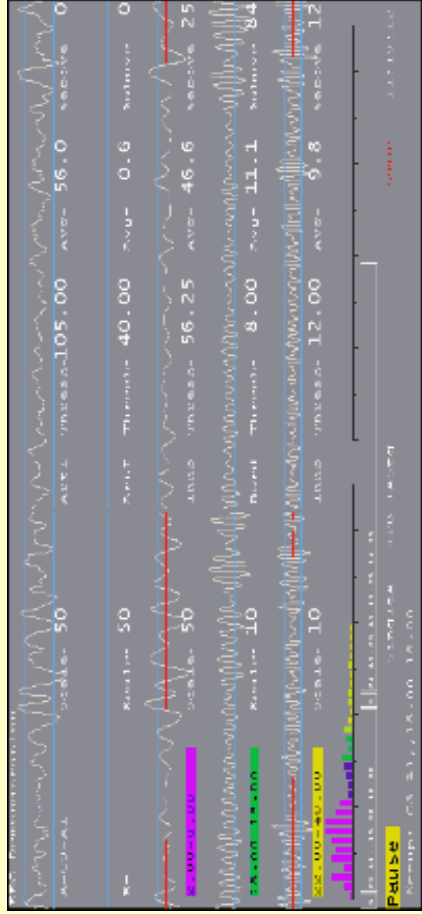
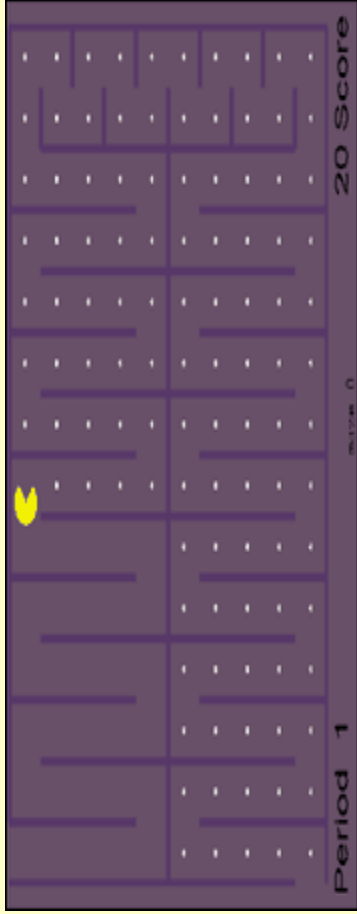


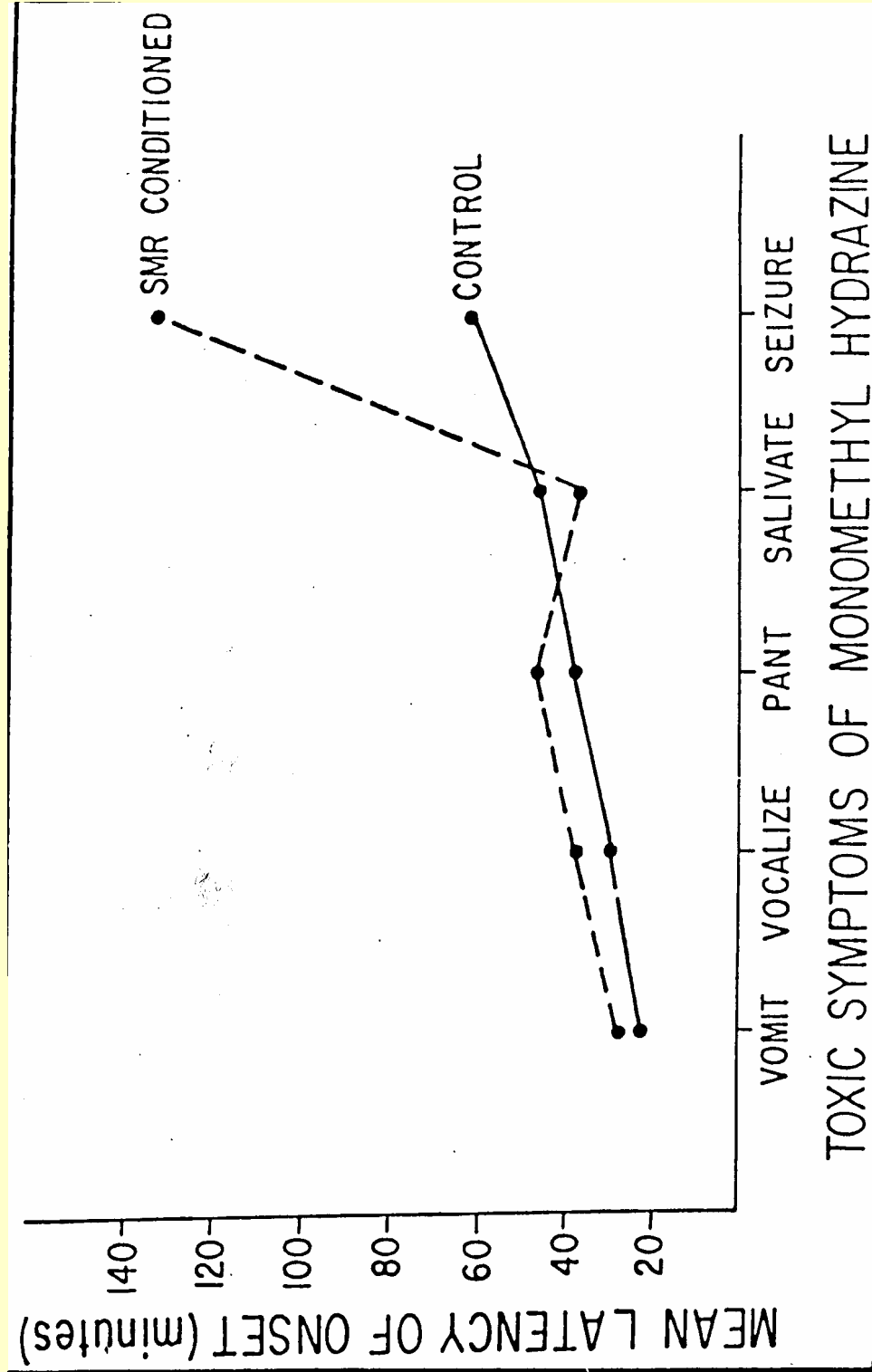
Neurofeedback: A Non-Invasive Treatment for Seizure Disorders

Robert Coben, PhD
Neuropsychologist
Board Certified, EEG Biofeedback
Diplomate, QEEG certification board

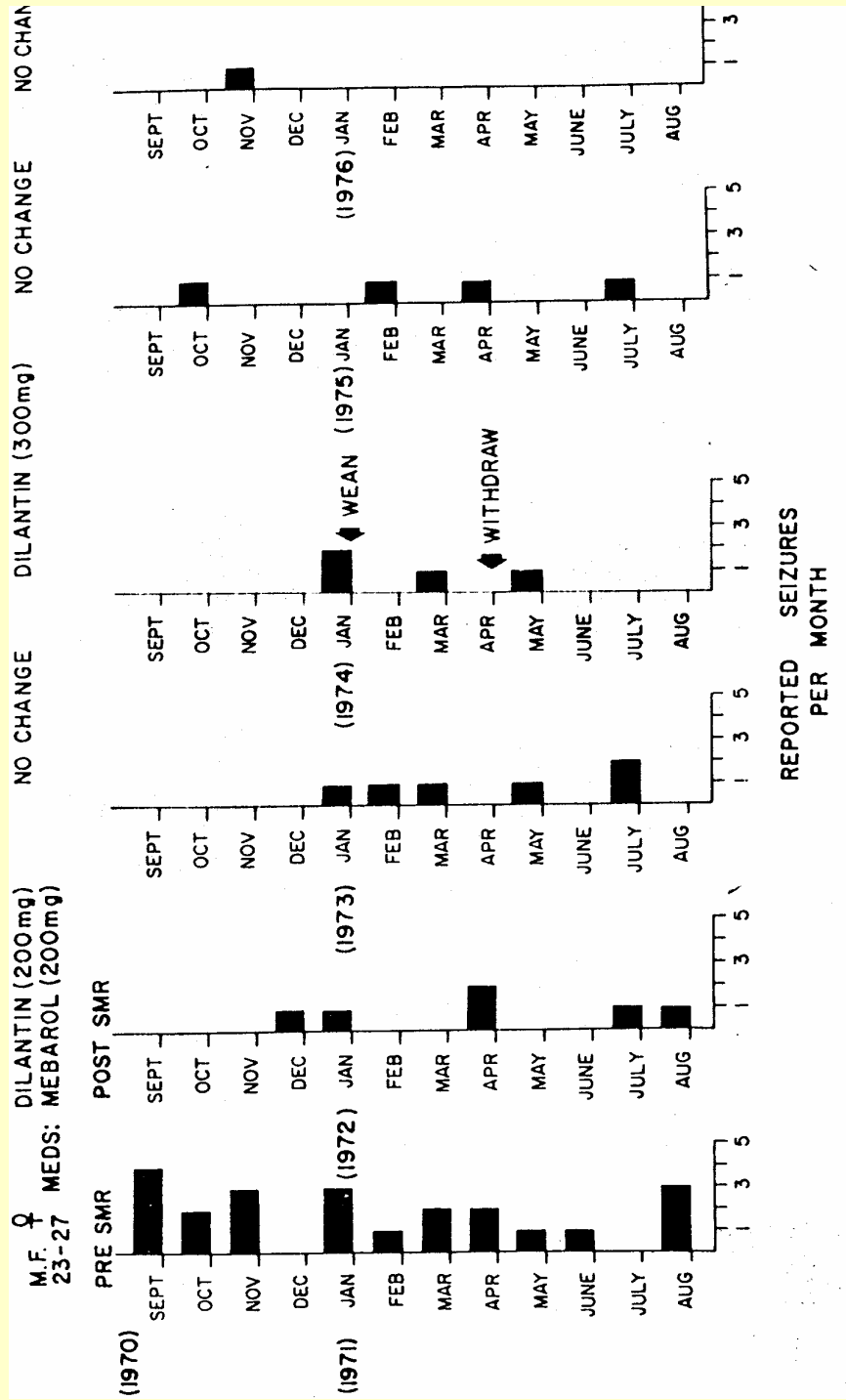
What is Neurofeedback?



EEG-trained cats



Human epilepsy research (1972)



Review of epilepsy research

- Sterman (2000) conducted a meta-analysis of 30 years of epilepsy research
- 82% showed clinical improvement (> 30% reduction in seizures)
- There was an average of 60% symptom reduction (intensity and frequency)

Advances in Epilepsy Research

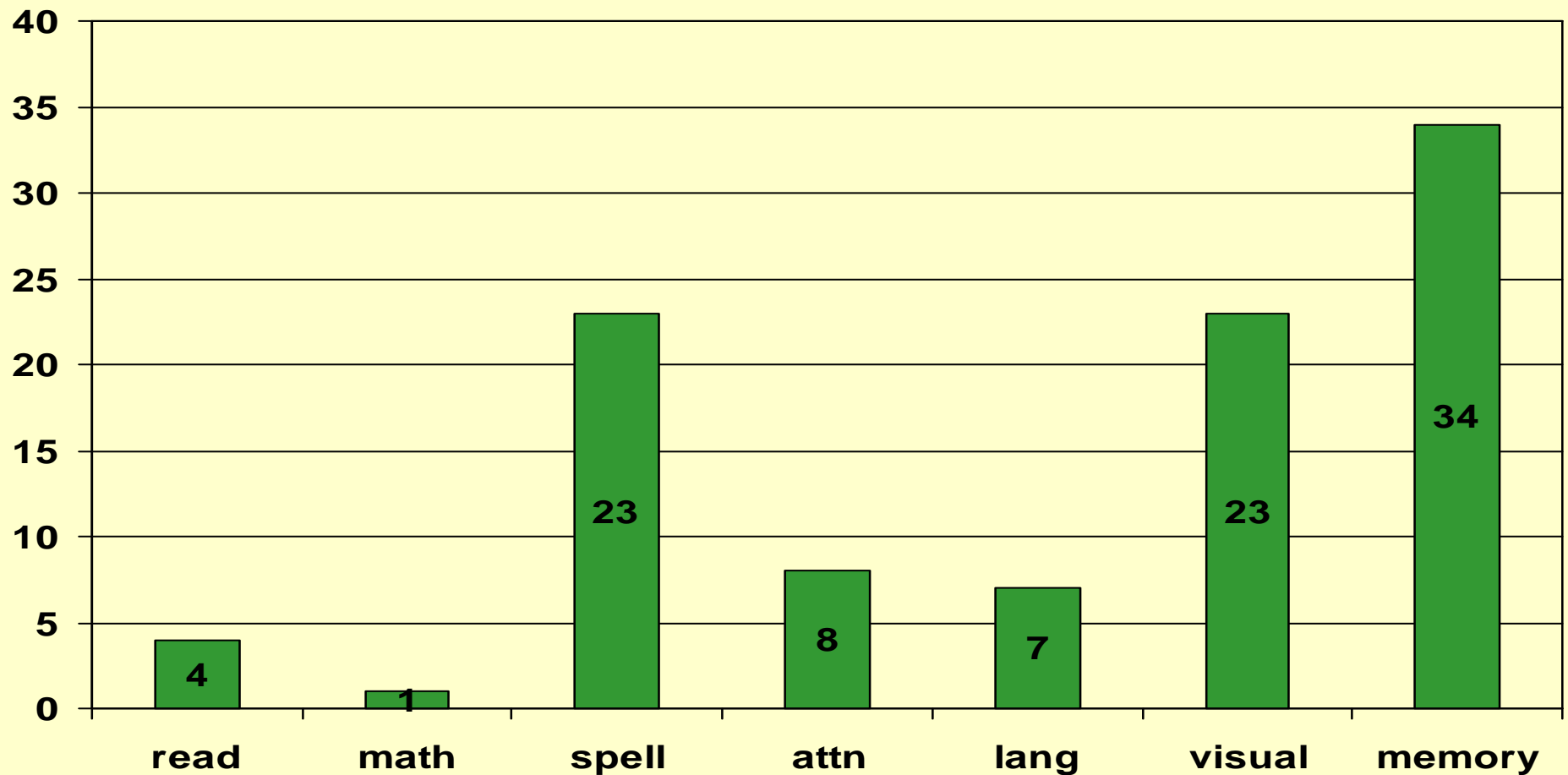
- QEEG, Power and Connectivity assessment enriches the power of Neurofeedback
- Walker et al have shown the QEEG guided coherence training improves NF outcome for seizure disorders.
- Sample had an average of 13 seizures (PCS) week while on medication.
- 20% seizure free with no medication, 70% seizure free with medication, 10% seizure 1/month.

Coherence training for Epilepsy (Pseudo) – Case 1

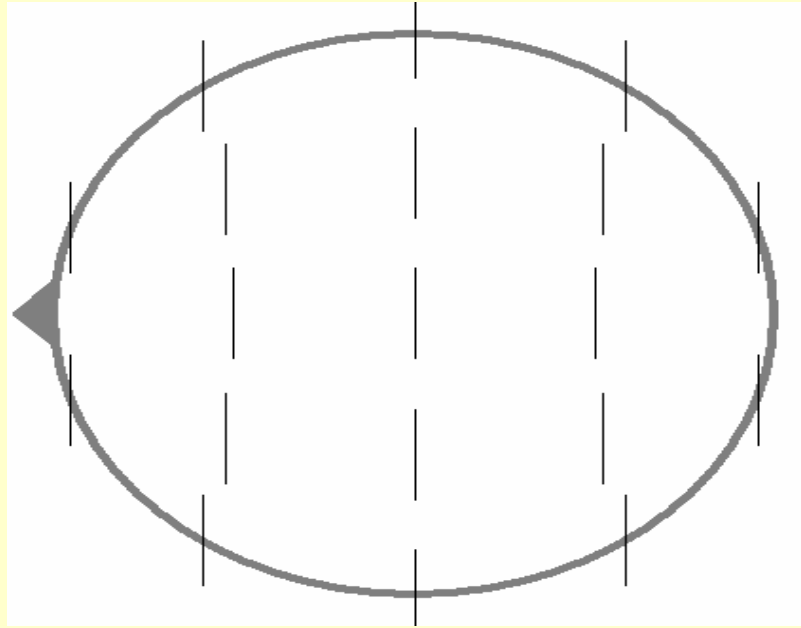
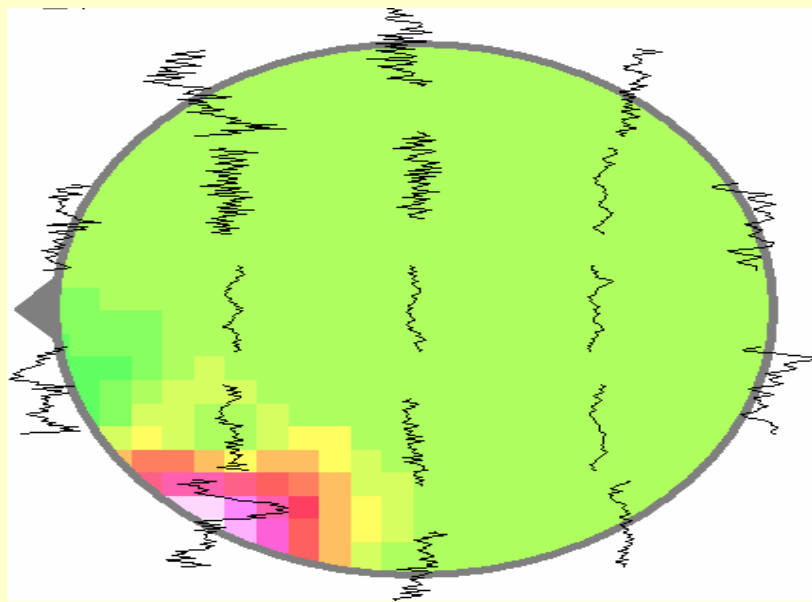
- 22 year old left handed female seen for possible seizure disorder vs conversion disorder.
- Idiosyncratic episodes of speech (expressive) and memory disturbance.
- All neuro data WNL.

Coherence training for Epilepsy (Pseudo) – Case 1

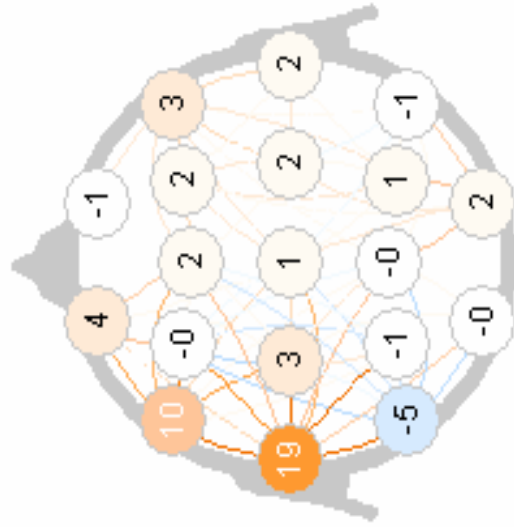
NP %ile scores



Coherence training for Epilepsy (Pseudo) – Case 1

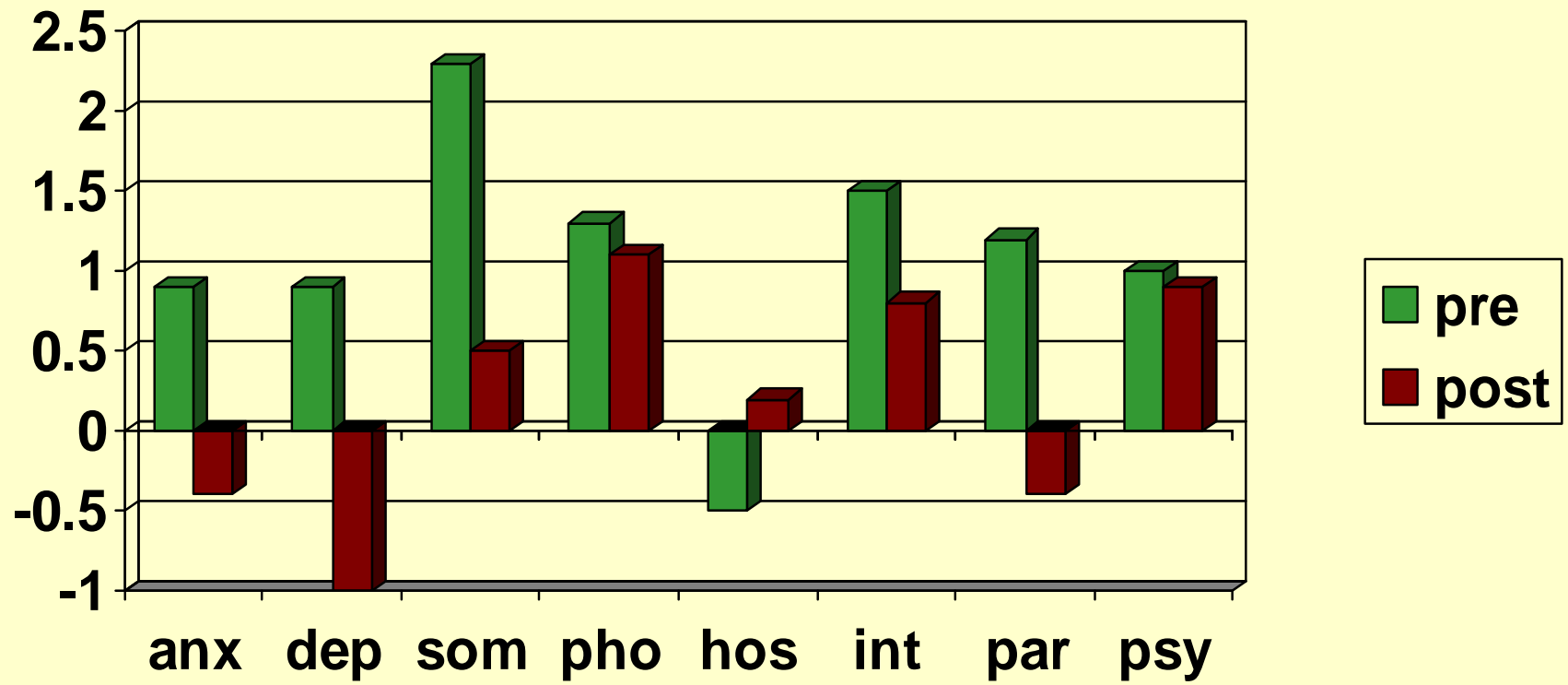


Total

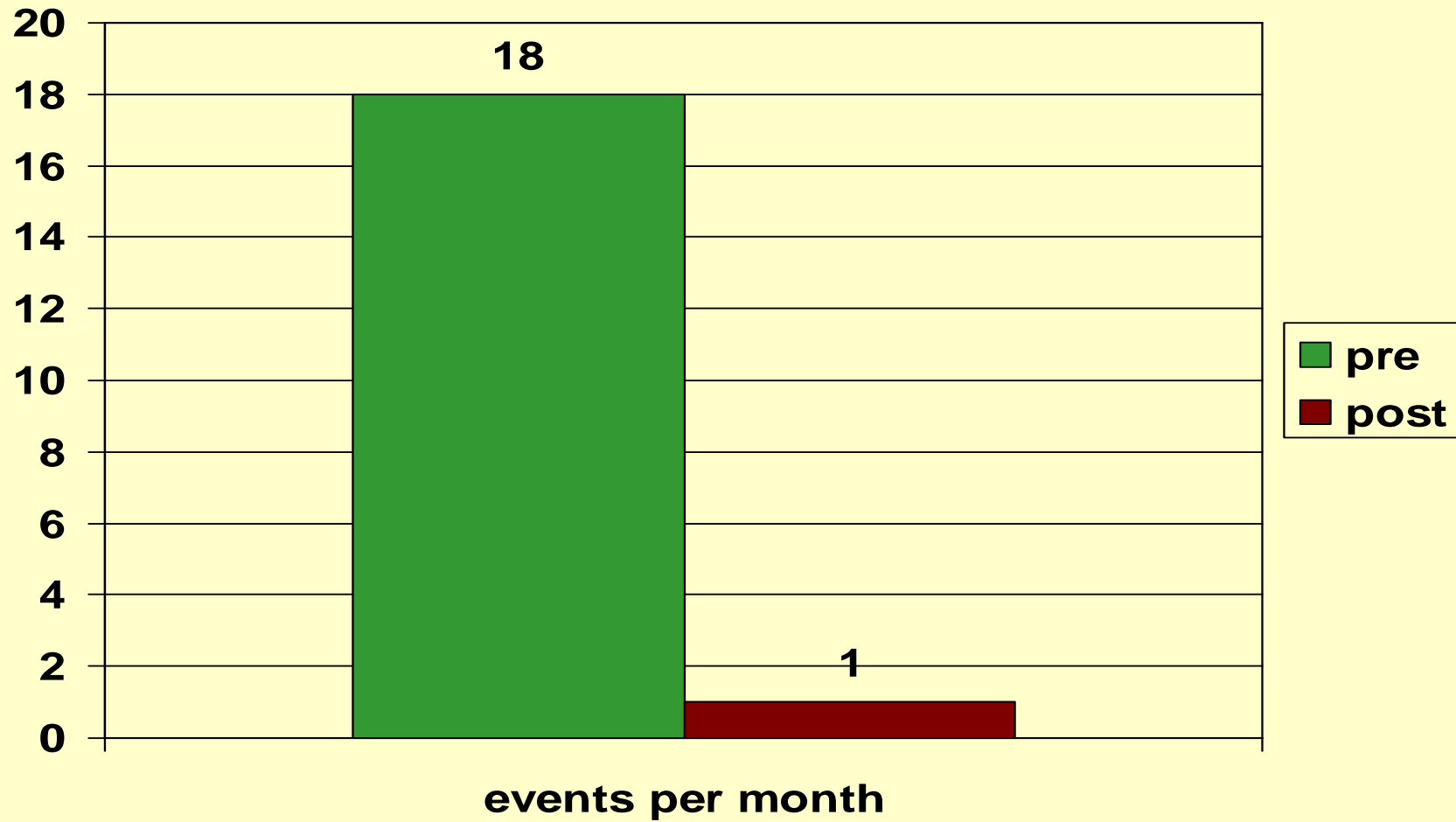


Coherence training for Epilepsy (Pseudo) – Case 1

SA-45 z scores

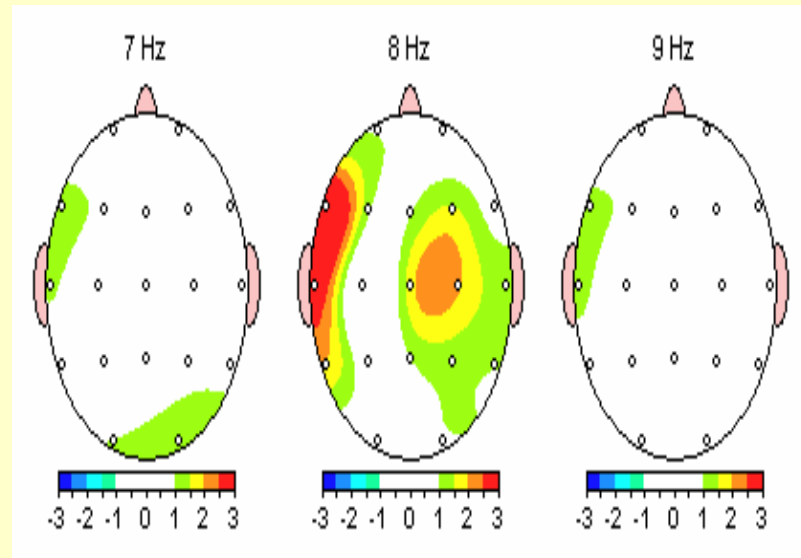


Coherence training for Epilepsy (Pseudo) – Case 1

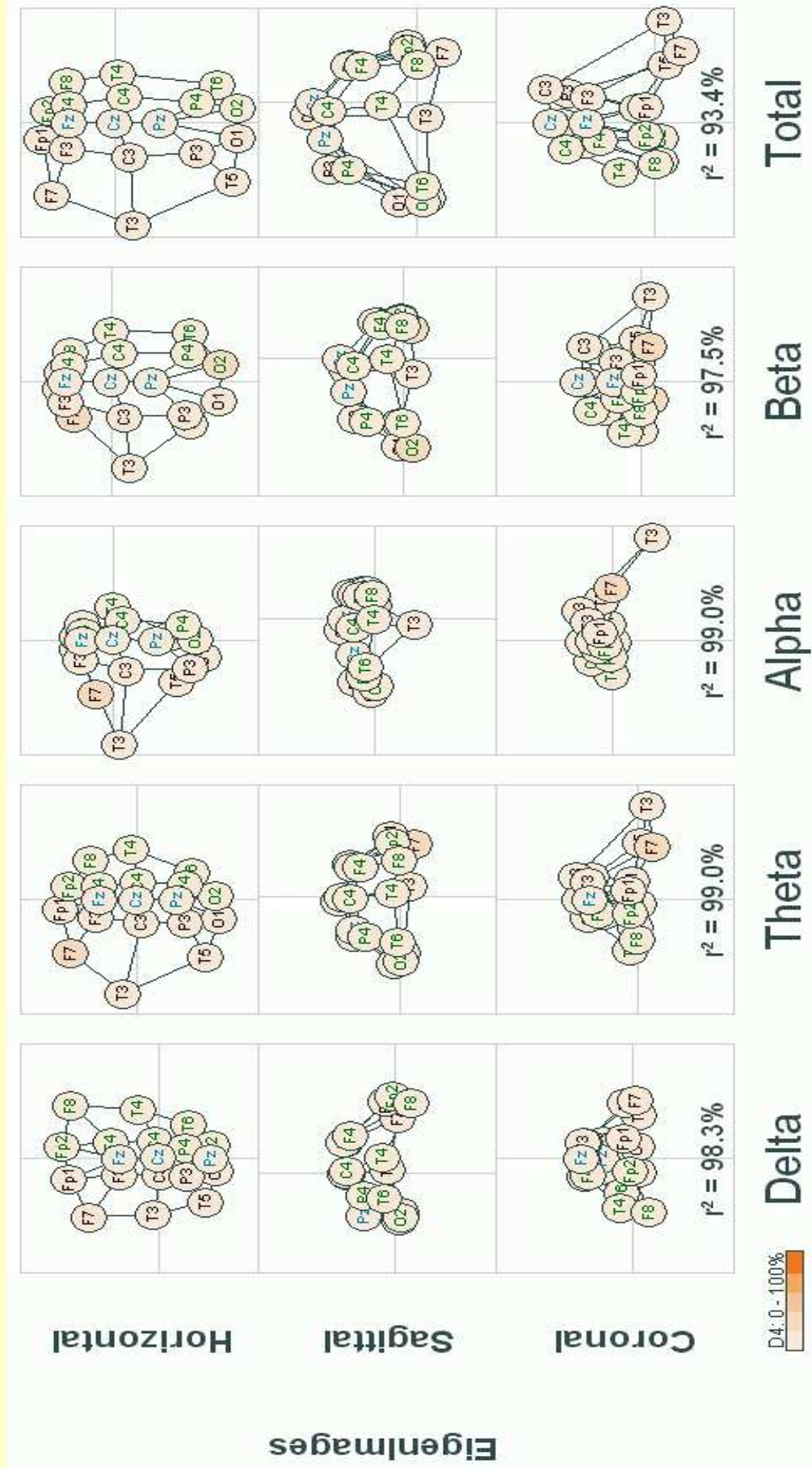


Coherence training for Epilepsy – Case 2

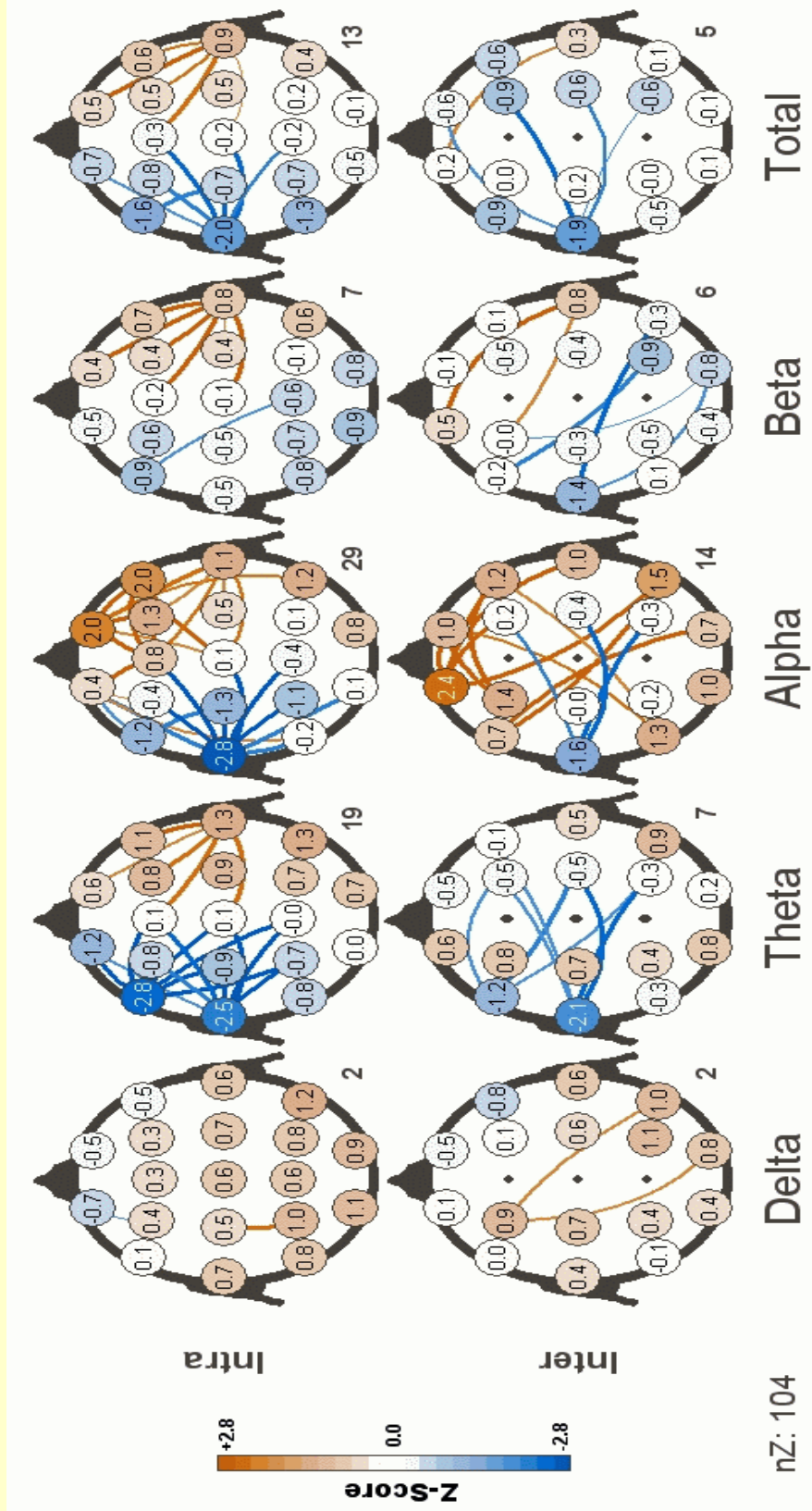
- 43 yo male who suffered an electrocution injury.
- Diagnosed with a partial complex seizure disorder and taking Lamictol and Keppra – treatment resistant.



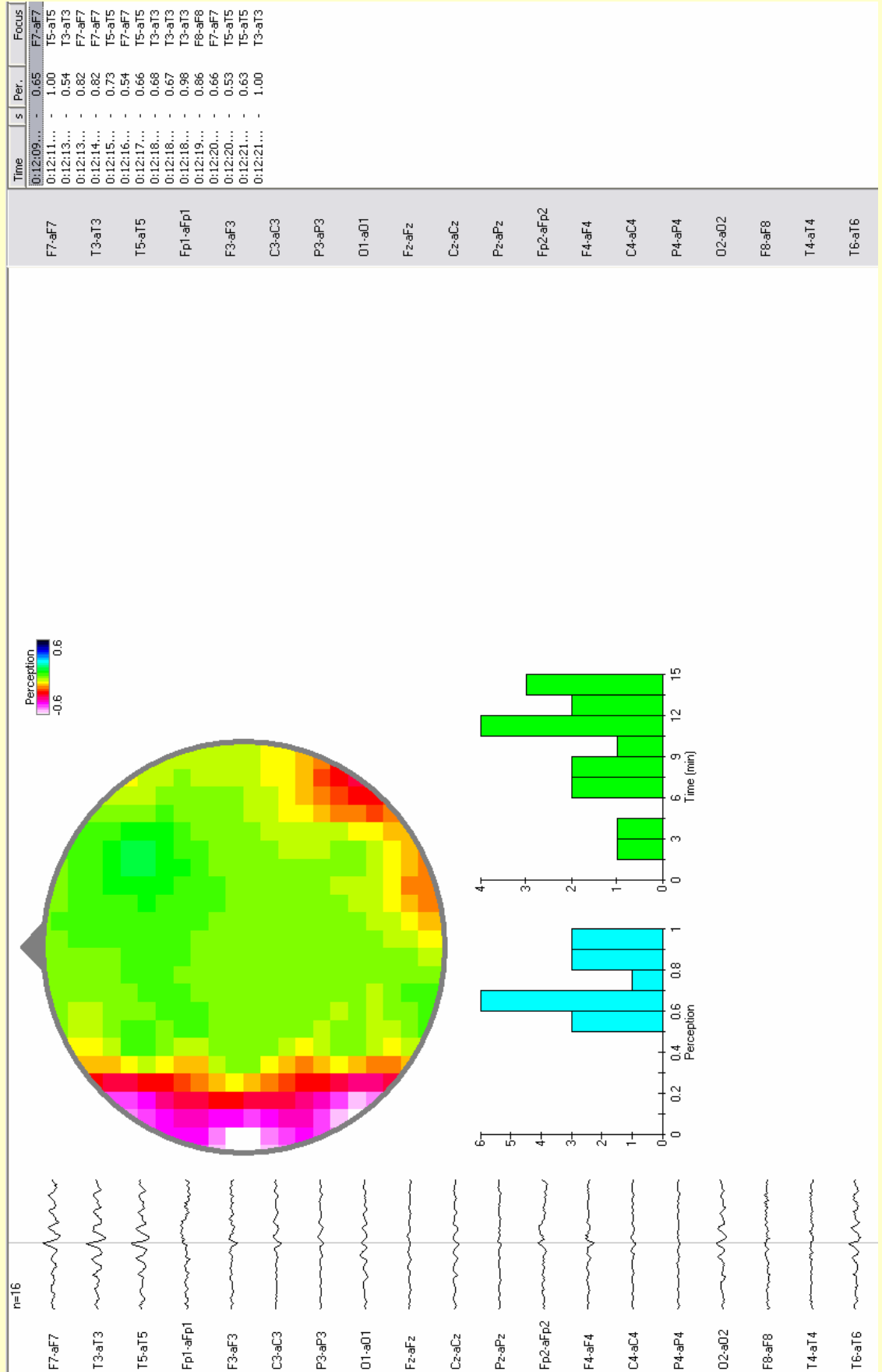
Coherence training for Epilepsy – Case 2



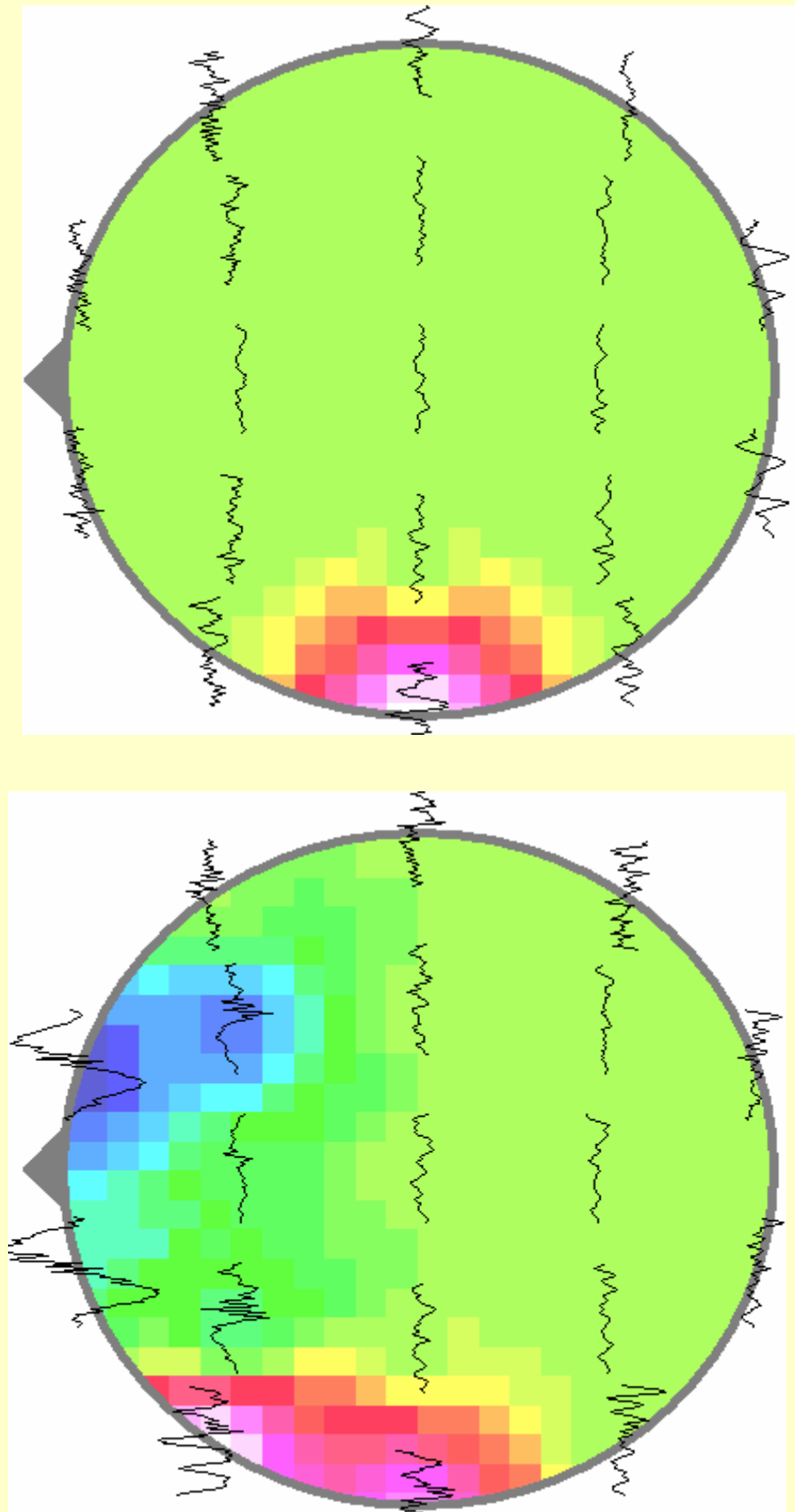
Coherence training for Epilepsy – Case 2



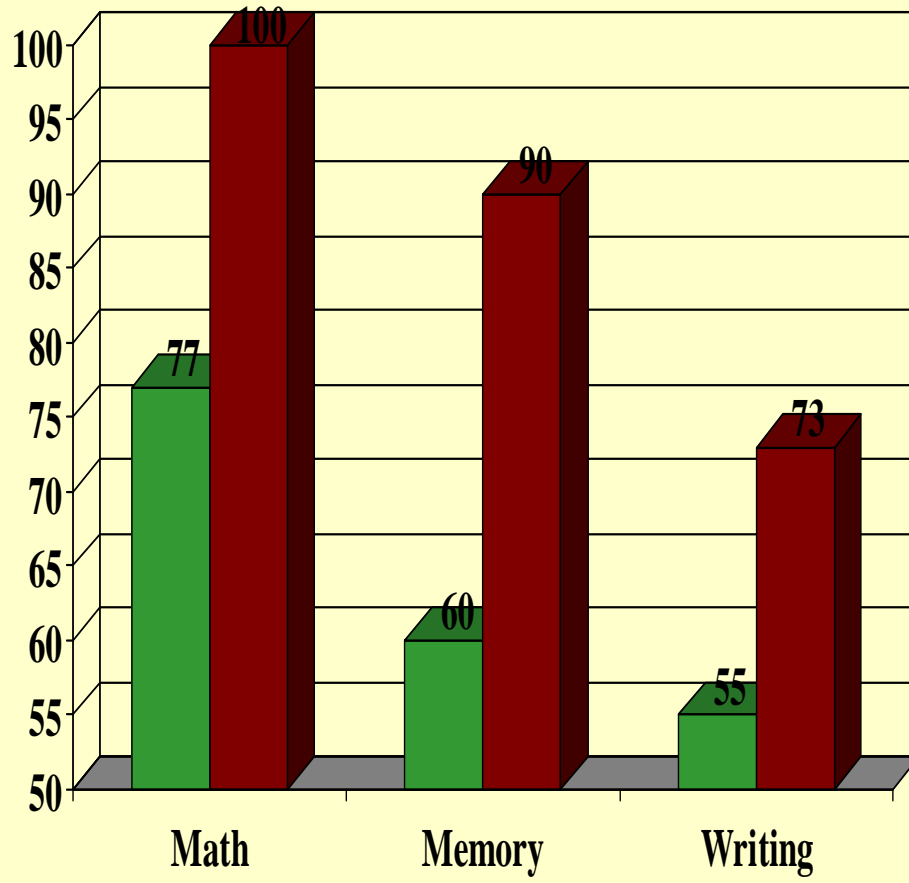
Coherence training for Epilepsy – Case 2



Coherence training for Epilepsy – Case 2



Coherence training for Epilepsy – Case 2



■ pre
■ post

