Book Reviews

Ophthalmic Anaesthesia. A Practical Handbook, 2nd ed.

G. Barry Smith, Robert C. Hamilton, Caroline A. Carr.
Oxford University Press, Inc. 1996. 284 pages.
ISBN: 0-340-56757-0

This soft-covered, 284 page handbook, written by three authors from Britain and Canada, has been expanded tremendously from its first edition which was written by a single author 13 years earlier. Its 16 chapters cover topics such as anatomy, physiology, pharmacology, and common medical conditions of the eye and orbit, regional and general anaesthetic techniques, strabismus, vitreoretinal and other ocular surgery, ocular trauma, paediatric, day-care surgery, and audit.

The chapters dealing with regional anaesthesia, including anatomy, techniques, pharmacology and complications, are superb and indeed the best found in any single source. The material presented is, perhaps, more than one would expect in a practical handbook. Concise information such as medical conditions, specific eye operations, trauma, day-care surgery, as related to ophthalmic anaesthesia are nicely summarized.

The anatomy and techniques of regional blocks are presented in detail and with excellent illustrations. On the other hand, the oculocardiac reflex is discussed only briefly in various chapters. The chapter on vitreoretinal surgery contains useful information on the surgical techniques, anaesthetic implications of gas/vitreous exchange, and silicone oil tamponade, but leaves out laser photocoagulation. Much of the rest of the text may not be specific to eye surgery, and the information are available in any standard anaesthetic textbook.

Despite these inconsistencies, this is a useful book for anyone involved in the care of patients undergoing ophthalmic surgery.

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Textbook of Critical Care, 3rd ed.

W.C. Shoemaker, S.M. Ayres, A. Grenvik, P.R. Holbrook
(Eds.). W.B. Saunders 1995. 1892 pages. \$175.00.
ISBN: 0-7216-5422-3

Since critical care medicine developed out of the technological/scientific era, it is not surprising that it has grown and changed as rapidly as its formative influences. The development of critical care medicine has been paralleled by the growth in the number, size and cost of its textbooks. This is well illustrated by the Textbook of Critical Care Medicine, first published in 1984, revised in 1989 and again in 1995. From the second to the third edition, the book has grown in size and number of authors by approximately 30%. The only thing which has decreased is the proportion of non-North American authors which has fallen from 4% to 2%. For a textbook which seeks to remain up to date and to respond to changes in critical care medicine, this represents a significant defect since one of the major changes of the last decade has been the growth, maturity and productivity of critical care

medicine in other parts of the world, particularly Europe. This textbook therefore represents strictly a North American view of critical care medicine.

The Textbook is intended to be broad in scope, comprehensive and up to date. To achieve this there are 336 authors ranging from many of the giants of North American critical care medicine through to clinical fellows and residents. The changing climate in which critical care medicine is practised is reflected in a number of new chapters focusing primarily on economic issues. Many sections of the book have been upgraded to reflect changes in knowledge and practice since the last edition. The authors are to be complimented in having reference lists which include articles from 1993, only two years before the publication date. Space is appropriately devoted to new diseases such as Hantavirus Pulmonary Syndrome, and current topics, such as the development of drug resistance in organisms such as *Pneumococcus*. Unfortunately, although the textbook has met its objectives with regard to scope, it has not dealt with the problems of organization and content which have been present since the first edition.

With regard to organization, the layout chosen makes it difficult to follow one subject consistently. For example, to review head injury management, one would need to read chapters from the Monitoring section, from the section on Trauma and from the section on the Central Nervous System. In each section there is considerable duplication and it is difficult to discern a common "message". This is something which is acknowledged and accepted by the authors in their preface. With regard to content, one might presume that a volume with the objectives described by the authors would assume that the readers were familiar with the basics of critical care medicine and were seeking review and informed comment on the controversies in the discipline. Such a volume would form a welcome place in the library of critical care physicians. However, such an advanced volume would not require description of such basic activities as C.P.R. and the insertion of central lines. On the other hand, the Textbook acknowledges jugular bulb oximetry as the gold standard for clinically assessing the adequacy of global cerebral blood flow, yet there is no description of this technique, which is by no means widely used and understood. Because of this variability in approach, the textbook does not succeed as either a basic text of critical care medicine, nor as an advanced review for skilled practitioners.

Despite these criticisms the volume is well produced with some outstanding illustrations, a broad range of topics and some excellent articles. While it does not meet my exacting standards for an "ideal" text book of critical care medicine, it is certainly not to be ignored or discounted.

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Genetics in Anesthesiology. Syndromes and Science

Guy L. Weinberg. Butterworth-Heinemann, 1996. 222 pages.
\$75.00 US. ISBN: 0-7506-9479-3

Unravelling the genetic basis of syndromes which pose problems for the anaesthetist is fascinating. Dr. Weinberg does this in two parts. First, making the theory of molecular biology and genetics relevant to anaesthesia: describing recombinant technology to design new drugs, discussing mechanisms of anaesthesia at a molecular level, linking teratogenesis to gaseous pollution, and offering a better understanding of the inheritance of pharmacogenetic conditions (malignant hyperthermia, plasmacholinesterase deficiency and porphyria). Then he describes 25 genetic diseases and suggests anaesthetic management for the resulting syndromes: as disparate as achondroplasia, Holt-Oram syndrome and Von Willebrand disease.

However, advice to consider hereditary angioedema in unresponsive anaphylaxis must be taken cautiously, as treatment involves the use of blood products, and discussion of sickle cell disease omits its relevance in newborns. Also, most would advise against the simultaneous administration of succinylcholine and nondepolarizing relaxants or the use of small doses of succinylcholine, in patients with plasmacholinesterase deficiency. Therefore, as a resource for recommendations on anaesthetic management for unusual and infrequently encountered problems, the book may lack the authority to be gained by contributions from a larger authorship. This is a pity, as it is a pleasure to read and provides information which is germane to all perioperative physicians.

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Neuromuscular Block

S. Feldman. Butterworth-Heinemann, 1996. 180 pages.
\$65.00 (US). ISBN: 0-7506-1764-0

In the early 1960s, Dr. Stanley Feldman began adding 2–3 mg d-tubocurarine to a local anaesthetic to provide muscle relaxation for procedures performed under intravenous block. He noticed that motor function took up to 45 min to recover in the involved upper extremity, long after the local anaesthetic effects had dissipated. He thought that this observation must mean something about the mechanism of action of muscle relaxants. For the next 30 yr, Dr. Feldman used this *isolated arm model* to carry out countless investigations on muscle relaxants. The drug was injected distal to an inflated cuff placed on the arm or forearm, while twitch height was measured in the same extremity. This book, which gives more details about how it started, constitutes an overview of the conclusions which the author has drawn from the experiments.

The monograph is not intended to be a comprehensive treatise on neuromuscular blockers. It is divided into 18 short chapters, all written by the same author. Of these, 12 deal almost exclusively with the author's experimental data and his interpretation of the findings. The first chapter is a colourful historical account of curare before it was introduced into anaesthetic practice. This is followed by four succinct chapters on the physiology and pharmacology of the neuromuscular junction. The last chapter describes some salient features of selected muscle relaxants.

Several factors have been suggested to account for onset and offset of neuromuscular block, such as plasma concentration of the drug, muscle blood flow, potency, and the margin of safety of neuromuscular transmission. The author presents the evidence provided by other workers in the field, but the idea is usually rejected in favour of the theory of *biophase binding*, a rather vague concept which essentially implies that muscle relaxants bind to some kind of reservoir before gaining access to the nicotinic receptor. Dr. Feldman's vigorous style will be appreciated by muscle relaxant experts who like to be aware of the controversies in their field, and who would like to get a better understanding of the lines of thought which led to the elaboration of his hypotheses. However, the reader should have the critical knowledge of more traditional mechanisms before reading this book.

The text will be thought provoking for anaesthetists or pharmacologists with a special interest in neuromuscular blockade. However, it is not recommended for the student who would like to acquire basic knowledge about neuromuscular blockade or for the reader who would like to have a comprehensive reference on the topic.

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Clinical Transesophageal Echocardiography

Y. Oka, S.N. Konstadt (Eds.). Lippincott-Raven Publishers, 1996. 400 pages. \$171.50 US. ISBN: 0-397-51426-3

The target audience of this multi-authored textbook is anaesthetists involved with the care of cardiac surgical and critically ill patients. It is edited by two anaesthetists whose names will be familiar to those involved with the practice of transesophageal echocardiography (TEE). The stated goal of the book is to describe the clinical utility of TEE through case presentations.

The book is divided into two sections, cardiac and noncardiac surgery, although there is some overlap. The format for most chapters is to describe the anatomy, physiology, pathophysiology, treatment, and echocardiographic assessment involved in a variety of clinical conditions. As with most multi-authored texts, the quality of text and illustrations varies considerably, and there is invariable repetition. The chapter on repair of the myxomatous mitral valve would have been more complete with a more detailed description of pulmonic vein analysis, and the chapter on native valve endocarditis should have included more details and pictures of post-endocarditis complications. Other omissions include the techniques of aortic valve imaging for pressure gradient analysis and aortic valve planimetry in aortic stenosis, reasons for the low specificity of TEE in aortic dissection, the recognition of left atrial appendage thrombus, and the description of papillary muscle rupture as a complication of myocardial infarction. Many of the clinical cases of surgical repair are scenarios of successful outcome, whereas descriptions of cases in which complications supervened would have been more instructive.

This book is not a "how to" manual, and should not be thought of as a substitute for standard TEE texts. It is also not a critical review; most chapters emphasize the positive aspects of TEE, and not its limitations. This book would make interesting reading, and be a useful reference for the practitioner with a solid grounding in the practice of TEE; novices wishing

to familiarize themselves with TEE practice should consult more standard references.

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Principles and Practice of Mechanical Ventilation

Martin J. Tobin (Ed.). McGraw-Hill Ryerson Limited, 1994.
1300 pages. \$205.90 Can. ISBN: 0-07-064943-X

This book is clearly designed to be a reference text in mechanical ventilation. It is intended for physicians involved in critical care. A basic knowledge of mechanical ventilators is assumed as well as a solid understanding of respiratory physiology and pathophysiology of respiratory disease is required in order to extract the most from this textbook.

Seventy-six authors contributed to this 1300 page reference text on mechanical ventilation. The book is divided into 14 parts each containing multiple chapters. The first part discusses historical developments in mechanical ventilation. Parts 2 to 4 review the basic principles of mechanical ventilation. Parts 5, 6 and 7 discuss newer and various sophisticated and unconventional modes of ventilation including inverse ratio and proportional assist ventilation, permissive hypercapnia to extracorporeal oxygenation. The book continues on to discuss in part 8 ventilation support in specific settings, such as the operating room and at home. Although some physiology is discussed in many sections when pertinent, section 9 is entirely devoted to the physiologic effects of mechanical ventilation. The remaining parts, 10 through 14 are devoted to complications of mechanical ventilation and the management of ventilator-supported patients.

This text is an exhaustive review of mechanical ventilation. The basics are covered up to the more controversial subjects which are highly referenced. Indeed this text provides ample opportunities to research particular subjects in more detail. The authors in many chapters, especially those pertaining to ventilator basics, regular and more sophisticated modes of ventilation, go to great lengths in assuring ones understanding of important concepts including the thoughtful use of charts and diagrams. The inclusion of management strategies following each discussion on the newer modes of ventilation provides a particularly interesting clinical relevance to this text. Parameters and goals are discussed including insightful suggestions on how to achieve them, occasionally outlined in a step by step fashion. A few chapters deal specifically with anaesthesia-related issues. These chapters are however, better suited to the nonanaesthetist wishing to gain a cursory understanding of perioperative respiratory physiology, an insight into independent lung ventilation and acquire the basics in airway management.

This is a well written reference text which can offer a solid grounding in critical care ventilation and offer an excellent and extensive review of the basic, newer and more controversial modes of ventilation. It is not intended for the uninitiated. These chapters are well worth reading for anyone interested in critical care.

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