

# Update on Emerging Tools in Neuroscience for Pediatric and Adult Inpatient and Outpatient Therapists

Saturday and Sunday May 18-19, 2013: Seattle, WA

**Instructor:** Linda Marshall-Kramer, OTR/L, BCIA-BCN, C/NDT

This course has been designed specifically for our PTNW community! Linda Marshall-Kramer will expertly educate and update you on the best tools used in neuroscience for therapists.

Course outline is below:

## **EEG NEUROFEEDBACK FOR THE REHAB THERAPIST**

This therapy can be useful for the therapist working in a variety of settings. This includes acute care (Traumatic Brain Injury and CVA), Pediatrics (Autism, SPD/ADHD, Cerebral Palsy, TBI, LD), Psych (returning veterans/PTSD, Anxiety, OCD, etc.); Adult/Geriatrics (Parkinson's, Degenerative brain conditions)

## **ORIENTATION OF NEUROFEEDBACK**

Definition

History of the EEG

History of NFB

NFB Mechanism (Operant Conditioning)

NFB Goal

## **BASIC NEUROPHYSIOLOGY AND NEUROANATOMY**

What is the EEG

How is the EEG made

How to record the EEG

Hemispheric tasks and geography

General functions of each lobe

Developmental changes in the brain

## **INSTRUMENTATION AND ELECTRODES**

Basic over-view of a brain wave

10/20 system and different montages or electrode placements in NFB

\*Lab demonstration of EEG NFB and / or break up into groups in order to use equipment as a trial

What is a qEEG (Quantitative EEG/Brain Map)

Use of the qEEG as evidence based approach to using NFB

\*View a video of a qEEG and / or see one performed live on a workshop participant

## **RESEARCH**

Where did NFB begin – field of Psychology

Occupational Therapy generated studies

International Society of Neurofeedback Research

## **TREATMENT PLANNING**

Different NFB approaches including symptom based and qEEG evidence based.

Use of NFB as an adjunctive treatment in PT/OT/Speech

Peripheral Biofeedback as an adjunct to EEG NFB and therapy (peripherals)

Teach specific biofeedback strategies including temperature regulation, heart rate variability, respiration which can be used immediately within the clinic with a variety of populations.

## **PROFESSIONAL CONDUCT**

Professional didactic training explanation

Overview of the different equipment used in the field and where the field is heading

BCIA – Biofeedback Certification International Alliance – for Board Certification

Mentoring

Unique role of the Physical Therapist/Occupational Therapist/Speech Therapist

Linda Marshall-Kramer, OTR/L, BCIA-BCN, C/NDT

Linda Marshall-Kramer has been a practicing pediatric Occupational Therapist for over 30 years and is a graduate of the University of Illinois. She has worked in the Special Care Nursery at Michael Reese Hospital and Northwestern Memorial Hospital and Children's Memorial in Chicago, Illinois. Linda has been in private practice for 25 years and currently owns Children's Therapy Services in Frankfort, Illinois. She has been certified in Sensory Integration since the early 1980's, both in the Southern California Sensory Integration Test (SCSIT) as well as the Sensory Integration and Praxis Test (SIPT). In addition, she was certified in Neuro-Developmental Treatment/Pediatrics in 1984 and trained under Barbara Cupps in the three week Baby/NDT course.

Linda is certified in the Integrated Listening System (ILS) and the Interactive Metronome (IM). In addition, she has received advanced training in the use of Neuromuscular Electrical Stimulation (NMES) and Kinesiotaping. Currently, Linda's practice focus is in the area of EEG Neurofeedback, pediatric as well as adult. Linda treats clients with a wide range of disorders including Parkinson's, Traumatic Brain Injury, Seizures, Migraines, Attention Deficit Disorder, Anxiety, Obsessive Compulsive Disorder and Sensory Processing Disorder. She assists her husband, who is a physician, in the administration and interpretation of the quantitative EEG/Brain Map in order to better direct neurofeedback therapy. Linda is Board Certified in Neurofeedback through the Biofeedback Certification International Alliance (BCIA) and is the only Occupational Therapist Board Certified in the state of Illinois as well as the only OT in the nation with certifications in sensory integration and neurodevelopmental treatment. Linda additionally has advanced training in peripheral biofeedback and integrates this with EEG Neurofeedback. Linda is a Certified Mentor for applicants wishing to pursue Board Certification through the Biofeedback Certification International Alliance (BCIA).

Currently, Linda is pursuing her Doctorate in Occupational Therapy with an emphasis on the use of Neurofeedback and the qEEG. Fun Fact: Linda is married to Otto S. Kramer, M.D. and has four children, ages 16 – 23.