
Patient safety has improved tremendously since the first public demonstration of anesthesia in the Ether Dome in 1846. The evolution of anesthesia care from a clinical art to a systematic, modern science has been led, in large part, by dramatic advancements in our ability to monitor patients. Accordingly, much of the significant decline in anesthesia-related morbidity and mortality (especially in the last 40 yr) can be directly attributed to improved patient monitoring during the perioperative period.

Monitoring in Anesthesia and Perioperative Care aims to describe not only the historical art but also the modern science and technology that form the basis of perioperative patient monitoring. It chronicles monitoring from its conception by such visionaries as Harvey Cushing and Arthur Guedel through modern-day investigational modalities not yet used in clinical practice. It describes a wide range of monitoring options and offers advice from leading experts regarding the risks, benefits, and applicability of each modality.

The book is generally organized into three sections. The first four chapters deal with historical developments, medicolegal implications, and educational concerns related to monitoring in general. This is followed by the bulk of the text, which is organized into chapter-by-chapter reviews of physiologic and biochemical monitoring modalities. Whenever possible, each of these chapters is organized around six themes: technical concepts, parameters measured, evidence of utility, complications, credentialing and standards, and practice guidelines. The final chapters address intraoperative monitoring of various aspects of the nervous system, highlighting the coming of age of anesthesia information management systems.

As one would expect, the text educates the reader on commonly used monitors, such as those required by the American Society of Anesthesiologists. It also serves as a primer for less common and investigational techniques, including the use of near-infrared spectroscopy to assess regional tissue perfusion.


Although there are many texts and peer-reviewed publications that address intraoperative monitoring of various aspects of the nervous system, few are directed specifically at physiologic monitoring. At the end of the second section, the authors include several chapters relating to perioperative laboratory assessment, such as assessment of coagulation status and cardiac biomarkers.

We applaud the authors’ attempts to synthesize multiple aspects of perioperative monitoring into a comprehensive, yet approachable text. However, there are several notable shortcomings. Although individual chapters are well organized, the overall flow of the text does not seem to follow a logical order. The chapter on gastric tonometry, for example, appears in the text several hundred pages before the discussions of pulse oximetry and temperature measurement. By beginning with the American Society of Anesthesiologists’ standard monitors, and following with chapters based on organ systems, the text would likely flow better. However, a concise table of contents and a thorough index do help to ameliorate this concern.

In addition, the mostly black-and-white (and often low-resolution) photos are not what one would expect from an expensive and otherwise high-quality medical text. Finally, although there is an inevitable time lag between the writing and publication of any textbook, this is even more apparent in this text, which chronicles a rapidly changing technological landscape.

Overall, Monitoring in Anesthesia and Perioperative Care is a thorough and well written resource for clinicians seeking an improved understanding of modern anesthesia monitoring practices. With the ever-increasing quantity and sophistication of monitoring modalities, the potential exists for a concomitant rise in the hazards of such a complex system. Fortunately, Monitoring in Anesthesia and Perioperative Care provides the reader with a solid foundation for seeking an optimal balance between improved patient care and “monitoring overload.”

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