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Basic Anesthesiology Examination Review.

Edited by George W. Williams, M.D., F.C.C.P., Erin S. Williams, M.D., F.A.A.P. New York, Oxford University Press, 2016. Pages: 386. Price: \$105.

As of July 2012, residents beginning the 4-year continuum of education in anesthesiology are required to take the new staged exams that complement the movement of the Accreditation Council of Graduate Medical Education toward competency-based training and promotion. The American Board of Anesthesiology (ABA) BASIC Examination is the first in this series of exams and focuses on the scientific basis of clinical anesthesia practice. It is a summative examination designed to assess the resident's mastery of the educational objectives for the clinical base and Clinical Anesthesiology (CA-1) years of the continuum of education in anesthesiology. This exam concentrates on content areas such as pharmacology, physiology, anatomy, anesthesia equipment, and monitoring.

Basic Anesthesiology Examination Review (BAER) is a study aid specifically designed to be a single, complete source for the CA-1 resident preparing for the ABA BASIC Examination. The book is divided into six sections, including 32 chapters, summarizing the key concepts in basic science and clinical anesthesia practice. These sections follow the blueprint provided by the ABA: Basic Science; Clinical Sciences; Organ-based Basic & Clinical Sciences; and Special Problems or Issues in Anesthesiology. Each chapter summarizes key concepts based on the Content Outline for the Primary Certification in Anesthesiology provided on the ABA Web site.

The Basic Science material is covered in the first three sections of the text: Section I, Anatomy; Section II, Physics, Monitoring, and Anesthesia Delivery Devices; and Section III, Principles of Pharmacology. The Anatomy section includes two chapters that cover both Basic Anatomy and Radiological Anatomy. These sections review the anatomy of the neck, chest, pelvis, and back with a focus on the vasculature and innervation of the upper and lower extremities. The Radiology Anatomy chapter reviews common clinical cardiopulmonary diseases encountered on chest radiographs, computed tomography, and magnetic resonance imaging of the chest and brain and ultrasound of the neck for the placement of central venous catheters. Section II, Physics, Monitoring, and Anesthesia Delivery Devices, is a dense section covering such diverse topics as flowmeters, principles of Doppler ultrasound, vaporizers, uptake and distribution of inhalation agents, monitoring methods, ventilators, operating room safety, and mathematics. This section in particular uses figures, boxes, and tables to assist in organizing a huge volume of data in an approachable manner. It concludes with a chapter on statistics and computers, topics that are often overlooked in a review text. Finally, Section III, Principles of Pharmacology, includes six

chapters that review the general concepts in pharmacology, inhalational anesthetics, intravenous anesthetics, opioids, local anesthetics, and muscle relaxants. Chapter 10, General Concepts in Pharmacology, provides a nice review of pharmacokinetics and pharmacodynamics and includes sections on drug interactions and reactions. The material covered closely follows and includes most of the topics listed in the Primary Certification in Anesthesiology Content Outline provided by the ABA.

The Clinical Sciences Section encompasses four compact chapters that review preoperative evaluation, concepts in regional anesthesia, and concepts in general anesthesia including airway management, common perioperative complications, and management considerations in the postoperative period. This section is notable for reviewing most of the available guidelines published in the field of anesthesiology, including the management of the difficult airway, perioperative cardiovascular evaluation, including care of patients undergoing noncardiac surgery, and the American Society of Regional Anesthesia and Pain Management guidelines for the management of patients on anticoagulants undergoing regional anesthesia. There are also several tables devoted to the management of and indications for medications in the perioperative period.

The Organ-Based Basic and Clinical Sciences Section includes 12 chapters organized in an organ-based fashion beginning with the central nervous system and ending with neuromuscular diseases and disorders. While still basic science in nature, more clinically relevant material is presented in this section. The anatomy, physiology, and relevant pharmacologic agents are reviewed for each of the organ systems approached. The final chapter in this section includes Special Problems or Issues in Anesthesiology and includes topics such as substance abuse, ethics, professionalism, advanced directives, informed consent, and disclosure of errors to the patient.

While the materials reviewed in each section are diverse, each chapter summarizes key concepts in a similarly detailed fashion. The text is readable and strikes a balance between a larger, comprehensive textbook and a bullet-point style review text. With a basic science foundation, clinically relevant scenarios are provided thoughtfully throughout the text. Most chapters strategically incorporate and utilize images and diagrams. Judicious tables and boxes are used to organize and reiterate important concepts. Each chapter includes key references and suggestions for further reading. The chapters conclude with board-style practice questions and discussions after each question, many with corresponding references to major anesthesia textbooks making it easy to find more information on any subject. Overall, the book contains more than 200 type-A single-best-answer multiple-choice questions tailored to the content of the ABA BASIC Examination, allowing the physician-in-training ample opportunity to practice and confirm mastery of each topic. The question type and quality seem comparable to the example questions provided on the ABA Web site and

are generally designed to test the application of knowledge rather than simple recall of factual information.

As with all texts, the reader is encouraged to read the material with caution, as there are some content and grammatical errors. Examples include the description of pacemaker nomenclature (page 82), which states that both the first and second letters reflect the chamber(s) paced and referencing meningiomas as examples of brain tumors with both reduced and increased cerebral blood flow in comparison to normal cerebral tissue (page 236).

Each copy of BAER comes with 12 months of free personal online access from your desktop, mobile device, or tablet. The online version enables you to navigate through the content quickly and easily by using the “quick search” and advanced search functions. You are also able to share content with colleagues using tools such as social bookmarking, email, and citation export. Images and charts can be enlarged for easier investigation and can even be downloaded as a PDF (Adobe, USA) or PowerPoint (Microsoft, USA).

While the BAER was created with a goal of preparing the reader for the BASIC Anesthesiology Examination, it may also provide a review opportunity for the more advanced practitioner. The basic scientific foundations for the practice of anesthesiology with specific attention to pharmacology, anatomy, physiology, as well as anesthesia equipment and monitoring are well reviewed in a succinct but adequately detailed fashion.

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Patient Blood Management. Edited by Hans Gombotz, M.D., Kai Zacharowski, M.D., Ph.D., F.R.C.A., Donat Rudolf Spahn, M.D., F.R.C.A. Stuttgart, Thieme Publishers, initial German publication 2013, English version 2016. Pages: 264. Price: Paperback \$79.99, Kindle 75.99.

Patient Blood Management is a book that considers a concept that transcends transfusion medicine. It is solely aimed at disease management rather than focusing on a single therapeutic modality, transfusion.

The foreword by Denton A. Cooley sums up the essence of patient blood management (PBM) by stating that it is a “compelling concept to preempt anemia, correct bleeding disorders, and minimize blood loss.” He continues by stating that this is an evidence-based approach that has yielded the desired outcomes of improved patient’s health and reduced resource utilization. The preface, written by the three editors, expands on the concept and focuses on the intent of this PBM “book” by addressing the multiprofessional and

multidisciplinary approach that spans a multitude of topics from preoperative anemia management to management of patients for whom blood is not an option. Although referred to as a book, this publication is more appropriately described as a “manual” on PBM. Recognizing the burgeoning data on patient outcome associated with a large number of possible interventions (beyond the current single approach—transfusion) applied together or as a single modality, this bundled care includes identification, diagnosis and treatment of anemia, blood conservation both surgical and phlebotomy, and “tolerating” anemia, while therapeutic modalities other than transfusions are implemented effectively. The manual’s content would encourage the reader to explore elsewhere for more detailed data and newer data that are constantly being added to the literature.

The editors have gathered a long list of both new and senior contributors to PBM. Although these contributors have been asked to address specific topics, their knowledge of PBM extends far beyond the contributions seen in this manual.

Knowing that this publication is an expansion of the original German version of this book, the extensive list of topics is impressive and covers most if not all related PBM topics and issues.

To the casual reader, the history and development of PBM and additional material on the future of PBM in the new healthcare milieu would be of value. These items are not included in this book. While they are not necessarily needed in this manual, they would help explain the evolution of PBM and are addressed in other PBM textbooks. Offering the long view in medicine can usually explain the present and help form the future.

Each of the chapters is well organized, and for the most part, presents the current thinking in PBM. Although weighted toward transfusion medicine, the editors’ reminder to focus on patients and improved outcome resonates throughout the manual.

Despite overall enthusiasm expressed for PBM, some sections of the text offer recommendations that can be challenged since significant controversy exists on these topics. As an example, the sections on pharmacologic agents, parenteral iron, and erythroid-stimulating agents represent conclusions on the basis of old data that have been challenged and are in need of fresh interpretation. Other recommendations ignore the inconsistency of the data used to make a recommendation such as those present in section “transfusion guidelines.” In regard to transfusion indication, the threshold (“trigger”) in patients with coronary artery disease has not been established. Although addressed in the text, table 5.2 appears to present the information in what seems to be a more conclusive manner. Regardless, most of the recommendations are sound and useful.

Although open to all disciplines of clinical medicine, the surgical approach to PBM dominates throughout the book. One can extrapolate to other patient populations since PBM is written as disease management of entities