

BOOKS RECEIVED

COMPREHENSIVE BOARD REVIEW IN NEUROLOGY. SECOND EDITION. 2013. Edited By Mark K. Borsody. Published by Thieme Medical Publishers, Inc. 365 pages. C\$90.00 approx.

THE ESSENTIAL NEUROSURGERY COMPANION. 2013. By Jaime Gasco, Remi Nader. Published by Thieme Medical Publishers, Inc. 1038 pages. C\$100.00 approx.

ESSENTIALS OF SPINAL CORD INJURY: BASIC RESEARCH TO CLINICAL PRACTICE. 2013. Edited By Michael G. Fehlings, Alexander R. Vaccaro, Maxwell Boakye, Serge Rossignol, John F. Ditunno, Jr., Anthony S. Burns. Published by Thieme Medical Publishers, Inc. 658 pages. C\$130.00 approx.

PRINCIPLES OF COGNITIVE NEUROSCIENCE. SECOND EDITION. 2013. Edited By Dale Purves, Roberto Cabeza, Scott A. Huettel, Kevin S. LaBar, Michael L. Platt, Marty G. Woldorff. Published by Sinauer Associates, Inc. 601 pages. C\$115.00 approx.

DECISION MAKING IN SPINAL CARE. SECOND EDITION. 2013. Edited By D. Greg Anderson, Alexander R. Vaccaro. Published by Thieme Medical Publishers, Inc. 612 pages. C\$85.00 approx.

CLINICAL NEUROPSYCHOLOGY: A PRACTICAL GUIDE TO ASSESSMENT AND MANAGEMENT FOR CLINICIANS. SECOND EDITION. 2013. Edited By Laura H. Goldstein and Jane E. McNeil. Published by Wiley-Blackwell. 602 pages. C\$75.00 approx.

EPILEPSY IN CHILDREN AND ADOLESCENTS. 2013. Edited By James W. Wheless, David F. Clarke, Amy L. McGregor, Phillip L. Pearl and Yu-Tze Ng. Published by Wiley-Blackwell. 378 pages. C\$130.00 approx.

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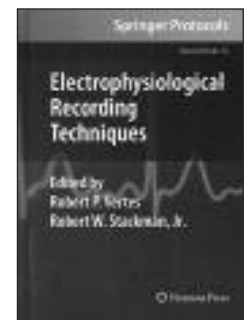
ELECTROPHYSIOLOGICAL RECORDING TECHNIQUES. 2011. Edited by Robert P. Vertes, Robert W. Stackman, Jr. Published by Humana Press. 284 pages. C\$120 approx.

Rated ★★★★★

This book is highly recommended to trainees and neuroscientists, who are actively looking for the state-of-the-art recording techniques, to observe and study oscillating biological substrates that are linked to brain function and behavior. The nature of these electrical signals and how their putative neural codes, in reality, turn into information processing, makes any neurophysiologist humble. The authors provide description and application of tools for the permanent quest of: how can we possibly integrate the heterogeneous ion channel function of spiking neurons to figure out the neural network generating electroencephalographic (EEG) signals, for transmission and synchronization mechanisms of the integrative information processing levels? Not an easy task, but due to the long tradition, that started in the 19th century, and the relentless effort of deriving physiology from anatomical structures, it stands to reason that the method is critical for the ascertainment of all underpinnings of biological electrical activity. Again, not an easy task in neurophysiology in this day and age, but readers would be delighted to have these seminal articles in one single volume if they are still enchanted by the question of how does the brain work. Twenty years after the declaration of the decade of the brain,

here you have a systematic approach to experimental tools of exquisite time resolution (milliseconds), for electrical signals, to further characterize temporal events of brain dynamics, both fast and slow, underlying neural mechanisms, that are arguably interacting at different temporal scales. Also, experimental evidence, from single cell recordings to local field potentials, cortical, and scalp EEG recordings and prospective applications, such as deep brain stimulation (DBS).

As the authors indicate, this is no longer a dream. With multichannel silicon probes and improved current source density (CSD) analysis of cortical and hippocampal function, the basic assumptions remain valid for the understanding of synaptic plasticity and neuropsychiatric disorders. With this second spatial derivative of the local field potential, not only can we localize patterns of transmembrane current flow in neuronal ensembles but also with the addition of the new method of phase realigned averaging technique, the CSD probes on a frequency-by-frequency basis, will be useful for the study of spontaneous brain activity. More so, with the juxtacellular technique to delineate the fundamental physiology, pathophysiological biological bases of the cell-cell communication, we will definitely have major insights into how



nervous systems are generated-from the DNA, mRNA-Protein bottom up- to understand neuronal integration and distribution of information. In the near future, all these laboratory wires and cables we have been working with; will be regarded as archaic with the incorporation of digital telemetry and GPS technology, that the new generation of neurophysiologists will wonder how on Earth, we managed to do any experiments in the past. As the authors said, it is no longer a dream; these techniques are here to stay in both, experimental and clinical settings, as it is the case of the event-related potentials.

The authors also pledge to continue efforts to increase the dialogue between neurophysiologists and behavior and systems neuroscientists, to tackle the issue of directional navigation and place navigation and the role of the anterodorsal nucleus of the thalamus. After all, we have all the technological ingredients available, to make it happen, namely, chronic single unit recordings, refined behavioral analytical approaches and genetically engineered mice, to unveil the underpinnings of spatial navigation and the molecular substrate of head direction cells. Over the years, it has become abundantly clear that brain function is circuitry dependent. Therefore, additional synchronization and coherence studies are warranted, to improve our understanding of the dynamic interactions between cortical and subcortical structures, in any given circuit, from the elegant Papez's circuit, to the specific human and experimental seizure type circuits, where cognition is affected. The clinical relevance of these neuronal circuits is evident, with the recent advances of deep brain stimulation in neuropsychiatric disorders.

The readers will be appreciative to the editors Robert P. Vertes and Robert W. Stackman, Jr., and all authors, for the sufficient theoretical background, methodological descriptions and clear illustrations and discussions, in every single chapter.

*Miguel A. Cortez
Toronto, Ontario, Canada*

HANDBOOK OF NEUROENDOVASCULAR SURGERY. 2012. By Eric M. Deshaies, Christopher S. Eddleman, Alan S. Boulos. Published by Thieme Medical Publishers, Inc. 484 pages. C\$110 approx.

Rated ★★★★★

The Handbook of Neuroendovascular Surgery is designed to be a quick reference text for all clinical personnel working in the field of neurovascular diseases being treated by endovascular techniques, such as nurses, nurse practitioners, physician assistants, medical students, residents, fellows, and even practicing neurointerventionalists. Senior authors of each of the chapters were intentionally selected to be in the early years of their careers, producing a text with details especially relevant to neuroendovascular trainees.

The format of the text follows a logical sequence. It begins with an Introduction containing thorough descriptions of brain and spine vascular anatomy, aided by drawings and angiographic images. Medications typically used by neurointerventionalists, such as antiplatelet agents, spasmolytics, and contrast agents, as well as endovascular anesthesia issues are also detailed early in the text. The Equipment and Techniques section contains useful information on radiation safety, access and closure, and techniques/descriptions of commonly used endovascular equipment including specific types of sheaths, catheters, wires, coils, balloons, stents, and embolic agents. Less commonly used equipment such as snares and covered stents, however, are only superficially described. Finally, the Treatment of Specific Disease Entities section describes the evidence for and techniques used during interventions for commonly treated diseases including aneurysms, AVMs, AVFs, stroke, extracranial and intracranial stenosis, trauma, as well as spinal lesions.



Interspersed throughout the text are quick facts, as well as clinical and technical pearls and pitfalls. Other useful information is included in the appendices, which contain a quick reference guide of commonly used classification systems of neurovascular lesions, summaries of the major carotid stenosis trials, as well as lists of current endovascular equipment and devices. Purchase of the book also gives the reader a code that provides access to online content. At the time of this review, however, the only online content is Appendix B, which is redundant to what is available in the printed text.

Overall, this book is compact, yet fairly comprehensive, and I would certainly recommend it to neuroendovascular fellows, residents wishing to pursue further training, and to interested members of the clinical team participating in the pre-, intra-, and post-procedural care of the endovascular patient. For those wanting to purchase the book specifically for its lists and descriptions of currently used endovascular equipment, I would warn them that the rate at which this equipment changes will likely require subsequent editions to be published quickly in order for this portion of the content to remain relevant.

*Alim P. Mitha
Foothills Medical Centre
Calgary, Alberta, Canada*