

# The Anesthesiologist's Bookshelf

Edited by MEREL H. HARMEL

**Principles and Practice of Obstetric Analgesia and Anesthesia.** By JOHN J. BONICA. Vol. 1, pp. 837. Philadelphia, F. A. Davis Company, 1967.

Dr. Bonica's projected two-volume work on the "Principles and Practice of Obstetric Analgesia and Anesthesia" is the product of extensive experience and ten years of contemplation and preparation. Volume one, published in 1968, consists of seven sections subdivided into a total of 47 chapters. The first section is devoted to maternal physiology and psychology, the second to uteroplacental, fetal and neonatal physiology. Section three deals with the pharmacology of analgesics and sedatives, muscle relaxants, vasoactive drugs, oxytocics and uterine relaxants. Sections four and five describe the pharmacologic, technical and clinical considerations of general and regional analgesia-anesthesia. The sixth section pertains to maternal complications of general and regional anesthesia, and the seventh to the principles and techniques of psychologic analgesia. Volume two will deal with the clinical aspects of obstetric analgesia-anesthesia.

Each chapter is a well delineated self-sufficient unit, enabling the reader to find all significant information within a single text. While this organization of material inevitably has led to repetition, the need to consult different chapters or other texts is obviated. The book was written for anesthesiologists, nurse anesthetists, obstetricians, pediatricians, general practitioners and others involved in the care of the parturient woman and her infant. Thus, some chapters are of greater value for certain physicians than for others. Volume one has been available in the libraries of the Department of Anesthesiology and the Department of Obstetrics of our institution since publication. In both libraries, the book is consulted regularly to answer specific questions. Anesthesiologists find the sections dealing with physiologic aspects most informative, while the obstetricians are attracted to the chapters pertaining to pharmacology and anesthetic practices.

Dr. Bonica's book is the most comprehensive text on obstetric anesthesia to date. I consider it a superb reference book and a major contribution to the medical community. It is well written, generously illustrated with excellent graphs and figures, and provided with an extensive bibliography. It gives the reader a broad base of fundamental knowledge from which he can develop rational independent judgments and clinical decisions. Dr.

Bonica's book will undoubtedly elevate the status of obstetric anesthesia and, simultaneously, reflect much credit to the specialty of Anesthesiology.

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**The Surfactant System of the Lung.** By EMILE M. SCARPELLI. Pp. 269. Cloth. Philadelphia, Lea & Febiger, 1968.

Preparation of a text on the surfactant system of the lung, a subject in the interstices of sciences, is a challenge since so many disciplines are represented. To satisfy simultaneously pathologists, pediatricians, physiologists, and physicists requires rare talent. Because the background science lies in a branch of physics glossed over in the usual physics text, considerable stress must be applied by the casual reader in acquiring the basic knowledge about surface tension and pulmonary mechanics. In the introduction the entire volume is clearly and simply summarized chapter by chapter. In the subsequent chapter, "Pulmonary Mechanics and Surfactants," a semihistorical approach to the role of pulmonary surfactant in the lung's pressure-volume relationships is utilized to ease the reader without previous acquaintance with the subject into a knowledge of the Laplace equation, P-V diagrams and area-surface tension diagrams.

The chapters "Pulmonary Mechanics and Surfactant" and "Pulmonary Pathology and Surfactants" will be of most interest to anesthesiologists. "Fetal Physiology and Surfactants" and "Respiratory Distress Syndrome of the Newborn" are most informative to those oriented toward obstetrical and pediatric practice. For those who plan to initiate research projects, the chapter on "Biochemistry" and its associated bibliography provide excellent guides to current methods. Philosophy of the subject is included in "Physical Factors and Physiology." The accepted histologic evidence that the alveolar cell type II produces in lamellar bodies the pulmonary surfactant is now under attack by proponents of the Clara cell of the terminal bronchiole; both arguments are presented in the chapter on "Morphology and Histochemistry."

One paragraph in Doctor Scarpelli's text defines progress to date in the study of the pulmonary surfactant: "There is no disease including respiratory distress syndrome in which a primary defect of the surfactant system has been demonstrated

conclusively as the etiological factor. The science of pulmonary surfaces is comparatively young and much needs to be learned, especially in the area of normal physiology and assay methodology. In addition other properties of the alveolar lining layer that may influence alveolar stability need to be elucidated and defined in detail."

Every scientific subject passes through three stages of sophistication: descriptive, quantitative, and elaborative. The study of the surfactant system of the lung is just entering the quantitative stage. "Reliable and reproducible primary extraction methods in which the system is recovered unaltered from the lung" are not extant as long as "standardization of the extraction method for a particular laboratory is an empirical process." Actually, the standardization on 3 gm of lung per 50 ml of saline was the result of the weight of a rat lung (3 gm) and the volume of the first surface balance trough (50 ml). Because of the variability in extraction procedures the resulting admixture of odds and ends in extracts, washings and foams has been characterized chemically only as to major classes of lipids and fatty-acid composition. Obviously, the best biophysical and chemical assay methods cannot compensate for sampling error. Even the question of whether the alveolar lining layer contains a lipoprotein has not been settled. Once we know what to assay and how to sample properly, progress in this area should accelerate. Hopefully, the publication of this text will elicit new methodology and stimulate quantitation in the field.

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**Paediatric Anaesthesia.** By H. T. DAVENPORT.  
Pp. 181. Cloth. Philadelphia, Lea and Febiger, 1967.

The field of pediatric anesthesia has matured sufficiently that a need exists for a text, first to document the unusual technical and clinical problems and solutions and then to collect and organize the growing body of literature on this subject from anesthesia, pediatric, and surgical journals. Therefore, each announcement of a book on pediatric anesthesia is met with the optimistic hope that at last the job has been done. Unfortunately, "Pediatric Anaesthesia" by Harold T. Davenport falls short of the need.

Its 181 pages are arranged in 13 chapters and five appendices. Chapters are organized sequen-

tially through the anesthetic management from preoperative preparation through postoperative care. These are followed by chapters on special subjects such as management of the newborn, anesthesia for common operations, anesthesia for rare conditions, and diagnostic procedures.

Some of the most important aspects of pediatric anesthesiology, such as pediatric pharmacology and infant or pediatric respiratory physiology are not included as chapters.

Another serious deficiency of this monograph is that it has been written and published without a single reference except for several citations in Appendix A, on exotic diseases. Surely we are past the stage in pediatric anesthesia where a "How we do it at our place" book should be published. Statements on complex subjects, obviously the author's own opinion, are made without qualifications or references. Most subjects are dealt with superficially and usually in reference to the author's experience or practice.

The more intangible failing of the book is that it lacks enthusiasm. It is to be expected that the author of a book on a subspecialty should display passion or at least fascination with his subject. Too often, the author dismisses subjects as "superfluous" or "unnecessary" or "similar in adults." Finally the reader asks, "Why bother?"

Pediatric anesthesia deserves a better fate. Pediatric anesthesia departments are springing up across the country in children's hospitals. Developmental pharmacology is increasingly recognized as a subject important to anesthesiologists. In an age group where pulmonary disease is a leading cause of death, anesthesiologists are making increasing contributions to the treatment of respiratory distress syndrome of the newborn, pneumonia, bronchiolitis, and status asthmaticus. Much objective data has been collected by pediatric anesthesiologists trying to achieve a rational approach to the design and selection of anesthetic equipment for children.

The profession requires a book on Pediatric Anesthesia with relevant material, supported by the most current references, and presented with enthusiasm justified by past accomplishments and future potential.

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