

Book Review

Intraoperative Neurophysiologic Monitoring, Third Edition

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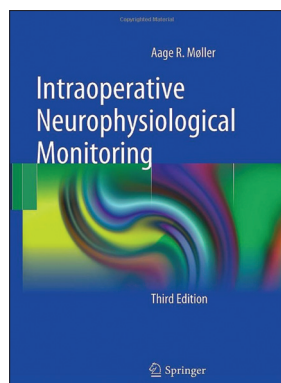
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Rating: ★★★★★

This is a revised edition of this author's popular 1995 intraoperative monitoring (IOM) monograph. As an emeritus distinguished leader in this field, the author provides the reader with an easy-to-read overview of IOM technology and background involved in monitoring the nervous system with evoked potentials (EPs) and electromyography (EMG).

The presentation reviews basic anatomy and physiology of the sensory and motor systems as they apply to understanding EPs and EMG. As the author is an audiologist himself, the auditory system presentation is particularly thorough and well done. For each sensory and motor modality, the chapters discuss the basic anatomy and physiology, followed by technical IOM details. These include valuable points about electrodes, placement of stimulating and recording sites, and setting up the equipment. The discussion of controlling electrical noise was particularly well done, with pointers on a variety of technical tricks used by the author himself. There is a good discussion of safety and avoiding mistakes. Effects on EPs of drugs and anesthetic agents are well described.

Compared to some other IOM books, this has the

advantage of being written by one author. That brings a consistency to the style across chapters. The author also uses an informal writing style that is easy to read for the non-specialist. The presentation parallels the work as it would be performed by many non-physicians such as other audiologists. It is especially deep in techniques for monitoring cerebellopontine angle tumors and other posterior fossa procedures, areas that originally drew audiologists into IOM. Other areas are covered less deeply, such as electroencephalography (EEG), electrocorticography (ECoG), and some other specialized procedures more typically performed by physician monitorists.

The work emphasizes how to monitor, not when or why to monitor. The author describes for the IOM technologist how to perform the methodology. Outcome literature is cited, but not reviewed or presented in depth. An evidence-based medicine review of outcome literature is not found here. General rules about alerting for changes are reviewed well, but subsequent clinical decision making is less well covered. Presumably those clinical issues are more up to the monitoring physician, the anesthesiologist, and the surgeon.

The work emphasizes EPs in neurosurgical procedures of the posterior fossa and spine, with good coverage of EMG monitoring in peripheral surgery. It has less about epilepsy surgery techniques, cardiothoracic and

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vascular procedures, awake language localization, and other techniques not common for non-physician IOM monitorists. Radiologic monitoring, such as during carotid balloon occlusion testing, is not included.

The graphics are good. Some high-quality color illustrations are found here. Quality of the EP and EMG tracings is excellent. Pages include illustrations with detailed examples of EPs, how to score their latencies and amplitudes, and the basic anatomy and physiology. Again,

the fact that this is a sole authored work helps to make the book flow consistently with the liberal use of figures to illustrate the author's points.

This book will be useful especially for IOM technologists and monitorists, for whom it can serve as an introductory text. It also will be useful for surgeons who use monitoring in their cases, who may find this an instructive way to better understand the IOM techniques and their limitations.