

*Michael J. Avram, Ph.D., Editor*

### **A Practical Approach to Anesthesia Equipment.**

By Jerry A. Dorsch, M.D., and Susan E. Dorsch, M.D.  
Philadelphia, Lippincott Williams & Wilkins, 2010. ISBN-10: 0-7817-9867-1. ISBN-13: 978-0-7817-9867-9.  
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The amount and complexity of anesthesia equipment has been growing since the time the first anesthetic was delivered. The first edition of the Dorsch and Dorsch text *Understanding Anesthesia Equipment* was published in 1975, and it has continued to be the premier anesthesia equipment reference text through the 5th edition, which was published in 2008. However, like most comprehensive reference texts, it would be a daunting task for someone who is relatively new to anesthesia to try to learn about anesthesia equipment by starting on page one of *Understanding Anesthesia Equipment* and reading the whole book. The knowledge gained would be excellent if such a challenge was met, but with limited time it would be hard to do.

In the preface to *A Practical Approach to Anesthesia Equipment*, Drs. Dorsch and Dorsch note that the size of their previous text “intimidates many trainees. ... This text is aimed to give trainees basic information about the equipment they employ on a daily basis. We have tried to focus on equipment use as well as problems that could occur.” Quite simply, in this book they have met their stated goals; this text is appropriate for a medical student, resident, or consultant as an easy-to-use reference. The organization follows that of *Understanding Anesthesia Equipment* closely, with nearly identical sections and chapters. Unlike the longer tome, this version uses an outline form to convey information in a concise, easy-to-read and search format. It allows quick access to information. The condensed format also focuses on the details of equipment that affect the daily application of each device. For example, only Mapleson circuits in common use are described in any detail. The chapters are grouped logically, with an appropriate progression from commonly used devices to more esoteric devices.

In addition to being more accessible to readers new to learning about anesthesia equipment, there are two major changes worth noting. First, many of the figures and photographs are in color, making them easier to read and follow. The second are small sections of offset text: “Clinical Moments.” Each is highlighted within the flow of the outline and provides wisdom in the form of clinical pearls to optimize use of equipment or to avoid possible pitfalls.

Despite its outline format, the text is surprisingly complete and very specific. It includes nearly every piece of anesthesia equipment on the market, along with photos and diagrams. The diagrams are self-explanatory, requiring little annotation to convey concepts.

Specific chapters within *A Practical Approach to Anesthesia Equipment* illustrate its usefulness for the practicing anesthesiologist. For example, the vaporizer chapter provides a com-

prehensive discussion of vaporizer technology, from the basic physics of the machine’s function to the variety of filling systems and newest iteration of computer-controlled cassette vaporizers. The diagrams of this chapter are particularly helpful, and the Clinical Moments point out potential hazards.

Another area of anesthesia equipment that is constantly evolving is breathing systems. From the Mapleson circuits to the decoupling valve of the new Dräger circuits, the breathing systems chapter explains the intricacies of each system. The use of color diagrams helps to differentiate flow during inspiration and expiration within each circuit and highlights the differences in each system.

Ventilator design also reflects the incorporation of newer technology into anesthesia equipment. As computer controls become more prevalent, the clinical moments within the anesthesia ventilator chapter point out potential downsides of the new technology. For example, with each change of the breathing circuit, newer computer-controlled ventilators need to have a new electronic checkout performed to ensure accurate tidal volume delivery. Without a new checkout, the ventilator will use data from the previous circuit to determine tidal volumes.

Fiber-optic and lighting technology are also evolving, adding to the variety of airway equipment available. The airway equipment section provides a complete survey of all airway devices, from old to new, in five well-organized chapters. The laryngoscope section includes discussions of new light-emitting diode (LED)-powered handles and the latest video laryngoscopes. The supraglottic airway devices chapter covers every variation of the LMA™ (San Diego, CA) and clinical scenarios in which the devices are best used.

The airway volumes, flows, and pressures chapter covers a topic that appears less and less in other texts. Spirometry loops are well detailed in this chapter, including variations in the appearance of loops based on mode of ventilation and changes that occur with airway obstruction, and the effects of changes in resistance and compliance are illustrated.

These individual chapters highlight just a few of the many useful chapters within this text. In an ever-evolving specialty with equipment constantly incorporating new technologies, *A Practical Approach to Anesthesia Equipment* is an excellent resource to help the new trainee or the experienced consultant stay current. The concise outline format and excellent diagrams make this an easy-to-search text. The information presented is up to date and clinically useful, making this an excellent addition to the library of both the new trainee and the experienced consultant.

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