

A Practical Approach to Neurophysiologic Intraoperative Monitoring

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A Practical Approach to Neurophysiologic Intraoperative Monitoring edited by Aatif M. Husain, Second Edition, 429 pp., Demos Medical Publishing, 2015

Neurophysiologic Intraoperative Monitoring (NIOM) is a relative new but rapidly growing subspecialty. The second edition of "A Practical Approach to Neurophysiologic Intraoperative Monitoring" is edited by the internationally renowned neurophysiologist Aatif M. Husain. This book is a comprehensive guide to NIOM for health-care professionals including trainees, technologists, surgeons, anesthesiologists and neurophysiologists. The field of NIOM is comprised of state-of-the-art technology and can be used to improve surgical outcomes of a variety of diseases, such as surgery on vertebral column, spinal cord, peripheral nerve or dorsal nerve root, cerebellopontine angle tumor or microdecompression, brainstem, aortic or carotid and intracranial arteries; and epilepsy and movement disorder surgeries. The current edition is well organized and readable, and provides essential and up-to-date useful information.

This book is authored by a group of professionals including experienced neurophysiologists, surgeons, anesthesiologists and technologists with expertise and hands-on techniques in clinical neurophysiology and technology. The book is divided into three sections. The first section, Basic Principles, introduces the readers to the operating room and discusses all the basic NIOM modalities (electroencephalogram [EEG], electromyogram [EMG] and evoked potentials [EP] including somatosensory, brainstem, and motor [SEP, BAEP, and MEP] monitoring). This section reviews and discusses all the basic NIOM techniques in separate chapters including neuroanatomy, specific localization of multiple generators, technical

underpinnings and shortcomings relevant to NIOM. This section helps the readers to become familiar with the various equipment and safety precautions in an operating room.

The second section, Clinical Method, discusses the usefulness of NIOM in various types of operations. Relevant practical information includes the basics of anatomy, physiology and surgery of various procedures, appropriately selected monitoring modalities for some particular type of surgeries, and their interpretative criteria. A unique feature of this section is that every chapter has been written by not only an experienced practitioner but also a senior technologist who has contributed to a technical portion. This section is especially useful for technologists and trainees entering the field.

The third section, Administrative Issue, provides many useful information, such as technical aspects of NIOM machines, remote monitoring, billing, ethical and legal issues. It can be used for trainees, technologists and neurophysiologists to identify his or her knowledge gaps and for program directors to build comprehensive programs. The sample policies and procedures may be used as examples for NIOM professionals' own monitoring services.

This book fills a much-needed niche in NIOM and is a valuable addition to the library of those specialties and a useful tool for practitioners. The book will be a frequently referenced textbook for all professionals in NIOM, who will find this book invaluable. By referencing to the book, I believe that neurophysiology trainees and technologists will gain much insight into the operation of NIOM; surgeons and anesthesiologists will appreciate what the NIOM may offer in improving surgical outcomes; and the laboratory managers will find materials that will help them set up laboratory policies, procedures and protocols.