

The Anesthesiologist's Bookshelf

Edited by MEREL H. HARMEL

The Mechanical Basis of Respiration. By RICHAUD M. PETERS. Boston, Little, Brown and Company, 1969. Pp. 393. \$17.50.

This textbook, subtitled "An Approach to Respiratory Pathophysiology," has been written for the "theoretical clinician." Dr. Peters, Professor of Surgery at the University of California, San Diego School of Medicine, is a cardiovascular surgeon and a bioengineer. The book reflects his background, interest and training in these fields and is written in a concise, accurate, quantitative fashion. He has designed a difficult-to-grasp but easy-to-read body of information concerning respiratory physiology and its clinical implications.

The chapters on anatomy and acid-base balance and ventilation are not extraordinary, but the chapter, "Mechanical Properties," is worth the cost of the book. The author's treatment of compliance and resistance, the mechanical and electrical analogs, and the clinical applications of these data are excellent, if not classic. The diagrams and art work in this chapter (and many of the others) are quite unusual. Pulmonary circulation is treated quite differently and reflects the thoracic surgical emphasis. The Starling resistor diagram is interesting from a pedagogical viewpoint.

Chapter 7, "Coordination of Ventilation and Perfusion," appears to be particularly dependent on electrical analogs, and one should be able to read circuit diagrams when finished. The chapter, "The Energy Cost of Breathing," deeply reflects the author's bioengineering background. His treatment of anesthetic phenomena indicates his "innocence" in this area. This reviewer would take issue with many of his statements concerning endotracheal tubes, deadspace phenomena, bronchoconstriction, atelectasis, and the effects of anesthetic agents on the respiratory system in general. The author's discussions of paradoxical respiration and open pneumothorax in chapter 12 are simple, brief and excellent. The chapter on ventilators is different and disappointing.

It is obvious that the author is well-read and has positive ideas in this "never-never land of pulmonary physiology." The cover advertises that the book is written for the surgeon "who is the medical mechanical engineer." In this era of oscilloscopes, electronic alarm systems and intensive care units, the surgeon is not the only specialist who claims the right to this title. Anesthesiologists should read the book, for it is sure to provide novel concepts and interesting ideas from the mind of a man well versed in medicine, surgery and engineering.

As anesthesiologists, we may not agree with some of the author's beliefs, but this excellent book

must be recognized as an achievement in the organization on a mechanical basis of clinical respiratory physiologic information. It is a "must" for every anesthesia department library.

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Chest Tubes and Chest Bottles. By ARNDT VON HIPPEL. Springfield, Charles C Thomas, 1970. Pp. 96. \$7.00.

The important subject of chest tubes and chest bottles is reviewed with illustrative instances of do's, don't's, and look-what-happened's. The practical features of fluid and air in the pleural cavity, how they got there, how to get rid of them, and what equipment to use are presented in a general and rather discursive manner. This is a volume helpful for the beginning medical student, the nurse, and other paramedical personnel. It offers little for the serious student of physiology, the surgical resident, or the thoracic surgeon. One wishes the presentation were more sophisticated, up-to-date, and inclusive of more of the presently used methods of intrapleural drainage (*i.e.*, the plastic disposable sets). However, the importance of this subject and absence of any other monograph on this topic makes this book timely and worthwhile.

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Rapid Interpretation of EKG's. By DALE DUBIN. Tampa, Florida, Cover Publishing Company, 1970. Pp. 265. \$9.50.

This is a programmed text for learning rudimentary electrocardiography. It seems aimed at persons without any knowledge of electrocardiography. The theoretical and factual aspects of the book are not strong and too frequently are inaccurate. Likewise, the use of terms is imprecise. Examples include ". . . The QRS complex represents electrical stimulation of the ventricles and their subsequent contraction" (p. 145); ". . . ventricular depolarization proceeds through the thickness of the ventricular wall at the same time . . ." (p. 146). It cannot be recommended.

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