

James C. Eisenach, M.D., Editor

Clinical Pharmacology of Local Anesthetics. By John E. Tetzlaff, M.D. Boston, Butterworth-Heinemann, 2000. Pages: 258. Price \$50.00.

As one with an interest in the care, feeding, breeding, and propagation of local anesthetics and regional anesthesia, I greatly looked forward to this new textbook on the subject. Having now read the book, I congratulate Dr. Tetzlaff on the extent and breadth of the references cited in the body of this work. Nevertheless, there are some problems. Fundamentally, the research with and about local anesthetics is presented in an undigested and uninterpreted way. In a work of this type, I would expect the author to evaluate the significance of research findings. Older, supplanted theories about local anesthetic mechanisms and toxicity should be identified as such. I would contrast this volume with *Local Anesthetics*, edited by G. Strichartz,¹ and *Local Anesthetics* by R. de Jong,² in which data are both presented and evaluated.

Throughout the text, chemical drawings of local anesthetic molecules were drawn freehand. Freehand drawings of aromatic ring structures may be acceptable in undergraduate organic chemistry notebooks but certainly are not appropriate in a published work, given the wide availability of chemical structure drawing programs (e.g., ChemDraw; CambridgeSoft Corp., Cambridge, MA) and of plastic hexagonal templates. Perhaps the most glaring examples occur on page 126, where two different freehand renderings of ropivacaine consume much of the page.

There are also factual errors. For example, the author states that the axon can maintain conduction independent of a cell body for up to 5 h (this interval can be much longer, but depends on the species and nerve); contrasts Na and K channels, stating that, unlike K channels, Na channels conduct ions only in the open conformation (the open conformation is necessary for both channel forms); and asserts that the duration of local anesthetics is related to protein binding (this hoary chestnut persists despite there being no known connection between binding of local anesthetics to proteins in blood and the duration of local anesthetic action on the Na channel). It also seems odd that the nature of the local anesthetic binding site on the Na channel was not described in greater detail, given the extent of molecular genetic studies that have been performed in the past 5 yr. The body of experimental data comparing enantiomer-specific local anesthetic mechanisms was given limited consideration, despite the importance of optical isomerism in the development of the two local anesthetics (ropivacaine and levobupivacaine) most recently approved by the US Food and Drug Administration.

In summary, Dr. Tetzlaff should be commended for his ambition: There are few academicians bold enough to attempt a single-author textbook of this breadth. And, he has summarized nicely the clinical application of local anesthetics, whereas some other recent textbooks on local anesthetics have gotten no "closer" to a patient than to provide the pharmacokinetic parameters in humans.

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References

1. Strichartz GR: *Local Anesthetics*. Berlin, Springer-Verlag, 1987
2. de Jong RH: *Local Anesthetics*. St. Louis, Mosby-Year Book, 1994

Atlas of Applied Respiratory Physiology. Edited by Richard M. Wahba, M.D.. Zeneca, 1999. Pages: 128. Price: Free.

Even in this era of relentless high technology and "whiz-bang" molecular medicine, a thorough understanding of plain old respiratory physiology is still essential to the proper care of the perioperative patient. The *Atlas of Applied Respiratory Physiology* targets house staff and clinicians who desire a brief review of this important topic. The editor is a respected investigator who has made important contributions to the field for many years and is well-qualified to undertake the task.

The selection of materials is not encyclopedic (which would not be appropriate for this teaching aid), but concentrates on topics of direct clinical interest. On the whole, there is much useful information presented. The chapters from Drs. Hedenstierna and Drummond are particularly valuable, presenting basic concepts of gas exchange and chest wall mechanics in a refreshing manner and nicely updating recent contributions to the field (which are ignored in many recent major anesthesia texts). Unfortunately, reflecting the unevenness typically associated with multiauthored texts, some other chapters are dated. For example, we now know that the distribution of pulmonary blood flow is determined largely by structural determinants in the pulmonary vasculature, not simply by gravity, as in the classic formulation. None of the several chapters that discuss pulmonary blood flow mention this fact. Recent advances in understanding regarding the innervation of the lung also are not discussed.

Some of the areas covered are quite topical, such as lung transplantation and thoracoscopy, and go beyond the standard texts. In other areas the authors fail to take advantage of opportunities to introduce concepts that are of current interest. Welcome additions would include discussion of practical methods used to measure respiratory mechanics (especially the work of breathing) with modern monitors, introduction of the important concept of "protective" ventilatory strategies in acute lung injury, and the somewhat mysterious benefits conferred by lung volume reduction surgery.

Given the premise that an atlas aids learning *via* the effective visual integration of diagrams, figures, and text, many readers may be disappointed by the layout of the book. Although I personally find the type of black and white line drawings presented in this text to be informative, many readers have come to expect a level of graphic sophistication that this book does not deliver. The text is presented in a simple double-spaced format, entirely separated from the figures on the opposite page, that, in some ways (such as in the labeling of section headings), is not consistent from chapter to chapter. Curiously, individual figures within a page are not labeled, such that it is often difficult to determine the figure to which the text refers. When present, some of the labeling is incorrect (e.g., chapter 3). Thus, although many of the individual figures are well-rendered, they are often not integrated with the text in an effective way. Nonetheless, the reader willing to invest a bit of time will be rewarded.

Any book in this field inevitably will be compared with John Nunn's classic *Nunn's Applied Respiratory Physiology*.¹ Although Nunn's text remains the definitive reference, the *Atlas of Applied Respiratory Physiology* represents a useful supplement that deserves a place in anesthesia libraries.

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Reference

1. Lumb A: *Nunn's Applied Respiratory Physiology*, 5th edition. Oxford, Butterworth-Heinemann, 2000