

BOOK REVIEWS

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Monitoring in Anesthesiology: Current Standards in Newer Techniques. Volume 31. By D. Royston and T. W. Feeley. Boston, Little, Brown. Pages 201. Price \$39.00.

This issue of *International Anesthesiology Clinics* evaluates several aspects of monitoring during anesthesia and intensive care. The authors of this monograph are well-recognized experts in the field. Most of the articles not only provide useful information on various pathophysiologic aspects of the disorders encountered and the technologies involved in measuring the different parameters, but they also contribute interesting historic information. As is usual in monographs of this kind, the list of discussed topics is somewhat arbitrary, and some of the topics overlap. Some topics, for example, the description of the routine use of the pulmonary artery catheter, can be found in almost any standard textbook of anesthesiology; while other topics, such as "transesophageal echocardiography," "evoked potential measurements," "computerized EEG," and "respiratory mechanics," were not included.

Two excellent articles describe the history, technology, and principles of continuous intravascular (B. D. Royston) and in-line (M. L. Smith, N. T. Smith, and E. S. E. Nessler) measurement of blood gases and electrolytes. These two chapters address the limitations and advantages of these methods as well as expected future developments. These articles are of particular value in view of the fact that this information usually is omitted from textbooks dealing with anesthesiology and intensive care.

Two of the other articles are devoted to perioperative myocardial ischemia. B. D. Berquist and J. M. Leung describe the consequences of myocardial ischemia and the methods used in its detection, from magnetic resonance imaging to clinical monitoring. An interesting comparison is made among the different clinical tools already available to detect perioperative ischemia, such as electrocardiography, echocardiography, pulmonary artery catheterization, and metabolic sampling. The significance of each of these methods has been highlighted by the authors. A subtopic on automated ST-segment monitoring (J. G. Muller and P. G. Barash) presents a methodologic analysis of ischemia-induced ST-segment changes. This article is a good source of information for any anesthesiologist embarking on ST-segment analysis. The authors also discuss several marketed automated systems for ST-segment analysis. Although it is undoubtedly important to understand the differences among the available systems, the authors have not analyzed them all. This could be conceived as biased, which probably was not the authors' intention.

Three articles describe different methods of continuous evaluation of cardiac output, but only one of them, on pulse infusion-thermodilution cardiac output (M. Yelderman), is of likely clinical relevance. Dr. Yelderman was a pioneer in the development of cardiac output measurements based on heat pulses delivered from filaments built into a regular pulmonary artery catheter. This method of thermodilution cardiac output measurement is an averaging technique and represents the cardiac output of the 3–6 min prior to the reading. The accuracy and efficiency of this method have been evaluated in 800 patients. Articles discussing continuous monitoring of cardiac output by pulse waveform and the use of the esophageal Doppler in monitoring aortic blood flow provide relatively little clinically pertinent information.

Only one article in this monograph addresses central nervous system monitoring: "Continuous Monitoring of Cerebral Hemoglobin Ox-

xygen Saturation." The author (R. W. Brown) describes the theoretic basis of cerebral oxygen balance and the validity and limitations of its measurement. Continuous measurement of jugular-venous bulb oxygen saturation was the only means of monitoring global cerebral oxygen balance until the advent of noninvasive techniques based on near-infrared spectroscopy. In contrast to jugular oxygen saturation, near-infrared spectroscopy reflects regional, not global, oxygen balance. It is too early, however, to predict the importance and accuracy of infrared spectroscopy, because this system is still in its trial stage.

The monograph concludes with an article analyzing the effect of monitoring standards on anesthesia outcome (J. H. Eichhorn). After a review of the historic aspect, the author analyzes data supporting the routine use of pulse oximetry and capnography. The chapter includes critical reservations by other experts regarding the scientific basis for the prevalent monitoring standards.

Monitoring in Anesthesiology: Current Standards and Newer Techniques is recommended highly for its invaluable and well-presented information, which sometimes is omitted in our textbooks. Despite several minor flaws, the monograph is an excellent, up-to-date review of leading topics in this field.

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Local Anesthetics. By Rudolph H. deJong. St. Louis, Mosby-Year Book, 1994. Pages: 421. Price: \$55.00

Many people can understand complicated issues or ideas, but very few people can explain them in a concise manner that is easy to understand. Dr. deJong is one such person. *Local Anesthetics* reads as if Dr. deJong was talking to the reader. He gives a balanced explanation of each topic, tying together the referenced studies that led to our current understanding of local anesthetic action. Dr. deJong has a long history of scientific work in the field of local anesthetics, and his book brings together historic perspectives and current research involving animals and humans. He succinctly develops lines of reasoning from the numerous research studies that culminate in the current understanding of local anesthetic function. This single-author book, in the current atmosphere of larger and larger "specialty" books in the field of anesthesia, is commendable but more importantly rewards the reader with consistency throughout the book not attainable in multiauthored compendiums.

The book is divided into two parts, "The Basic Sciences" and "The Clinical Sciences," with a preface on the history of local anesthetics and appendices of generic and trade names of the local anesthetics and their molecular weights. Each part has multiple chapters that walk the reader through the physicochemical properties of the local anesthetics and the intended and unintended tissues and organs affected. Dr. deJong's depth of knowledge and proficiency with the past and current concepts of local anesthetics shines through in every