

Book Reviews

B. Raymond Fink, M.D., Editor

The Regulation of Respiration during Sleep and Anesthesia.

EDITED BY R. S. FITZGERALD, H. GAUTIER, AND S. LAHIRI. New York, Plenum, 1978. Pages: 448. Price: \$39.50.

This book is an interesting compilation of papers presented at a satellite symposium on Respiratory Control held in conjunction with the 1977 International Physiological Congress in Paris. It is a tribute to its editors that the book has reached the public within a year of the meetings. The subject matter of the volume covers four major influences on respiratory control: sleep and anesthesia, brain acid-base environment, peripheral inputs, and central interaction, and gives quick access to current thinking in these areas. The volume documents progress made over the past few years toward a more precise definition of the anatomic location and specific function of rhythmic medullary neurons. There is a heightened interest in features of respiratory control such as inspiratory and expiratory timing, the general profile of tidal breaths, and new methods of quantitating respiratory output with the use of elastic loads. Also noteworthy are a fresh look at the slow speed of pulmonary CO₂ equilibration and the continuing intense interest in acid-base regulation of the central nervous system.

The brevity of each presentation is a strength in that thoughts are crystallized succinctly. However, brevity also sacrifices completeness. For this reason the newcomer to the study of respiration may find this difficult reading. Fortunately, much of this material has appeared in full in published articles. In summary, this volume provides a useful current scan of the field of respiratory control.

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Pulmonary Disease of the Fetus, Newborn and Child. BY E. M. SCARPELLI, P. A. M. AULD, AND H. S. GOLDMAN. Philadelphia, Lea and Febiger, 1978. Pages: 680. Price: \$54.00.

Currently there are few comprehensive books dealing with the problem of pediatric respiratory care in the operating room or in the intensive care unit, and I had hoped that this book, the eagerly awaited "companion volume" to Scarpelli and Auld's previous work (1975), *Pulmonary Physiology of the Fetus, Newborn, and Child*, would help meet the need. The earlier book discussed the normal physiology of the developing lung, and it was a valuable compendium of information otherwise scattered in many places in

the scientific literature. This present book deals with the pathophysiology of pulmonary disease in the developing lung and is of some help in intensive care, but does not fully meet the need of the anesthesiologist in the operating room.

The authors have set out to cover a difficult subject with the help of twenty contributors; they have largely been successful in producing a valuable reference work. They begin with a section on examination of the lung, a topic covered in great detail, and well done. This is followed by a brief chapter on respiratory pathophysiology, leading to a section on airway management and mechanical ventilation. The suggestions regarding airway management are useful to the practicing anesthesiologist, but the section on mechanical ventilation is rather brief and provides only an overview of the subject.

A chapter on inhalation therapy, which concentrates mainly on equipment provides a useful source of information. Also included in the chapter is another brief discussion of mechanical ventilation. There is a chapter on anesthesia, discussing some applications of newer concepts in pediatric respiratory physiology. There is also a lengthy section on pediatric thoracic surgery, followed by others dealing with pulmonary circulation, upper airway disease, bronchitis, bronchiolitis, asthma, and other respiratory diseases.

The coverage in the book is fairly comprehensive, but uneven. While unevenness is the hallmark of most multiauthored texts, this book varies more than most. Some subjects are well covered, others are only briefly mentioned. For instance, at least three separate chapters discuss mechanical ventilation. Each chapter deals with the topic in its own way, and sometimes conflicting statements are made. The information included in these three chapters could more profitably have been placed in one larger, expanded chapter. There are some unfortunate errors, such as the confusion between pressure-cycled and time-cycled ventilators, or the dangerous suggestion that mechanical ventilation should be immediately instituted for patients with diaphragmatic hernia or with tracheoesophageal fistula. Most pediatric anesthesiologists would avoid mechanical ventilation in such patients until it became absolutely necessary.

Pulmonary Disease of the Fetus, Newborn and Child contains a wealth of information about pulmonary pathophysiology in the developing lung. The strong point of the book is its coverage of medical aspects of respiratory disease, and for that reason it would be useful as a reference text for anesthesiologists who might be called upon for consultation in pediatric respiratory care.

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