



## Neurotherapy Center of Dallas, Inc.

**Jonathan E. Walker, M.D.**

Neurology

Clinical Neurophysiology

EEG Biofeedback

**PATIENT NAME:**

**AGE:**

**PHYSICIAN:**

**DATE:**

### RAW EEG

**EYES CLOSED:** There was some well-developed posterior dominant 8 to 9 Hz activity, which spreads into the frontal regions, with some diffuse low voltage fast activity at 15 to 20 Hz.

**EYES OPEN:** With eyes open, there is diffuse low voltage fast activity at 15 to 20 Hz, with some alpha activity mixed in throughout the various leads and some frontal 7 Hz activity.

**READING EEG:** The reading EEG was very similar to the eyes open tracing. No persistent background asymmetries were evident. No paroxysmal discharges were seen. In particular, there were no epileptiform abnormalities.

**IMPRESSION:** Within normal limits.

### COMPUTERIZED EEG

**NX LINK DATABASE ANALYSIS:** The abnormalities seen suggested a possible primary degenerative dementia.

**READING DIFFERENCE TOPOGRAPHY:** Reading difference topography of the power type revealed an increase in 1 Hz at T3 and OZ. These increases are paradoxically abnormal, suggesting the patient may have some difficulty with memory and with visual processing while reading.

Reading difference topography of the coherence type revealed a decrease in delta coherence in one pair, which would not aid good reading.

**THATCHER NEUROGUIDE DATABASE ANALYSIS:** Linked ears Z-scored FFT absolute power eyes open single Hz bins revealed an increase in 1 to 2 Hz at T5 and T6. There was an increase in 29 to 30 Hz at C4. There was an increase in 30 Hz at F8.

Linked ears Z-scored FFT relative power eyes open single Hz bins revealed an increase in 1 Hz at T5 and T6. There was a decrease in 5 to 13 Hz at T6, probably representing muscle artifact. There was a decrease in 9 to 12 Hz at T5, probably representing muscle. There was an increase in 14 to 18 Hz and a scattered distribution. There was an increase in 23 to 30 Hz at F8. There was an increase in 28 to 30 Hz at F3/F4/C4 and T3. There was an increase in 29 to 30 Hz at FZ/C3 and PZ. There was an increase in 30 Hz at CZ.

Laplacian Z-scored FFT absolute power eyes open single Hz bins revealed an increase in 1 to 3 Hz at O1/T5/T6/PZ/CZ and T3. There was an increase in 1 Hz at P3/P4 and T4. There was an increase in 4 Hz at F7 and T5. There was an increase in 30 Hz at F8.

Laplacian Z-scored FFT relative power eyes open single Hz bins revealed an increase in 1 to 2 Hz at O1/O2/T5 and T6. There was an increase in 1 Hz at T3/T4/PZ/CZ/P3 and P4. There was a decrease in 4 to 20 Hz in a scattered distribution. There was an increase in 14 to 19 Hz in a scattered distribution. There was a decrease in 21 to 29 Hz in a scattered distribution. There was an increase in 28 to 30 Hz at F4. There was an increase in 29 to 30 Hz at F3 and F8. There was an increase in 30 Hz at FZ.

Linked ears Z-scored FFT coherence eyes open revealed a decrease in delta coherence in seven areas on the left and five on the right. There was an increase in delta coherence in four areas on the left and three on the right. There was an increase in alpha coherence in two areas on the left and two on the right. There was a decrease in alpha coherence on the right and left. The most significant decreases were as follows: (1) decreased delta coherence at O2/T6, (2) decreased delta coherence at O1/T5, (3) decreased delta coherence at P4/F8, and (4) decreased delta coherence at P3/T5.

If the patient is to have neurofeedback training, I would recommend five sessions each of the following protocols:

1. Decrease 2 to 7 Hz and increase 15 to 18 Hz at FPO2 to relieve depression.
2. Decrease 1 to 4 Hz at T5 plus T6 to improve verbal understanding and emotional understanding.
3. Decrease 1 to 3 Hz at O1 plus PZ to improve vision to the right and cognitive processing generally.
4. Decrease 1 to 3 Hz at T3 plus P3 to improve verbal memory and cognitive processing of language.
5. Decrease 1 Hz at P4 plus T4 to improve cognitive processing of spatiotemporal information and math skills and to improve emotional memory.
6. Decrease 1 to 4 Hz at F7 plus O1 to improve verbal expression and vision to the right.
7. Decrease 1 to 2 Hz at O2 plus CZ to improve vision to the left and sensorimotor integration in the midline and legs.
8. Decrease 23 to 30 Hz and increase 10 Hz at F8 plus C4 to decrease anxiety and irritability, and to improve emotional expression and sensorimotor integration on the left. At that point, I would repeat the QEEG before doing additional neurofeedback training.

With regard to the patient's most prominent symptoms, I would recommend the following protocols for the following symptoms: For ADD, protocols 3, 4 and 5. For ADHD, protocols 3, 4 and 5. For alcohol or drug abuse, protocol 9. For allergies, protocol 9. For auditory processing problems, protocol 2. For chronic fatigue, protocol 9. For compulsive problems, protocol 9. For depression,

**Patient;**  
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protocol 1. For difficulty expressing emotions, protocol 9. For eating disorder, protocol 9. For emotional control problems, protocol 9. For excessive daytime sleepiness, protocol 9. For happiness, protocols 4 and 5. For hearing problems, protocols 4 and 5. For impulsivity, protocol 9. For lack of confidence, protocol 9. For math difficulty, protocols 3 and 5. For memory problems, protocols 4 and 5. For obsessive problems, protocol 9. For overeating, protocol 9. For seasonal affective disorder, protocol 1.

Sincerely,

A handwritten signature in black ink that reads "J.E. Walker, MD". The signature is written in a cursive, somewhat slanted style.

Jonathan E. Walker, M.D.  
Board Certified in Neurology and EEG

JW/ems

Dictated but not read. Subject to transcription error.