electrophysiological monitoring of the central nervous system during temporary carotid occlusion. "Anesthesia for Orthopedic Surgery" suffers only from lack of discussion of the incidence, importance, and prevention of thromboembolic phenomena. Head and neck surgery is discussed quite completely, but there are arbitrary instructions on how to induce anesthesia in a patient with facial trauma. The discussion of nasotracheal intubation describes the use of cocaine-soaked cotton swabs in the nose, but does not consider aerosolized cocaine, or lidocaine plus phenylephrine. The role of epinephrine in contributing to dysrhythmias under halothane anesthesia is ignored. The chapter on ophthalmology does not discuss the problem of an open eye plus a full stomach, but is otherwise excellent. The chapter on neurosurgery is quite complete and concise, but, again, it does not address the role of position in the control of increased intracranial pressure, and it presents steal and inverse steal as proven facts. There is a good description of the use of intravenous agents for controlled hypotension, but no mention is made of inhalation agents. "Anesthesia for Obstetrics" gives only cursory attention to the test dose prior to epidural blockade, neglecting to describe the possible results and how to interpret them. Another formula appears in this chapter without any explanation of the symbols. "Anesthesia for Pediatric Surgery" is less than optimal. Most of the figures are incomplete or not labelled, nor are they discussed appropriately in the text. There is a dangerous error in the section on maintenance fluid requirements in the newborn, which might lead an inexperienced trainee into serious trouble if it were followed. There are lists of the physiologic characteristics of infants and children, but there is no application of those facts to clinical practice.

Part 4 is the best portion of the book. It contains nine chapters describing particular problems encountered when anesthetizing patients with a variety of major systemic ailments, regardless of the type of surgery planned. Eight of them are excellent: "The Patient with a Difficult Airway" (Allan Brown), "The Patient with Ischemic Heart Disease" (Charles Hantler), "The Patient with Pulmonary Disease" (Janis Shaw), "The Patient with Kidney Disease" (Jay Finch), "The Patient with Gastrointestinal and Liver Disease" (Janis Shaw), "The Patient with Metabolic Disease" (Donald Kroll and Thomas George), "The Patient with Trauma" (Brian Pollard), and "The Patient with Chronic Pain" (A. M. DeRosayro). There are some minor omissions, such as no description of emergency crycothyrotomy with a large bore intravenous catheter, no discussion of the precautions to be taken when caring for a patient with hepatitis, an incomplete and outdated discussion of halothane hepatitis, and a very superficial discussion of fluid resuscitation in the chapter on trauma. The chapter on fluid imbalance contains an arbitrary and scientifically unfounded discussion of the use of crystalloid *versus* colloid and of whole blood *versus* packed cells, which may be misleading for a beginner in the specialty.

The final part of the text contains a chapter on reading the literature, written by Elliott Bedows and Paul Knight, which is the best essay on the subject that I have read. There is a list of formulas for physiological calculations, and, finally, a list of normal laboratory values from the University of Michigan Hospital.

Taken as a whole, this introductory textbook has flaws which make it difficult to accept as useful for a beginning resident or student. At no time is there a description or illustration of the hemoglobin-oxygen dissociation curve, although it is mentioned in passing in several places. The same is true of neuromuscular blockade monitoring, especially the response to train-of-four stimulation. The Allen test is mentioned several times, but never described for the student. The maneuver of applying cricothyroid pressure during rapid sequence intubation is recommended frequently, but never described or illustrated. There is no discussion of anesthesia circuits, although various ones are recommended in several different places. While DeKornfeld states in the foreword that a chapter on equipment was purposefully omitted, I believe a recommendation for a particular circuit deserves a description of the circuit and the rationale for its use, even in an introductory text.

There are repeated statements about the toxicity of halothane and enflurane, and such arbitrary statements without qualification may cause misconceptions for naive readers. At no time is the role of hypoxia in the reductive metabolism of halothane mentioned. A student reading this book will come away believing that enflurane causes renal failure and is contraindicated in a patient at risk. Interestingly, there is no discussion of the toxicity of nitrous oxide, either to the patient or to operating room personnel.

The book appears outdated in a few areas. Vecuronium is never mentioned, but atracurium is. Discussions of etomidate fail to mention adrenal suppression.

A final problem is that of not including references, especially for controversial subjects like fluid resuscitation, anesthetic toxicity, and choice of anesthetic techniques for specific operations. Without references, several areas merely state opinions and biases. At the end of each chapter, instead of a bibliography, there is a short list of suggested readings, and these appear to be appropriate and useful.

The book is readable and interesting. I think it would attract students to the field, which is one of DeKornfeld's goals. However, there are so many errors and so much opinion stated as fact that I would not want beginning residents to use it as a text, unless an experienced teacher was available to discuss many of the chapters with them. I will put it in our department library, however, and recommend the chapters in parts 3 and 4 for supplementary reading. I will strongly encourage reading the chapters "Reading the Scientific Literature" and "Legal Considerations in Anesthesiology."

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The Anesthesia Machine. EDITED BY CLAYTON PETTY. New York, Churchill Livingstone, Inc., 1987. Pages: 234. Price: $29.50.

The Anesthesia Machine is a very welcome addition to a segment of the anesthesia literature which receives little attention today. The book deals with topics that all too often are dismissed as being mundane or boring, but which are at the center of our ability to conduct the safe administration of oxygen and anesthetic gases in typical clinical settings. In years past, Drs. Dorsch and Dorsch paved the way toward understanding anesthesia equipment with their books on the subject. They made a fundamental contribution to the field by providing a functional organization for discussion of many of the topics they covered. In *The Anesthesia Machine,* Petty has retained this systematic approach to the descriptions of equipment, but he has limited the text to discussions of equipment that is of recent manufacture. In particular, the diagrams he uses are generally clear (many of the line drawings were provided by the major equipment manufacturers) and relate to currently available equipment. This provides a practical collection of information with which many practitioners will feel comfortable. On the other hand, as Petty notes, when one want to explore a specific topic in depth, it will be necessary to consult other sources. By way of example, the chapter on vaporizers considers only agent-specific, temperature-compensated, variable bypass vaporizers. Fortunately, the bibliography is complete and more than adequate as a starting point for further study.

Of particular interest are the references to the development of equipment for safe anesthesia practice, and the role which a number of groups have played in equipment development. Groups, such as the

Compressed Gas Association (CGA), National Fire Protection Association (NFPA), American National Standards Institute (ANSI), etc., as well as individual manufacturers, have written standards and otherwise played substantial roles in advancing the state of the art to its present position. The chapter on risk management and quality assurance is timely, but a more thorough treatment of the relationship of the standards produced by these groups to building codes, laws, recommendations, and guidelines would do much to provide an overview of the interdependence of their efforts. Such an understanding is indispensable for those involved in facility construction or renovation and for those involved with equipment specification, purchasing, or maintenance.

The chapter on medical gas piping systems suffers from the use of "generic" piping system diagrams from the NFPA, whereas the text describes a manifold system which automatically changes from the primary to the secondary bank of cylinders. The NFPA diagrams do not depict the manner in which equipment suppliers have implemented this automatic changeover function. In modern manifold controllers of the type illustrated, the automatic changeover is accomplished by the action of a pneumatic shuttle valve operating at an intermediate pressure within the manifold control mechanism. Indeed, the use of the intermediate pressure stage in the manifold mechanism avoids the pressure fluctuations described in the text.

The Anesthesia Machine is a very good book for those in contemporary anesthesia practice. It is not encyclopedic, but will be widely used. I recommend it to all levels of anesthesia trainees and practitioners.

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Evoked Potential Monitoring in the Operating Room. EDITED BY MARC R. NUWER. Raven Press, 1986. Pages: 256. Price: $34.50.

The purpose of this book is to provide operating personnel with a concise and basic understanding of evoked potential monitoring in the operating suite. The information, contained in 240 pages and seven chapters, is organized in a reasonable and appropriate fashion. The text is well written, has few typographical errors, and reads easily.

The first chapter describes the clinical impact of evoked potential monitoring as it is used both in and out of the operating room, the advantages and disadvantages of evoked potential monitoring, and the causes of both false positive and false negative results from such monitoring. The second chapter is a comprehensive and understandable summary of the physiology of electrical signals generated by the central nervous system, and of the amplification and processing of such signals. There are discussions of electrical safety, techniques for averaging electrical signals, and methods to improve the quality of evoked potential recording. The effects of temperature, blood pressure, and medications on evoked potential signals are considered, although the section of anesthetic influences is, unfortunately, too brief and superficial.

Subsequent chapters employ a uniform format to present helpful information on the recording and interpretation of spinal, somatosensory, visual, and brian stem auditory evoked potentials. Each section includes discussions about electrode placement and detailed explanations of the resulting waveforms, including definitions of normal and abnormal values. The chapters include descriptions of the indications for recording specific evoked potentials, and each chapter concludes with an informative summary of clinical experience that provides useful insights to both the benefits and the problems associated with evoked potential monitoring. The final chapter reviews information obtained from evoked potential monitoring in laboratory animals, with emphasis on the correlations between changes in evoked potential signals and associated pathological lesions in the nervous system.

Careful reading of this text should enable an interested novice to understand the nuances of evoked potential monitoring. However, considerable knowledge will be necessary before the novice will be able to reliably perform evoked potential monitoring. Indeed, the recommendation that the level of expertise required for this procedure is such that a skilled technician is required to perform evoked potential monitoring should be considered carefully; otherwise, the anesthesiologist who applies this technique infrequently runs the risk of obtaining unreliable information. Nonetheless, this text will be useful to acquaint the uninitiated with the technique, and it would serve as the foundation for future reading for those who wish to become expert in the method.

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