Book & New Media Reviews

Principles of Physiology for the Anaesthetist - Second Edition

Ian Power, Peter Kam. Oxford University Press, Hodder Education, London, UK. 472 pages. ISBN-13 978-0-340-88799-8

This second edition has been extensively revised and updated. The first edition, published in 2001, arose out of a perceived need to provide a comprehensive physiology text that would help anesthesia residents prepare for fellowship examinations.

This book is organized in a straightforward and logical manner. Each chapter begins with a brief list of learning objectives and ends with a list of "Reflections" that summarize the most important elements of the chapter. I believe this format would be extremely helpful to the student who is pressed for time (as we all are) while doing a quick review before an examination. The book is effectively illustrated with graphs and figures that are clear and appropriately detailed, and the index is uncomplicated and complete.

The first two chapters deal with the "Physiology of Excitable Cells" and the "Physiology of the Nervous System", respectively. Undoubtedly, our fundamental responsibility as anesthesiologists is to suppress the function of neural tissue and reflex phenomena; thus, it seems appropriate to deal with these subjects from the outset. The first chapter includes basic neurophysiology as well as voltage-gating, receptors, G proteins, and second messengers. For someone whose forte has never been neurophysiology, I found the explanations to be thorough, yet uncomplicated and understandable, likewise the second chapter.

The chapters that follow incorporate respiratory, cardiovascular, gastrointestinal, hepatic, renal, acid-base, blood, immune system, and endocrine physiology. All are clear and concise, with adequate detail for most readers. The chapter regarding cardiovascular physiology is comprehensive and detailed, with more than enough information for all but the most subspecialized reader. The authors express themselves in a manner that makes even complex physiology, for example, the kidney, easy to understand. The chap-

ter regarding acid-base physiology is thorough and includes a brief but excellent synopsis of Stewart's physico-chemical approach to acid-base physiology.

The final few chapters comprise varying topics such as nutrition and exercise, maternal/neonatal physiology, aging, and special environments. Also included is a chapter on the subject of pain co-authored by Michael Cousins. Although well written, the chapter is somewhat brief considering the prominent role that the physiology and management of pain play in our day to day practice. Similarly, the chapter on the physiology of aging is somewhat brief considering the relative preponderance of elderly patients encountered by most anesthesiologists who care for adults. Clearly, the book cannot be all things to all people. Finally, the authors include a chapter summarizing the key equations and tables in the book and a chapter entitled "Further reading" for those who find certain chapters lacking in detail.

In conclusion, Peter Kam and Ian Power have produced a concise, thorough, well-organized review of physiology that is relevant for anesthesia and critical care residents and also for anesthesiologists and critical care physicians in full- or part-time practice. I found myself reading the book in far more detail than necessary for this review, simply because the authors' explanations of physiological principles are so uniquely lucid and straightforward. They have admirably achieved their objective of producing a text to help anesthesia and critical care examination candidates and practitioners deal with the complexities of physiology. This book would be a useful addition to the reference section of any anesthesia department and should be affordable for the trainee's home library. No doubt the non-glossy paper is environmentally friendly, although few will want to relegate this fine tome to the recycling bin.

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Systematic Reviews in Pain Research: Methodology Refined

Henry J. McQuay, Eija Kalso, R. Andrew Moore (Editors). IASP Press, 2008. 407 pages. US \$70.00; IASP member price US \$55.00. ISBN 978-0931092-69-5

This book, published in 2008 by the International Association for the Study of Pain (IASP), expounds upon a range of topics covered at the 6th IASP Research Symposium, Systematic Reviews and Meta-analyses in Pain, held in 2006. The purpose of this 407-page book is to “describe systematic reviews and meta-analyses that estimate the efficacy and harm of interventions in clinical trials of pain medications”. Divided into five sections, the first section of the book concentrates on important issues surrounding systematic reviews and meta-analyses such as industry and publication bias, placebo, individual *vs* group analysis, and adverse event reporting. The focus of sections two to four is on issues surrounding research in acute pain, chronic pain, and cancer pain, the issue with the least space devoted to it. The final section gives attention to topics regarding implementation of research evidence into actual clinical practice.

European authors are the predominant contributors to the text, and the editors are internationally respected for their work in pain management and research. The only North American contribution to this text is from the work done by Paul Taenzer, Saifudin Rashid, and others as part of the Alberta Health Technology Assessment Chronic Pain Ambassador Program. The Alberta group provides an example of how information from systematic reviews can be imparted to community health care practitioners, hence improving the management of chronic pain through a model of knowledge translation.

The chapters are well written, concise, and well-referenced; the references generally extend to early 2007. For the reader with an inclination to ask additional questions, each chapter specifies an author and corresponding email address. There is little information on some topics such as gabapentin or methadone for pain management, and there is no mention of pregabalin. Much of the pharmacology research discussed deals with opioids, non-steroidal anti-inflammatory drugs, and acetaminophen, and there is an excellent review of cannabinoids and analgesia.

Anyone who is interested in critical thinking and critical appraisal of pain research should read this book. The book does not teach the reader how to perform a proper research trial; however, it highlights many of the problems with pain research, summarizes the state of knowledge in a number of areas of pain

management, and helps the reader to understand the difference between statistical significance and clinical significance. This book is representative of work done by the Oxford Pain Research Group/ Bandolier publication (<http://www.jr2.ox.ac.uk/bandolier/index.html>) and the Cochrane Collaboration (<http://www.cochrane.org>).

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