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Book Review: Getting Started with Neurofeedback

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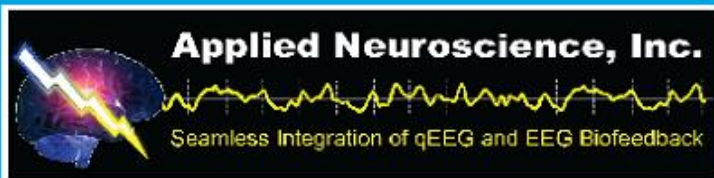
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BOOK REVIEW



GETTING STARTED WITH NEUROFEEDBACK. John Demos, MA. *New York and London: W. W. Norton. 2005 [281 pages, ISBN # 0-393-70450-5, \$35.00 USA].*

And now there are two! For three decades, those who have wished to master the field of neurofeedback have been challenged to learn a new vocabulary of technical terms, master the rudiments of neurology and neurophysiology, and develop a familiarity with a variety of treatment protocols, without any core text to guide them. Professionals adopting neurofeedback as part of their clinical practice have come from a wide variety of backgrounds, many with degrees and training in mental health and behavioral therapies, some with basic nursing or medical education, but few have been ready to understand the contents of their first seminar on neurofeedback. The level of professional knowledge in the field remains uneven, with some practitioners widely grounded by an extensive reading of the medical and research literature, and others basically operating their equipment out of the box with little comprehension of the brain processes affected by treatment.

In 2003, Michael and Lynda Thompson published *The Neurofeedback Book* (Wheat Ridge, CO: AAPB), the first comprehensive text for the student of neurotherapy. Now John Demos has published a second basic textbook for the field. Together, these texts provide a much smoother road into neurofeedback practice. The newcomer can find assembled in two places most of the core of knowledge that one should master for practice. Students mastering

John Demos' book and the Thompson and Thompson text will also be relatively well prepared for the Biofeedback Certification of America (BCIA) certification exam.

Once these foundations are in place, practitioners can continue to broaden their neurofeedback skills and knowledge by regular attendance at the annual meetings of the International Society for Neurofeedback & Research (ISNR) and the Association for Applied Psychophysiology and Biofeedback (AAPB), and by regular reading of the relevant journals (especially the *Journal of Neurotherapy, Applied Psychophysiology and Biofeedback*, and the *Biofeedback Magazine*).

John Demos' book is organized into three parts. Part I, Understanding Neurofeedback, includes seven chapters on the history of neurofeedback, basic anatomy, neuroanatomy and physiology, general biofeedback modalities, neurofeedback modalities, compressed spectral array and the normal EEG, brain mappings, QEEG, and normative databases, and a review of common banded frequencies. Part II, Neurofeedback in Clinical Practice, includes seven chapters covering consultation with professionals and clients, general and cognitive assessment, two channel EEG assessment, the use of QEEG in assessment, neurofeedback treatment planning, the use of "deep states" (alpha-theta states) in neurofeedback based psychotherapies, and entrainment therapies. Part III includes three chapters on obtaining education, training and certification in neurofeedback, guidelines for selecting and purchasing equipment, and setting up a neurofeedback office and practice.

Chapter 6 on brain maps, QEEGs and normative databases provides a good example of Demos' ability to make complex subjects clear enough that they can be understood by newcomers to the field. Demos emphasizes the usefulness of the topographic brain map in planning neurofeedback treatment, compares the QEEG to the SPECT scan, and introduces the concepts and terms necessary to understand a basic QEEG map and report. He discusses data acquisition for the QEEG, instructions for preparing the patient, and the options available today for diagnostic by comparison to normative databases.

Chapter 8 on consultation is unique, and provides a good example of John Demos' practical approach. He asserts that neurofeedback providers are educators, because both the health professions and the general public are generally lacking in information about neurofeedback as an intervention, its applications, and its benefits. Demos' chapter provides simplified summaries of how neurofeedback works, an overview of brain regions and functions, as well as discussions of CPT coding, health insurance, and indications and contraindications for neurofeedback.

John Demos' book is well organized, and includes seven appendices covering: Appendix 1, sample eyes-open QEEG data on a 10-year-old client with anxiety and ADHD, including artifacted/rejected data showing distortions due to muscle and body movement; Appendix 2, sample eyes-closed data on a depressed adult patient, along with training graphs on the same patient; Appendix 3, a handout of instructions for children in training; Appendix 4, suggestions for a neurofeedback release form; Appendix 5, discussions of the EEGs and brain function of seizure disorders; Appendix 6, summaries of medication effects on the EEG; and Appendix 7, examples of alpha and beta asym-

metry in depression and PTSD. The text is also supported by a large number of useful figures and tables, ranging from graphics showing the International 10-20 system to a table showing brain lobe function and correlated symptoms. In addition, he provides a three page glossary of abbreviations used in the book, and also used widely in the field of neurofeedback.

I highly recommend *Getting Started with Neurofeedback* as a basic and comprehensive text for students entering the field of neurofeedback, and as a basic reference for those already in practice. Many practitioners today lack some of the basic knowledge which Demos summarizes here. The book is clear, readable, and current. It covers approximately 80 percent of the knowledge necessary for students preparing for the BCIA certification exam.

The book has a few gaps, although not essential ones. For example, although LORETA is listed along with other available normative data bases, there is no discussion of the LORETA's visualization of sub-cortical sources for cortical patterns. It is also difficult to conceive of a basic text on neurofeedback that fails to cite a single publication of Barry Sterman (although Sterman's work on seizure disorders and on the EEG is discussed in multiple places in the book). The book fails to mention many of the primary references in the research and literature on the EEG and neurofeedback. For example, the book does not cite the work of Chabot, John, Klimesch, La Vaque, Linden, Prichep, Thornton, or even Monastra. In its favor, however, the book accomplishes a clear overview of the foundations of the field, and refers readers to Hammond's comprehensive neurofeedback bibliography, www.isnr.org.

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