

ADVANCED SKILLS FOR COMPETENCY IN NEUROFEEDBACK

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Gary Schummer, Ph.D.

Faculty:

- Joy Lunt, R.N., B.C.I.A., Brain Potentials Inc.; 1612 West Olive Ave. Suite 301 Burbank, CA 91506 (818)563-2100; EEGJoy@aol.com

and/or

- Gary J. Schummer, Ph.D., Licensed Psychologist and Clinical Director of the A.D.D. Treatment Centers, 24050 Madison St., Suite 111; Torrance, CA 90505 (310)378-0547
GJS@ADDTreatmentCenters.org

COURSE DESCRIPTION

The field of Neurofeedback is gradually moving toward greater use of the Quantitative EEG (QEEG). There is a growing body of evidence that there is a positive treatment impact from the use of a QEEG and the resultant customized Neurofeedback interventions. Neurofeedback can be effectively done without the QEEG however the scope of treatable disorders is reduced, the process generally less efficient, and the effect size smaller (C. Wright et al., SSNR, Austin 1998). As health care moves in the direction of personalized medicine and cost efficiency drives the health care delivery system, new funding will likely become available for advancing neuroimaging techniques like QEEG. The field of Neurofeedback is solidly based on a growing body of scientific efficacy studies that will move this field from “alternative” to “mainstream” therapy. This evolution will be facilitated by the increased validity and reliability of the QEEG derived from larger and more robust databases, better amplifiers, and greater standardization. Presently, however, as with any developing science, the interpretation of the QEEG remains an art. The skills necessary to develop effective therapeutic interventions requires the therapist be familiar with the strengths and limitations of the various databases available to us. In the near future it is likely that anyone doing Neurofeedback therapy will be required to have, at least, a working knowledge of the QEEG to be considered practicing within the standard of care.

This course is designed to help clinicians develop competencies necessary to effectively treat those disorders most commonly encountered in the mental health field. The developing clinician needs to have matured beyond a “cook-book” approach to Neurofeedback therapy since our patients present us with complex problems requiring complex solutions. To help developing clinicians become more effective in the treatment of various disorders this course will focus on a clinical interpretation of NxLink, NeuroGuide, and Hudspeth Connectivity Analysis. Obtaining these three databases on a patient’s EEG will often yield different, sometimes contradictory results; such is the “state of the art” of the developing QEEG world. Our course will teach how to use these three databases in a way that maximizes the strength of each one with respect to the disorders empirically and clinically shown to respond to protocols derived from them. We will also cover the best way to develop and discuss with a patient or parent of a patient a cohesive and comprehensive treatment plan such that they have a fundamental understanding of what you are recommending and how you intend to implement the plan.

This two-day course will also heavily emphasize how to utilize the software and hardware available to most clinicians. Specifically we will teach “best practices” regarding:

- 1) Effective use of thresholds
- 2) How to identify then shape or drive EEG frequency bands toward normality
- 3) Optimal use of multiple trace screens to monitor or inhibit frequency bands
- 4) When to effectively use down-training
- 5) Clarifying issues regarding coherence, two-channel sum or difference training
- 6) Utility of dominant frequency training
- 7) Disorders that respond to down- or up-training of standard deviation
- 8) Criteria for deciding when to train centrally (C3, Cz, C4) verses regionally
- 9) The timing of changing reward or inhibit bands
- 10) Deciding when points of maximum benefit have been achieved and when to move on in a treatment plan

This course will assist developing practitioners to gain skills necessary to integrate the many approaches to training the brain and we will base this class on our extensive clinical experience and knowledge of neuropsychology and physiology. Our basic methodology stems from the work of leaders in the field who have taught us to identify abnormality in the brain, correlate that with functional analysis derived from standard assessment tools and careful clinical interview, then train the brain toward greater normality. We will apply this method to specific disorders via presentation of case studies. Appropriate clinical cases from participants are welcomed.

This course will be taught at an intermediate to advanced level and assume participants have a working knowledge of the QEEG (NeuroGuide and NxLink) and preferably have completed Dr. Jack Johnstone’s 2-day QEEG course which precedes this class. We will not assume participants have a working knowledge of the Hudspeth Connectivity Analysis, rather this will be explained as well as its utility in treating certain disorders.