Mark A. Warner, M.D., Editor

Peripheral Regional Anesthesia: An Atlas of Anatomy and Techniques, 2nd Edition. Edited by Gisela Meier, M.D., and Johannes Buettner, M.D. Stuttgart, Germany, Georg Theime Verlag, 2007. Pages: 253. Price: $159.95.

A detailed understanding of anatomy is a key component to the successful practice of regional anesthesia. The ability to visualize the anatomical landmarks and their relationship to the nerves is crucial to successful neural blockade. Drs. Meier and Buettner's *Peripheral Regional Anesthesia: An Atlas of Anatomy and Techniques*, 2nd Edition, assists the practitioner of regional anesthesia in the understanding of the anatomical relationships necessary to successfully complete peripheral nerve blockade.

There are many regional textbooks and regional anesthesia atlases currently available. Drs. Meier and Buettner have created one of the most comprehensive regional anesthesia anatomical atlases currently available. The combination of cadaveric pictures, artistic illustrations, and live model surface landmark imaging provides the reader with a true appreciation of the landmarks and relationships involved in regional anesthesia techniques. In addition, the atlas provides detailed descriptions, illustrations, and anatomic dissections of multiple approaches for each type of peripheral nerve block.

This atlas provides insights into regional anesthesia for both the beginning regional anesthesia practitioner and the regional anesthesia expert. For example, chapter 3 on infraclavicular brachial plexus blockade presents the two main approaches to the block with the original technical descriptions referenced and multiple illustrations, including pictures of human models with surface landmarks drawn and needle insertion position and orientation represented, along with cadaveric pictures with the needle in place to demonstrate proper needle position in relation to the nerves.

In addition to a thorough anatomical review of the regional anesthesia, Drs. Meier and Buettner begin each chapter with a detailed review of the relative anatomy for each described block and conclude each chapter with (1) the expected sensory and motor effects; (2) the indications and contraindications; and (3) the complications, side effects, and method-specific problems.

Unfortunately, this atlas has limitations. The use of ultrasound in the practice of regional anesthesia is becoming more prominent and is the focus of many of the current discussions in regional anesthesia. This atlas does not include any significant ultrasonic imaging. I believe this is a major shortcoming to any new atlas of regional anesthesia. This is especially disappointing given the terrific anatomical illustrations present in the book; the inclusion of ultrasound imaging had the potential to make this a defining regional anesthesia atlas. Another shortcoming of the book is the lack of attention paid by the publisher to the relation of the text to the illustrations. The text seems to be placed in any open page space. This type of text insertion makes for an especially disjointed reading of the technical descriptions and makes the reader constantly flip pages to view the illustration being referenced.

In summary, this is an excellent atlas of regional anesthesia with a thorough description of multiple techniques for each block type. The cadaveric pictures, artistic illustrations, and accompanying radiographic images are well done and printed on high-quality paper. Unfortunately, ultrasonic imaging is not significantly included, and the text is interspersed with the images, making for a difficult, broken read. Overall, this book is competitively priced at $159.95 (Amazon.com) and provides a very good reference to the traditional practice of regional anesthesia for both the novice and the expert.

Christopher M. Duncan, M.D., Mayo Clinic, Rochester, Minnesota. duncan.christopher@mayo.edu

(Accepted for publication November 28, 2007.)

Cardiopulmonary Bypass: Principles and Practice, 3rd Edition. Edited by Glenn P. Gravlee, M.D., Richard F. Davis, M.D., M.B.A., Alfred H. Stammers, M.S.A., C.C.P., and Ross M. Ungerleider, M.D., M.B.A. Philadelphia, Lippincott Williams & Wilkins, 2008. Pages: 783. Price: $179.00.

For those of us who care for patients undergoing cardiac and thoracic surgery, cardiopulmonary bypass (CPB) can be a confusing and intimidating process that uses complex machinery and involves complicated and occasionally perplexing physiology. The physiologic effect of nonpulsatile circulation, only one aspect of CPB, is by itself a formidable concept to understand. *Cardiopulmonary Bypass: Principles and Practice*, 3rd Edition, does an outstanding job of explaining both the mechanical and physiologic process of CPB.

Structurally, the book is of the quality one would expect for a reference text: hardback and solidly bound. The chapters are written by a combination of anesthesiologists, surgeons, and perfusionists. Scanning the list of contributing authors, one will recognize many names notable for their significant contributions to the published literature surrounding cardiac surgery and CPB. The chapters are extremely well referenced, with nearly all chapters containing more than 100 references and some chapters with nearly 600 references. The text is accompanied by an abundant number of figures and tables, and the end of each chapter includes a short list of key points.

The text is divided into six logical sections: History; Equipment; Physiology and Pathology; Hematology; Clinical Applications; and Neonates, Infants, and Children. Although I usually find the historical sections of textbooks to be uninteresting, the first two chapters of the book, written by pioneers in the development of CPB, are entertaining, informative, and well worth reading.

Many clinical anesthesiologists may find the section on equipment a bit dry. However, this has to do with the nature of the material and is no fault of the chapter authors. I don't believe any author would relish the task of making the physics of roller pump function entertaining reading. In fact, this section of the book may be the most important part of the text for the clinician who has never taken the time to obtain an in-depth understanding of CPB mechanics. Clearly, problems with CPB can lead to significant morbidity and mortality. It is important that when problems occur, anesthesiologists have at least a basic understanding of the CPB machinery such that they are able to assist in finding solutions. These chapters certainly provide this important information.

The third section of the book discusses the physiology and pathology of CPB. These chapters are equivalent to very-well-written, evidence-based review articles. They are authored by recognized experts and heavily referenced, allowing the interested reader to easily go back to the primary literature regarding a specific subject. The section includes nearly any physiologic topic one could imagine encountering during CPB. One minor weakness is the lack of a discussion of "normothermic" bypass in the chapter covering temperature management (this subject is addressed somewhat in the chapter on the neurologic effects of CPB).

The section covering hematologic issues is similarly well written. Controversy regarding what consists of "adequate anticoagulation" is debated in detail. The chapter on heparin reversal is the most in-depth discussion of protamine, a drug with the potential to cause significant morbidity, that I have encountered. Extensive coverage is also given to coagulation testing and prevention of post-CPB bleeding. When reading the book completely through, one does encounter a bit of redundancy in these chapters. However, this would go unnoticed if one were selectively reading chapters of interest.

Six chapters are devoted to the clinical applications of CPB. The chapters entitled "Conduct of Cardiopulmonary Bypass" and "Termination of Cardiopulmonary Bypass" may be of particular interest to the

young resident first encountering cardiac anesthesia. They serve as a road map for the general course of CPB and weaning from bypass. An interesting addition to this section is the two chapters covering teamwork and patient safety in CPB. The second of these is written as a narrative from the point of view of a chief perfusionist. It is an interesting and effective writing style I have not encountered elsewhere. These two chapters represent the global movement to recognize the importance of "system-based practices." This section concludes with a chapter discussing extracorporeal membranous oxygenation for adult patients but only covers its use for respiratory support. Future editions may benefit from a discussion of the use of extracorporeal membranous oxygenation for adult patients requiring circulatory support as well.

The book concludes with five chapters devoted to the care of pediatric patients, an expansion from previous editions where this subject was covered in one chapter. The relative vulnerability of the immature heart and brain is discussed in detail, and these chapters represent an important improvement from the previous edition of this text. The chapter covering extracorporeal membranous oxygenation for infants and children nicely discusses this complex topic.

All points considered, this is an outstanding textbook with few weaknesses or omissions. It is extremely current, with many of the thousands of references having been published in the last few years. Anesthesiologists caring for cardiac surgery patients, cardiothoracic surgeons, and perfusionists are the readers most likely to benefit from owning this book. Fellows training in cardiac anesthesia or surgery will benefit immensely from at least reading selected chapters, although the book reads so well it is not difficult to cover in its entirety. As a reference text, departmental libraries should certainly consider purchasing a copy for their trainees.

William J. Mauermann, M.D., Mayo Clinic College of Medicine, Rochester, Minnesota. mauermann.william@mayo.edu

(Accepted for publication January 7, 2008.)

CORRECTION

The fourth sentence of the Results section of the abstract in the article on pages 658–66 in the April 2006 issue of ANESTHESIOLOGY contained a numerical error. The sentence should have read as follows:

The threshold of mean daily value of S100B predicting a poor outcome at 6 months was 0.4 μg/l (sensitivity = 0.50 [95% confidence interval (CI), 0.29–0.71], specificity = 0.87 [95% CI, 0.76–0.95]).

Weiss N, Sanchez-Peña P, Roche S, Beaudeux JL, Colonne C, Coriat P, Puybasset L: Prognosis value of plasma S100B protein levels after subarachnoid aneurysmal hemorrhage. ANESTHESIOLOGY 2006; 104:658–66