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Pharmacology for Anaesthesia and Intensive Care, 3rd Edition. By Tom E. Peck, M.B., B.S., B.Sc., F.R.C.A., and Sue A. Hill, M.A., Ph.D., F.R.C.A. Cambridge, United Kingdom, Cambridge University Press, 2008. Pages: 378. Price: \$70.00.

Providing skillful medical care in the arena of anesthesia and intensive care requires a robust and broad knowledge of physiology, pharmacology, and pharmacokinetics. *Pharmacology for Anesthesia and Intensive Care*, 3rd Edition, expertly reviews pharmacokinetics and pharmacology, progressively building the reader's understanding of these important concepts.

This edition is organized into three broad categories. First, the authors begin by building a foundation of knowledge in basic principles of pharmacology: Absorption through excretion, chemistry subgroups and isomerism, mechanisms of drug action, and pharmacokinetics. The middle of the book is devoted to core drugs used in anesthetic practice including general anesthetic agents, analgesics, local anesthetics, muscle relaxants, and anticholinesterases. Finally, the last part of the book has excellent and thorough coverage of cardiovascular drugs, antiemetics, intravenous fluids, diuretics, drugs affecting coagulation, drugs used in diabetes, corticosteroids, and antimicrobials. The discussion of each drug includes considerations of how it could interact with and affect anesthetic management.

In addition to concise yet thorough chapters, this book has features that are useful for quick reference, including a "medicinal chemistry mini-dictionary" covering molecular building blocks from Acetyl through Xylidine. The excellent tables and figures are too numerous to list. Some prime examples of useful tables include metabolism of drugs by cytochrome P450 system, cardiovascular effects of inhaled anesthetics, physiologic interactions of muscle relaxants, composition of intravenous fluids, and a summary of antibacterial drugs and their activities. Examples of helpful illustrations include isobolograms, depiction of one-through three-compartment models, and a step-by-step demonstration of the concentration effect of inhaled anesthetics. Finally, the book is well indexed, allowing rapid location of specific drugs or concepts.

The attribute that sets this book apart from mere reference texts is the devotion of the authors to develop true comprehension. The text includes a review of basic manipulation of logarithms and exponents, reiteration of key points to reinforce understanding, concrete examples with common drugs to drive home teaching points, and helpful graphs and illustrations to visualize complex pharmacokinetic concepts. Without moving too slowly, the text is accessible to those who are a bit rusty on their basic sciences. For example, when introducing a basic formula early in the book, the authors kindly remind the reader that "the square brackets denote concentration." It was refreshing to read a textbook that was so accessible and methodical in developing a true understanding of difficult concepts.

The only negative aspect of this text is that the drugs are identified as they are found in the British National Formulary, using some different nomenclature than common U.S. formularies. Also, a couple of drugs mentioned in the text are not approved for use in the United States.

Improvements since the last edition include a complete overhaul of the mathematics section giving a strong base in pharmacokinetics, a new chapter on intravenous fluids, and an expanded section on the molecular mechanism of anesthesia. This edition includes all new drugs used in anesthetic and intensive care practice today.

Pharmacology for Anesthesia and Intensive Care, 3rd Edition, encompasses a superb fusion of pharmacokinetics and pharmacology with practical advice for the daily delivery of anesthesia and intensive care medicine. The book's two authors present a single style and voice that is easy to read and understand. The book progressively builds the reader's knowledge when it is read from cover to cover; alternatively, each section is written well enough to stand strongly on its own. During my

reading of this text, a number of my colleagues, residents and attending physicians alike, questioned me when this book would be available for purchase, and they are eagerly awaiting its publication. I strongly recommend this book as a valuable addition to the library of anyone who practices anesthesia and intensive care medicine.

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Essentials of Neuroanesthesia and Neurointensive Care. By Arun K. Gupta, M.B.B.S., Ph.D., F.R.C.A., M.A., and Adrian W. Gelb, M.B.Ch.B., D.A., F.R.C.P.C. Philadelphia, Saunders Elsevier, 2008. Pages: 344. Price: \$69.95.

"At present, our ability to pharmacologically protect the brain and make it less vulnerable to ischemic injury is limited. In the operating room, our capacity to exacerbate brain injury, by contrast, is almost unlimited." These words, taken from Gupta and Gelb's *Essentials of Neuroanesthesia and Neurointensive Care*, illustrate the critical importance of understanding the principles of perioperative care for the patient with neurologic disease. In elucidating these principles in a thorough but concise fashion, the book is a success.

Essentials of Neuroanesthesia and Neurointensive Care is organized into six main sections of Anatomy, Physiology, Pharmacology, Neuroanesthesia, Neurointensive Care, and Monitoring, with a primary focus on clinical neuroanesthesia. I found the chapters to be concise, easy to read, and informative. Each chapter has a summary of key points and suggestions for further reading. The graphics were clear, of high quality, and didactic. There was an excellent breadth in terms of subject matter (basic physiology and clinical practice), clinical contexts (operating room, intensive care unit, and interventional suite), and patient populations (adult, pediatric, and obstetric). Furthermore, I found the incorporation of perspectives from neurosurgery, neuroradiology, and neurology to be valuable. As stated in the preface, the book will likely be of most value to the anesthesiology resident. I would, however, recommend this as an excellent review for a beginning fellow or a handy reference for the anesthesia provider who does not routinely practice neuroanesthesia. The book could also serve as an introductory text for interested specialists in related fields.

The appendices are noteworthy. The first is entitled "Clinical Information Resources" and is a unique feature not found in other recent neuroanesthesia texts. This appendix guides the reader through the use of search engines, the electronic acquisition of articles, and the safeguarding of electronic information. It also provides a list of electronic resources related to neuroanesthesia. The second appendix describes four common clinical scenarios in neuroanesthesia—supratentorial craniotomy, neurotrauma, subarachnoid hemorrhage, and cervical spine injury. These cases serve to integrate previously discussed information in a clinically relevant way. Both appendices should be very helpful for the trainee, and both reflect the didactic spirit of the book.

One suggestion for the next edition would be to improve internal consistency. The editors state in the preface that a certain degree of overlap is inevitable, and that a repetition of facts is useful. I would agree, but conflicting data may be especially confusing for trainees. For example, the incidence of venous air embolism during craniotomy in the sitting position is stated as 9 to 43% on page 100, but 30 to 75% on page 122. There are other discrepancies earlier in the text (compare, for example, the first paragraph on page 13 to that on page 21). These relatively minor opportunities for improvement do not significantly affect the overall quality of the book.

In conclusion, I would recommend *Essentials of Neuroanesthesia and Neurointensive Care* to both trainees and colleagues without reservation. As a practicing neuroanesthesiologist and neurointensivist, I think the book does an excellent job of introducing the reader to the compelling physiology and clinical diversity involved in the perioperative care of the neurologic patient. The editors and authors are to be commended for their valuable contribution to the field.

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Anesthesia Informatics. Edited by Jerry Stonemetz, M.D., and Keith Ruskin, M.D. London, Springer Verlag, 2008. Pages: 504. Price: \$79.95.

The information and technology age brings enormous possibilities and challenges to the individual health practitioner and institutions alike. As a discipline, anesthesia is well recognized as an area of healthcare uniquely positioned to derive maximal benefit from informatics technology. However, increasing systems capabilities are paralleled by similarly increasing technical complexities, and while many of us comfortably dabble in the world of technology there are few who would consider themselves experts. *Anesthesia Informatics* is a multiauthored text that explicitly targets readers who have recently purchased or are in the market to purchase an anesthesia information management system. It provides a well-structured and extremely comprehensive look at the many different aspects of the relationship between information management systems and modern anesthesia.

The opening chapters provide a compelling rationale for implementing such a system, along with a detailed description of the mechanics of the entire process from conception to delivery, installation, "go-live," and the all-important after-sales support. It is written in a conversational and at times humorous style by authors who are self-confessed zealots of the anesthesia information management system. The chapters that follow become more technical and may be of greatest use to a multidisciplinary readership who, the authors argue, play important roles in the decision-making involved in purchases such as these.

The text illustrates well the high-level complexity of these systems, demanding multiple sources of expertise at every stage of planning and implementation. While acknowledging that the greatest penetration of these systems to date has been in academic medical centers, the case is strongly argued that implementation can add value across all types of anesthesia practice. The authors consistently and wisely stress the need for systems to be customized at every stage to derive the greatest benefit. The final section of the book addresses the role of handheld devices, wireless technology, device convergence, and simulation in anesthesia. While much of this is interesting, easy to read, and should appeal to the general reader, it is perhaps of less direct relevance for those contemplating the purchase of an anesthesia information management system.

The book serves as an excellent introduction to the potential role as well as the complexities and potential pitfalls of this technology. Although the discussion of billing and legal issues surrounding use of this technology is heavily U.S.-focused, this represents only a small component of the book, which should otherwise appeal to an international audience. Perhaps ironically in a book addressing efficient information capture, transfer, and storage, there remains a degree of redundancy in content across several chapters. However, I would highly recommend it as a useful addition for those with a role in implementing or improving the use of information technology within an anesthesia department or group.

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Pain Management: Evidence, Outcomes, and Quality of Life: A Sourcebook. Edited by Harriet M. Wittink, Ph.D., and Daniel B. Carr, M.D., DABPM, FFPMANZCA. New York, Elsevier, 2008. Pages: 448. Price: \$99.95.

As physicians caring for patients with pain, we know what we want: High-quality evidence to help us to identify treatments that will benefit our patients and discard those that will not. As always, the devil is in the details; when we review the evidence we find that relevant clinical trials frequently differ too greatly to allow for aggregation of their results, most individual trials contain significant flaws, and therapies are frequently not compared to alternatives or placebos. *Pain Management: Evidence Outcomes and Quality of Life: A Sourcebook*, edited by Harriet M. Wittink and Daniel B. Carr represents a positive, comprehensive, and helpful response to this conundrum.

Each of the 24 chapters covers a specific topic, and Wittink and Carr have done a commendable job in their choice of subjects. The first 10 chapters focus principally on methodology for pain-related outcomes measurement and clinical trials. The remaining chapters cover specific conditions and patient groups. This structure makes the book easy to use and helpful for both investigators designing and conducting clinical trials of pain therapies and for clinicians analyzing the results of such trials. The chapter authors comprise an esteemed and global group and represent a wide variety of relevant areas of expertise.

In the opening chapter, Wittink, Scott A. Strassels, PharmD, BCPS, and Carr set the stage nicely with a discussion of the definition and historical context of health outcomes measurement. They note that because of challenges of time, money, methodology, and ethical limitations, 80% of commonly used medical treatments have not undergone the randomized controlled trials necessary to demonstrate efficacy! Equally important, they observe that the aggregate response of a study population to a given treatment does not necessarily correspond to the response that subgroups or individuals will have to the same therapy.

In other highlights, Debbie Kralik, Ph.D., R.N., Tina Koch, Ph.D., R.N., and Kay Price, Ph.D., R.N. contribute an eloquent chapter on qualitative research of people with chronic pain. Their well-chosen quotations from chronic pain patients will remind all physicians of the great burden that so many of our patients bear. In their chapter, Liana Fraenkel, M.D., M.P.H. and Wittink clearly describe methods for measuring patient treatment preferences that can help clinicians and patients predict which of the available treatments best fits a particular patient at a given time. The chapters on pain assessment in clinical trials and on placebo effects in clinical trials were also well done. The chapters all share a common organization, with the body concisely summarizing the topic at hand and the conclusion offering the authors' recommendations on which tools and measures are most helpful. This structure makes the book particularly useful as a practical reference.

The promise of evidence-based medicine remains great, but clinicians currently do not have adequate, high-quality evidence to guide many of the clinical decisions they face. The adoption of evidence-based medicine principles by payers and regulators has only added to the pressure and urgency surrounding this issue. Wittink and Carr's book provides a useful and practical guide for how the emerging discipline of pain medicine can generate and interpret high-quality evidence to guide us in the care of our patients suffering with painful disorders.

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