see the nerves, a problem that is unfortunately realistic and often the case when performing ultrasound-guided nerve blocks. For the beginner, it may be helpful to be able to compare both ideal and mediocre ultrasound images.

In summary, the authors are to be congratulated for a well-designed book that explains their approach to performing regional blocks with

the aid of nerve stimulation and ultrasound. The book offers an easy-to-follow stepwise introduction of ultrasound for beginners and several advanced ultrasound techniques for experienced clinicians. The book provides numerous practical suggestions on how to safely perform regional blocks with high success rates. This is an excellent resource for any clinician performing regional blocks.

**Steven R. Clendenen, M.D.**, Mayo Clinic, Jacksonville, Florida. clendenen.steven@mayo.edu

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**Understanding Anesthesia Equipment, 5th Edition.** By Jerry A. Dorsch, M.D., and Susan E. Dorsch, M.D. Philadelphia, Wolters Kluwer, Lippincott Williams & Wilkins, 2008. Pages: 1,036. Price: \$159.00.

The first edition of *Understanding Anesthesia Equipment* appeared in 1975 and contained 311 pages at a cost of \$16.50. The cover of the first edition displayed a copper kettle vaporizer. A book review at the time stated that "This is a remarkably useful book."<sup>1</sup> It would not be overstating the case that this textbook has, over time, helped to define the practice of anesthesiology. The initial edition of this textbook made it clear that the anesthesiologist was responsible for the equipment used in the care of patients. To the benefit of multiple generations of anesthesiologists, the authors have continued to write about anesthesia equipment for the past 37 yr.

Since 1975, equipment technology has escalated at an exponential rate, and the authors have kept up with all of these changes in an exemplary manner. They are to be commended for their hard work and their dedication to educating the anesthesia community regarding anesthesia equipment issues. The fifth edition of *Understanding Anesthesia Equipment* is 1,036 pages long and has 968 illustrations and 34 chapters. It is a comprehensive reference book describing every category of the different types of equipment used in anesthesiology today.

Unlike most major textbooks, which have dozens of contributors, the fifth edition of this book has only two. This makes the writing style of the various chapters consistent, and there is no problem with overlapping text. On the other hand, no one can be expected to be an expert in all aspects of such an extensive field. This creates a bit of an uneven coverage. Because the subject matter is highly technical, the writing style is also technical, though not as dry as its reputation. Excellent black-and-white illustrations, photographs, diagrams, and drawings improve the book's clarity and ease of understanding.

The fifth edition is organized into six main sections: gas supply and distribution systems, anesthesia machines and breathing systems, airway equipment, monitoring devices, equipment related to environmental situations, and equipment care. The chapter topics are well selected and consistent with the topics from previous editions. Each chapter is laid out using an orderly format. The beginning of each chapter has a detailed outline that acts as a table of contents.

Several new chapters have been added to the fifth edition. Chapter 3 describes suction equipment and techniques. Chapter 15 provides an excellent review on latex allergy. Chapter 20 has useful information on lung isolation devices. Emergency airway devices are described in detail in chapter 21. A precise description of the temperature control equipment is found in chapter 31. The increasingly important areas of prevention and controlling operating room fires are covered in chapter 32.

Several chapters have been expanded to keep up with advances in technology. For example, in the chapter on vaporizers, descriptions of

new equipment have been added (*e.g.*, the Tec 7). The anesthesia ventilator chapter has been expanded to give a detailed description of different ventilators. Chapter 17 describes supraglottic airway devices. All of these new devices have a great impact on anesthesia practice. The Dorschs provide an excellent review of them and the indications for their use.

All of the chapters are very well referenced. In the past, some have said that the textbook is over-referenced, but I like the attention to detail. After the references, there are board-type questions (including the obsolete K-type format) at the end of each chapter for review, including the answers to all of the questions.<sup>2</sup> Another noteworthy feature found in this edition is instant access to an interactive Web site ([www.understandinganesthesiaequipment.com](http://www.understandinganesthesiaequipment.com)) where there is a test bank with more than 500 multiple-choice questions with full answers.

Anesthesiologists use anesthesia equipment every day. Because of the standard set by the Dorschs, they are expected have an excellent working knowledge of this technology. *Understanding Anesthesia*

*Equipment*, 5th Edition, is a well-written, well-organized, technical, up-to-date, comprehensive reference book that offers anesthesiologists and anesthesia technicians this important knowledge and insight. To quote the review from 1975, "This book should be in the hands of every practicing anesthetist."<sup>1</sup> It is good to know some things have not changed.

**Aymen A. Alian, M.D., Kirk H. Shelley, M.D., Ph.D.\*** \*Yale University and Yale New Haven Hospital, New Haven, Connecticut. [kirk.shelley@yale.edu](mailto:kirk.shelley@yale.edu)

## References

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