

Book Reviews

Databook of Anaesthesia and Critical Care Medicine

Foster PA, Roelofse JA. Springer-Verlag, New York. ISBN 3-540-17794-9. \$25.00 (us)

This pocket-size manual is a collection of many formulae, laboratory values, etc., which are useful from time to time in anaesthetic practice, plus guidelines for handling many common anaesthetic problems. This information is presented in a list format for easy reference.

The first chapter covers pre-anaesthetic assessment of organ function, evaluation of risk, checking the anaesthetic machine, etc. Physical properties of anaesthetic agents are listed, plus normal values for bio-chemical, haematological, and haemodynamic parameters. Chapter two deals with anaesthetic circuitry, pulmonary function tests, acid-base problems, respiratory support and fluid therapy. The pharmacology of many drugs encountered in anaesthetic practice is described in Chapter three, e.g., analgesics, bronchodilators, anti-arrhythmics etc. Chapter four gives simple guidelines for handling many common problems, such as drug interactions, the full stomach, asthma, respiratory depression, delayed recovery and many others.

In a handbook of this size, treatment of many of these items must necessarily be simplified and perhaps superficial. On the whole, the layout is well organized, but the addition of an index might have been useful. Some of the drug dosages given are generous, and it is occasionally unclear whether the dose is intravenous or intramuscular, single or divided, e.g., narcotic analgesics.

Nevertheless, this should prove to be a useful "aide memoire" for many practicing anaesthetists and trainees.

Alan D. Baxter MB BS FFARCS FRCP
Department of Anaesthesia
Ottawa General Hospital
Ottawa, Ontario

Clinical Anesthesia Procedures of the Massachusetts General Hospital. 3rd Edition

Firestone LL, Lebowitz P, Cook CE (Eds). Little, Brown & Company, Boston. ISBN 0-316-28343-6. \$18.50 (us)

The third edition of this established book has been revised and expanded and it is better than ever. The preface advises the reader that the book is not intended as a

primary or a final reference source, but merely as a portable manual which suggests safe methods for pursuing given clinical scenarios. As with previous editions, most of the chapters have been written by recent anaesthesia residents of the Massachusetts General Hospital.

The book has four major sections. The first deals with preoperative preparation. The initial chapter of this section discusses general aspects of patient preparation while the subsequent chapters review the various systems and their illnesses.

The second section concerns the administration of anaesthesia. Several chapters are devoted to general aspects (safety, equipment, etc.) while others in the section deal with specific types of surgical procedures (urologic, cardiovascular, etc.).

The third section concerns patient care in other settings (resuscitation, intensive care and pain management). The final section is a useful table listing commonly used drugs and some of their clinically relevant pharmacology. In addition, there is a useful index.

In general, the material is presented as a well-organized combination of basic science and sound clinical methods. The information is very up-to-date and practical. My only reservation about this book is that I believe that it has reached the limit of its size regarding portability. It still fits easily into a lab coat pocket, but future editions may not tolerate the addition of too many more pages.

In summary, I would recommend this book highly. It is among the finest portable reference sources in anaesthesia. The organizers also should be congratulated for again permitting their residents a chance to publish and to receive credit for the work. This trust has been rewarded by a solid work.

B. Mezon MD FRCPC
Department of Anesthesia
University Hospital
London, Ontario

Cardiovascular Actions of Anesthetics and Drugs Used in Anesthesia 2 - Regional Blood Flow and Clinical Considerations

Altura BM, Halevy S (Eds). Karger, New York, 1986, 294 pp. ISBN 3-8055-4158-9.

This is the second volume of this multiauthored two-volume set. The various chapters are grouped into two major sections: the influence of anaesthetics on regional

blood flows, and the cardiovascular actions of anaesthetics in patients with various pathophysiological conditions.

The first section starts with a broad overview of the effects of various anaesthetic agents, including vasodilators, on regional blood flow. This is followed by generally well written and comprehensive chapters outlining the effects of anaesthetics on regional blood flow through the cerebral, coronary, splanchnic, hepatic, and renal circulations. Most of these chapters include a review of the techniques used to study the organs, a discussion of the relevant physiology as well as the effects of the anaesthetic agents. Overall these chapters are well referenced, current and offer reasonable clinical guidelines based on the material discussed.

The second section is comprised of clinically oriented chapters dealing with the effects of anaesthetics in paediatric patients, the use of anaesthetic agents in shock, the pathophysiology of shock, and hypotensive anaesthesia. Although there is some overlap with the first section, this is generally complementary rather than repetitive. This volume contains the cumulative subject index which is well organized and comprehensive, greatly facilitating its use as a reference source.

Overall this is a well-written, current text which, along with Volume 1, would be appropriate for an anaesthesia reference library.

John M. Murkin MD FRCPC
Department of Anaesthesia
University of Western Ontario
London, Ontario

The History of Blood Gases, Acids and Bases

Astrup P, Severinghaus JW. Munksgaard, Copenhagen (Butterworths, Stoneham, MA). ISBN 87-16-06496-8. \$34.95 (us)

It was a pleasant chore to review this book! It was a salutary experience also because it led to the realization that the study of respirology can never be considered complete unless its history has been read.

This is essentially a story book, and well is it that it is so, as this enables presentation of a wealth of basic scientific and historical information in an eminently readable way.

The reader will be surprised when he discovers the important role blood gas science has played in the development of biochemistry as a whole. He/she will be edified to confirm that the sure foundations of biological science are the basic sciences – a fact that is belatedly being re-discovered in the current era.

In similar vein the reader will also be surprised to

discover the overwhelming influence of technology in the elucidation of the chemical and biochemical interactions of blood gases. To name but one example, it is hard to appreciate the mighty role of the lowly evacuation pump in the development of knowledge relating to gases.

The chapter on Lavoisier is absolutely gripping and the authors succeed in generating for the reader the excitement of scientific discovery. The pathos of Lavoisier's execution is nowhere brought out so clearly as in this chapter. One reads about his discoveries and is impressed, about his death and grieves, but these are usually dealt with as separate issues stemming, obligatorily, from the fact that they are described either by a historian or a scientist; never by a historian/scientist. The juxtaposition of the two domains in the same chapter most effectively enhances the importance of Lavoisier's discoveries.

The only shortcoming this reviewer identified, after a fair amount of straining, is that the narrative appeared ensconced in a vacuum. It would have provided a clearer and more balanced picture of blood gas physiology if the major discoveries in other areas of biochemical (especially where they impinged on this area) research had also been briefly described, *en passant*.

To end on a positive note, one can do no better than to say "If only the young investigator could somehow be mandated into carefully reading this book he would find the time spent fully worth it."

N.L. Stephens MD FRCP (Lond.)
Department of Physiology
Faculty of Medicine
The University of Manitoba
Winnipeg, Manitoba

Pharmacology and Physiology in Anesthetic Practice

Stoelting RK. J.B. Lippincott Company, Philadelphia, 1987. ISBN 0-397-50771-2. \$65.00 (us)

In his preface, Dr. Stoelting states the aim of the book is to provide both the student and practitioner with an "in-depth but concise and current presentation of those aspects of pharmacology and physiology that are relevant either directly or indirectly to the perioperative anesthetic management of patients." In the next 826 pages of text he attempts to do this. The pharmacology section provides the bulk of the book, 564 pages. It starts with "Pharmacokinetics and Pharmacodynamics of Injected and Inhaled Drugs" and then proceeds to review specific drugs, starting with various anaesthetic agents, proceeding through hormones as drugs, chemotherapeutic agents, on to nutritional additives, and finally to antiseptics and disinfectants. The 38 chapters are divided according to

either the type of drug, e.g., "barbiturates," or the action of the drug, e.g., "Sympathomimetics," or the use of the drug, e.g., "Drugs used to treat Hyperlipoproteinemia."

The second part of the book is a 20-chapter general review of physiology. In this section there is little mention made of anaesthesia or the anaesthetic importance of the topics. For example, when discussing body temperature (Chapter 41: Central Nervous System) types of heat loss are listed, but the implications of this in the anaesthetised patient are omitted. Similarly, many references come from the physiological rather than anaesthetic literature. In Chapter 47: Heart, a reference from *Int Rev Physiol* is used in the section on causes of mortality after myocardial infarction.

Does the author succeed in his aims for this book? It is as in-depth in its discussion as far as is possible with a single-volume general textbook of both pharmacology and physiology. It is concise – not many words are wasted (although the unfortunate consequence is that the book is heavy-going, especially the first chapter). It is current – as far as a general text can be and by choosing "classical" references, Dr. Stoelting has avoided the intellectual trap of the once-fashionable, now out-of-date. However, the lack of reference to anaesthesia in the physiology section is a major omission of a book entitled "Pharmacology and Physiology in Anaesthesia Practice." Perhaps this is the "indirect" relevance to the perioperative anaesthetic management of patients, as mentioned in the Preface. In summary, this is a useful addition to the reference library of the anaesthetist who wishes to have only one book about anaesthetic basic science.

J.M. Davics MSc MB FRCPC
Department of Anaesthesia
Foothills Hospital at the
University of Calgary
Calgary, Alberta

Handbook of Thoraco-abdominal Nerve Block

Katz J, Renck H. Grune & Stratton, Inc., Orlando, Florida (Harcourt Brace Jovanovich, Canada, Don Mills) ISBN 0-8089-2972-9. \$102.95

The collaborative effort of an American and a Swedish physician are nicely brought together by an exceptional series of colour illustrations by Paul Buckhoj. The book is concise and instructive, being based on the large clinical experience of the authors, and supported with current literature.

The text is divided into four sections: anatomy, block techniques, surgical indications and non-surgical indications. The sections on anatomy and block techniques outline in depth the neural supply and visceral innervation

of the thoracic and abdominal structures, and techniques available to produce blockade of these structures. The medical illustrations serve as an invaluable guideline in providing the reader with a clear understanding of the anatomy and the regional blocking techniques. The sections on surgical and non-surgical techniques apply the regional block techniques to clinical anaesthesia and pain management.

If criticism can be brought against the book, it is that the description of each block technique is immediately followed by the references. This format makes it difficult to read the book cover-to-cover, but provides an immediate reference source for the specific block technique the reader finds interesting.

In conclusion, the authors have produced a concise and well-illustrated text which will serve as a useful handbook for the clinical anaesthetist performing thoraco-abdominal nerve blocks.

Ray Kozody MD FRCPC
Department of Anaesthesia
University of Alberta
Edmonton, Alberta

Sickle-cell Anemia and Thalassemia: A Primer for Health Care Professionals

Huntsman RG. Canadian Sickle Cell Society. 223 pp. ISBN 0-921037-00-7 (Litho Ltd., Rexdale, Ontario, Canada) \$10.00

Recent advances in the understanding of the more common haemoglobinopathies are summarized in this pocket-sized paperback book. The author is now the Medical Director of the Canadian Sickle Cell Society, which is a voluntary organization committed to aiding and educating those afflicted with this condition. Dr. Huntsman has drawn on his 25 years of experience in this field to compile the text.

The organization of subject matter is superb, with the clinical aspects and the scientific background to sickle cell disease and thalassemia dealt with in two distinct sections. Clear headings direct the reader easily towards inheritance, pathogenesis, diagnosis, treatment and family counselling or into the fascinating realms of protein chemistry and molecular genetics.

Technological advances, such as radioactive recombinant DNA probing and restriction enzyme mapping of genes are introduced to explain the molecular lesions which cause these haematological diseases. Genetic mutations are described which result in the replacement of glutamic acid by valine on the sixth position of the β -polypeptide chain of haemoglobin to produce sickle haemoglobin, while the anaemia of thalassemia is

caused by a genetically determined reduction in globin synthesis. These findings allow prenatal diagnosis by amniocentesis and the evolution of treatment strategies to insert normal genetic material by marrow transplantation.

For the clinician, this understanding provides a basis for a rational approach to therapy and optimism for a cure. However, no attempt is made to predict the outcome of clinical interventions such as open heart surgery or transfusion regimens in preoperative or antenatal care of these patients. Much of the clinical experience of these illnesses emanates from countries where resources for medical care are limited. With immigration into areas where health care is expensive, informed decisions on management must be made against a background of understanding of these conditions. This book provides the necessary information, in a way which is comprehensible to the clinician who treats sickle cell anaemia and thalassemia patients occasionally. It also contains much of value for counselling families of patients suffering from these illnesses.

J.C. BEVAN MD DRCG FFARCS
Department of Anaesthesia
The Montreal Children's Hospital
Montreal, Quebec

**Neurosurgical Anaesthesia and Intensive Care:
Second Edition, 1986**

Campkin T, Turner JM. Butterworths, Stoneham MA.
ISBN 0-407-00330-4 \$39.95 (us)

This book covers almost all the major aspects of neuroanaesthesia. It is aimed at practicing anaesthetists with major or exclusive interest in neuroanaesthesia and neurointensive care. To this end the book is divided into four major sections. The first two discuss the basic physiological and pharmacological principles required for understanding and facilitating neurosurgical procedures and treating neurosurgical conditions. The third portion deals with anaesthetic approaches to specific adult and paediatric neurosurgical procedures and their complications. The final 43 pages of this book are devoted to the care of the neurosurgical patients in the Intensive Care Unit.

Overall the book meets the need of qualified neuroanaesthetists in that it brings together basic principles supported by both new and old references. However, the authors may have received a wider readership among anaesthesia trainees and intensivists caring for neurosurgical patients if difficult and controversial problems (for example airway management in patients with head injury and unstable cervical spine or "facial smash," use of ICP monitoring in head-injured patients undergoing non-

cranial surgery, treatment of vasospasm in the setting of unclipped aneurysm) were considered in greater detail. Although many studies are quoted in support of a given issue, the sections do not end with a clear indication of the relative clinical usefulness of the data.

Use of naloxone is advocated in several places in the book without due emphasis on the side effects. Its association with cardiopulmonary problems are well recognized and hence its judicious use may be safer.

I have no hesitation in recommending this book to neuroanaesthetists and to anaesthesia department libraries.

M.J. ALI MD
Department of Anaesthesia
University of Western Ontario
London, Ontario

Malignant Hyperthermia

Britt A (Ed). Martinus Nijhoff Publishing, 1987 (Kluwer Academic Publishers, Norwell, Mass, U.S.A.) 420 Pages
ISBN 0-89838-960-7 \$69.95 (us)

This recent addition to the extensive literature concerning malignant hyperthermia (MH) is edited by Dr. Beverley Britt. The book contains 16 chapters written by 21 authors, all of whom bring to it their own area of expertise. It represents the current state of knowledge about MH and its related physiologic and pathologic processes.

This book is a timely comprehensive and important compilation of developments in this field. It traces the many changes in our knowledge and the remarkable continuity of investigations in this clinical disorder as they have evolved since the first symposium volume devoted exclusively to MH was published in 1973.

The preface provides a succinct history of MH. A number of chapters are excellent for their pertinence and clarity. These include chapters concerned with the biochemical and physiologic basis for signs and symptoms, the clinical assessment of patients, microscopic findings, inheritance patterns of MH, counselling of MH patients and their families and an update on dantrolene. Especially notable is a chapter containing the European experience and a protocol for the diagnosis of MH-susceptible (MHS) patients.

Three separate chapters are devoted to the aetiopathology of MH, the role of skeletal muscle sarcoplasmic reticulum and mitochondria in MH. They are generally well written and the data described are current and therefore sometimes controversial.

The chapter on muscle assessment of MH patients is an exhaustive collection of techniques and protocols used in different laboratories. These are described in great detail

and ought to be useful to both new and experienced investigators in the field. Unfortunately, some of the criteria for diagnosing MHS with muscle biopsies are already outdated, as new standards were set at a recent "Standards for Muscle Biopsy Workshop" in Chicago, in November 1987.

The final two chapters on the management of MHS patients and MH crisis describe accepted and safe methods of treatment, although at times they reflect the authors' own views.

In an attempt to simplify, certain concepts presented are misleading, e.g., the last line on receptor-mediated release of calcium from the SR is misleading, but is clarified somewhat later. It was Sidney Ringer rather than Starling who discovered the central role of Ca^{++} in cardiac muscle contractions. Some statements are not supported by literature citation. There are also certain inconsistencies. The issue of the MHS patients with a negative muscle biopsy is still not settled. A more detailed review of the masseter muscle spasm entity would have been useful. Unfortunately, none of the chapters give a clear list of drugs interacting with dantrolene. The varied styles of presentation between one author and another can be bothersome but is inevitable in a book of this type. The print is small and unattractive.

Yet, despite its shortcomings, the book gives an overview of current and controversial concepts in this subject, in a way that asks new questions and compels us to rethink previously accepted truths. A major strength of this book is that it is well supplied with the latest references after each chapter.

This book should be of particular interest to physicians and scientists primarily concerned with malignant hyperthermia. Residents and most clinical anaesthetists may find the information on basic research to be heavy reading while investigating scientists may find the areas of oversimplification inadequate. Nevertheless this book represents a valuable "state of the art" reference source on the subject of malignant hyperthermia.

Leena Patel MD FRCPC
Department of Anesthesia
University of Manitoba
Winnipeg, Manitoba