Book Reviews

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Anesthetic Exposure in the Workplace. By Ellis N. Cohen. Littleton, Mass. PSG Publishing Co., Inc., 1980. Pages: 210. Price: $22.50. Price: $22.50.

This monograph details all the information on the subject of anesthetic exposure in the operating room available until late 1979. Significantly, it is not called "Health Hazard in the Operating Room," although this is obviously the *raison d'etre* for the present concern and debate about the importance of scavenging operating rooms.

The book contains a brief but comprehensive chapter on the history of the problem and two admirably illustrated chapters on levels of exposure and methods of control. These two chapters alone should justify the acquisition of this book by anybody who is interested in the state of the art of control of operating room air pollution. The discussion of animal studies and the human health hazards gives a balanced account of the available information and presents all opinions on this controversial subject. Repeatedly the author states that despite the strength of the data presented, a level of caution in interpretation appears warranted. Clearly Dr. Cohen believes that there is a health hazard, but keeps an open mind to different interpretations of the data. The chapters on the involvement of the government and medicolegal aspects of this problem also are extremely useful to anybody who wants complete and accurate information on these aspects.

If there is a weakness in this book, it is in the chapter, "Mechanisms of Toxicity." The author once again has fallen into the "concentration trap." A large amount of information concerning the toxicity of anesthetics in anesthetic concentrations is discussed in this chapter; however, it is not made clear that information about the mechanisms of the toxicity of trace concentrations is not available at the present time. Although the biotransformation of volatile anesthetics to toxic metabolites is a well-established fact, its relationship to chronic toxicity caused by subanesthetic and trace concentrations of anesthetic is not clear.

There is a comprehensive index, which certainly further enhances the value of this little book.

This is a timely and well-balanced account, and I agree with the author's epilog that "it is difficult to mount valid arguments against efforts to reduce waste anesthetic gas exposure."

I recommend this book for the shelf of every anesthesiologist concerned about his or her working environment.

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Trends in Intravenous Anesthesia. Edited by J. Antonio Aldrete and Theodore H. Stanley. Miami, Florida, Symposia Specialists, Inc., 1980. Pages: 525. Price: PNS.

This book represents a compilation of papers presented at a symposium at the University of Colorado in 1979. Included is the opportunity to purchase for $150 an examination which, if successfully passed, entitles the student to 30 hours of category 1 credit toward the Physicians Recognition Award of the American Medical Association.

The contributors have a distinctly international flavor, with participants from Europe, South America, and Asia, as well as North America. Thus, both anesthetic techniques and drugs not familiar to American anesthetists are discussed in some detail. Examples include intravenous procaine anesthesia, althesin, propanidid, and minaxolone, as well as some unorthodox drug combinations.

The book is primarily oriented toward the clinician who is or might be interested in using these drugs or drug combinations. Although mechanisms of drug metabolism, pharmacokinetics and pharmacodynamics are discussed, these subjects are covered in a descriptive manner, rather than emphasizing complex mathematical or basic biochemical mechanisms. In other words, the direction is more "how to" rather than "why," and the reader interested in complex pharmacologic explanations will not be satisfied.

Inherent in this text are some of the difficulties that multiauthored symposia-originated contributions have. These include repeated presentation of similar information under different headings, lack of uniform style and quality, and somewhat peculiar organization, which may have made sense at a symposium, but makes less sense in a textbook.

The book is well printed on high-quality paper, but, again, the multiauthored nature of the book results in a varied approach to figures, though by and large they are well presented, of high contrast, and easily read. The book is probably longer than it need be, but excessive length in this case is less of a sin than brevity.

The self-evaluation quizzes at the ends of most chapters add relatively little to the book, as the questions ask for specific recall of facts rather than testing understanding of concepts. Although possibly included because of a continuing education requirement, they are somewhat amateurishly written, and the book would lose little by their elimination.

In summary, this book may be a useful reference for looking up drugs unfamiliar to and unavailable to American anesthetists. However, its usefulness as a basis for 30 hours of continuing education at a cost of $150 is questionable.

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General Anesthesia. Edited by T. Cecil Gray, John F. Nunn, and J. E. Utting. London, Butterworth and Company, Publishers, Ltd., 1980. Pages: 1843. Price: $175.00.

There appear to be two divergent trends in the publication of textbooks of anesthesiology. One major thrust, particularly in the last few years, is toward the publication of small, single-purpose monographs on various topics within the field. In spite of the attractiveness of small treatises written by experts in a subspecialty area, there remain several general-purpose texts: these still attempt to embrace the entire field of anesthesiology. The popularity of these tomes is attested to by frequent revisions and republications. This fourth edition of *General Anesthesia*, in which Dr. J. E. Utting has joined the editorial effort, is the most ambitious yet undertaken.

Make no mistake about it: this book, which purports to treat only general anesthesia, is a *magnum opus*. Its 94 chapters, with an average of 20 pages/chapter, fill two massive volumes to almost overflowing. Lack of portability limits use of this work as a handbook; however, the amount of space devoted to each topic has allowed a detailed reference treatment ordinarily found only in monographs. In addition, the clarity of exposition and of illustrations generally is very good.

General Anesthesia is well organized. It is functionally divided into two separate volumes: the first deals with the basic sciences, and the second deals with various aspects of clinical practice in anesthesia. In the first section, fundamentals of anesthetic action and biological sciences, as they relate to general anesthesia, are treated in detail. A brief section on conduction analgesia (known in the United States as regional anesthesia) is included almost as an afterthought; nevertheless, it is a 58-page afterthought, and as an overview of regional anesthesia, it is sufficient. The respiratory system is treated thoroughly, in an implicit subsection devoted to physiology; the interaction between the respiratory system and anesthesia is explored in detail through these eleven chapters. Succeeding sections dealing with the circulatory system, and with the renal, hepatic, endocrine, and other systems, complete the first volume. An extensive fund of general knowledge in medicine is revealed, relating to physiology and anatomy and anesthetic practice.

Volume II is devoted to more practical aspects of anesthesia; the information supplied therefore is more vulnerable to tradition and the personal preference of the authors. Although certain idiosyncracies of practice in the United Kingdom are evident, a balanced approach is used. Current topics, such as medical–legal aspects of general anesthesia, treatment of chronic pain, outpatient anesthesia, and geriatric anesthesia, are discussed, along with the more standard topics. The "practical section" of the book, comprising an entire volume, should be expecially useful with respect to modern practice of general anesthesia. Almost every conceivable topic is discussed in the 48 chapters.

One important aspect of the care of seriously ill patients is carrying them beyond the period of surgery, through recovery. The 14-chapter section entitled "The Intensive Therapy Unit" is a systematic approach to many of the problems encountered in intensive care of the postoperative patient. Such topics as hepatic failure and poisoning, as well as the care of brain disease and head injuries, are covered, along with many standard topics usually treated in more specialized monographs. The book has an extensive appendix of drug name equivalents, which should alleviate the common problem in communication between anesthetists in the United Kingdom and the United States. All the drugs mentioned in the book are very conveniently indexed for translation into their equivalents in the United States.

One of the points on which books often fail is the index. This book by Gray, Nunn and Utting has one of the most comprehensive indexes of any anesthesia text on the market. Most topics could be located quickly and easily.

I predict that this volume will be used most often by practicing anesthesiologists who do not have a ready source of consultation for difficult problems and who do not wish to invest in the multivolume library that this book's equivalent would require. The academician also would do well to consider this book as an overview of current activity in anesthesia. For those needing more information, the many bibliographic references at the end of each chapter are timely and well selected. Due to the explosive expansion of knowledge in anesthesia, texts such as this are often considered out of date even before their publication date, but many references in this work are very recent.

In summary, this book has the advantage of being more complete than any other text on anesthesiology on the market. The list of distinguished contributors does not parallel the bibliographies: although references are international in scope, the contributors are almost entirely from the Commonwealth countries and the United Kingdom. The price is as hefty as this well-bound set, but is still a bargain for the amount of information delivered.

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The Circulation in Anaesthesia. Applied Physiology and Pharmacology. EDITED BY C. PRYS-ROBERTS. Oxford, Blackwell Scientific Publications, 1980. Pages: 642. Price: $87.75.

This is a mixed review of a mixed book. Nineteen authors have contributed 26 chapters to a volume which attempts to bring together knowledge relevant to anesthesia from the disciplines of biochemistry, physiology, pharmacology, and physics. The coverage is indeed broad, but is not complete. As mentioned in the preface, neither circulatory effects of regional anesthesia nor shock are covered. Authors who had agreed to write chapters did not submit them. There are other gaps. The reader is referred to review articles for the basics of cardiac dysrhythmias. The adrenergic pharmacology chapter essentially catalogs drugs and effects and again refers the reader to review articles. This is inadequate depth for an applied pharmacology text.

The quality of the contributions to the book varies from fair to excellent. There are no poorly done chapters. Some would have benefitted from more extensive editing or rewriting. This is made all the more obvious by the truly outstanding chapters. "The Myocardial Cell and its Metabolism" covers the applicable anatomy, physiology and biochemistry, summarizes current knowledge, and speculates on future findings. It is a clear, concise presentation of some very complex material.

The conversational tone of the chapter, "Myocardial Function and Anaesthesia," is quite effective at leading the reader through a potentially intimidating amount of knowledge. "The Coronary Circulation" and "The Cerebral Circulation" are eminently readable chapters. "The Circulatory Effects of Inhaled Anaesthetics" distills a great deal of cardiovascular research into 15 pages of superb text and figures.

The book is arranged in three sections. The first 17 chapters form the physiology section. The heart is discussed in five chapters, ranging from the metabolism of the myocardial cell to myocardial function and anesthesia. The systemic circulation, the microcirculation, and various organ blood flows are covered in the next five chapters. Pulmonary hemodynamics and pulmonary blood flow distribution are described in separate chapters. The effects of airway pressure, carbon dioxide, and hypoxia on the cardiovascular system are examined. Two chapters on hemodilution and anemia in anesthesia conclude the physiology section.

The pharmacology section is disappointingly brief (at 136 pages). The material that is included is useful and well presented, but one wishes that pharmacology were accorded at least as much space as physiology (370 pages). Adrenergic and cholinergic pharmacology are covered, as are inhalational and intravenous anesthetic agents and drugs for induced hypotension.

The third section, "Cardiovascular Measurement in Anaesthesia," apparently is the remnants of what was to be a companion volume to *The Circulation in Anaesthesia*. It is an uneven section, with excellent discussions of measurement of cardiac output and of electrical hazards and safety, but little mention of regional blood flow techniques, and somewhat abstruse coverage of measurement of intravascular pressure. Noninvasive assessment of the cardiovascular system is also discussed in the section on cardiovascular measurement.

The Circulation in Anaesthesia both benefits and suffers from the breadth of its attempted coverage. It is an ambitious undertaking, with obvious gaps. But most of what is included, whether or not appropriate to a textbook of applied cardiovascular physiology and pharmacology, meets the editor's goal of "a declaration of the present state of the art." It brings together in one volume much of the basic science an anesthesiologist must apply in his daily manipulation of the cardiovascular system. Authors discuss clinical application of the basic principles and findings covered in their chapters. Most of these discussions are by anesthesiologists for anesthesiologists, and provide an excellent framework for learning basic