

## *Brain SPECT Imaging in PTSD and EMDR*

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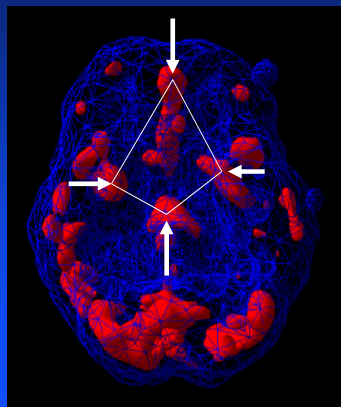
## **Amen Clinic, SPECT and EMDR**

- Mid 90s Dr. J. Lendl introduces us to EMDR, starts to work in our clinic
- Personal experience with EMDR
- 1997 we start doing before and after studies, EMDR calms brain function
- 2001 K. Lansing with support from Dr. Shapiro design a SPECT/EMDR study

## **SPECT and PTSD**

### **Diamond Pattern (LT)**

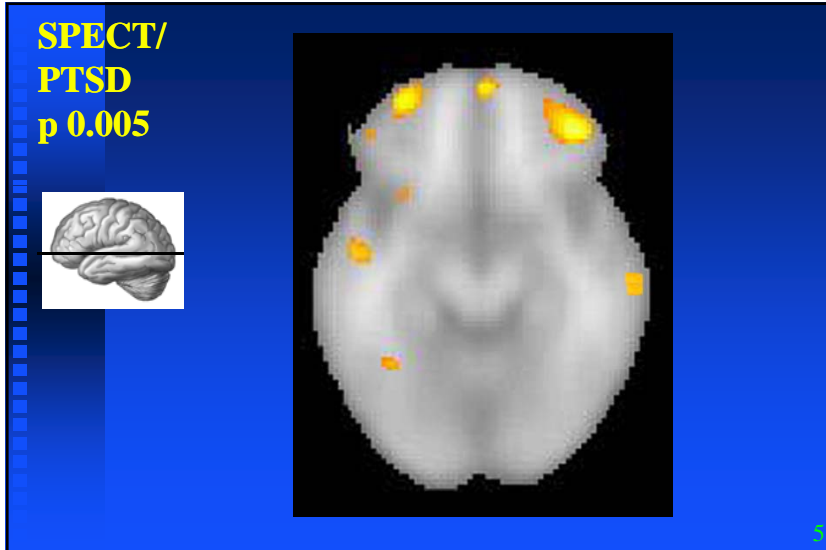
- Increased anterior cingulate
- Increased basal ganglia
- Increased thalamus (limbic)
- Increased right lateral temporal lobe



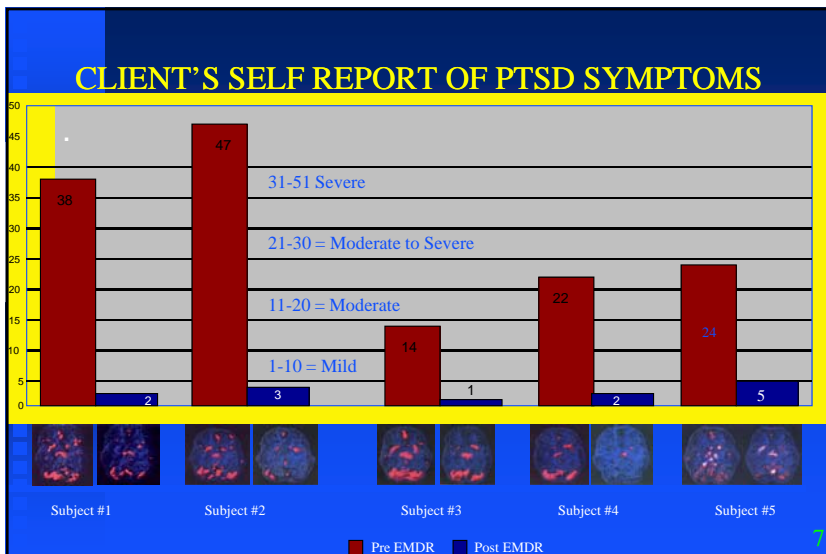
## **SPECT and PTSD**

### **Amen Clinic 2003 Study**

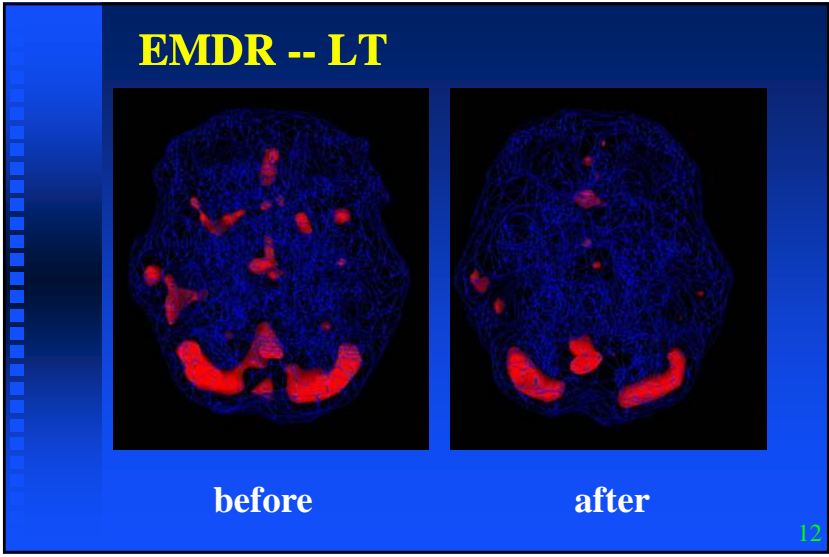
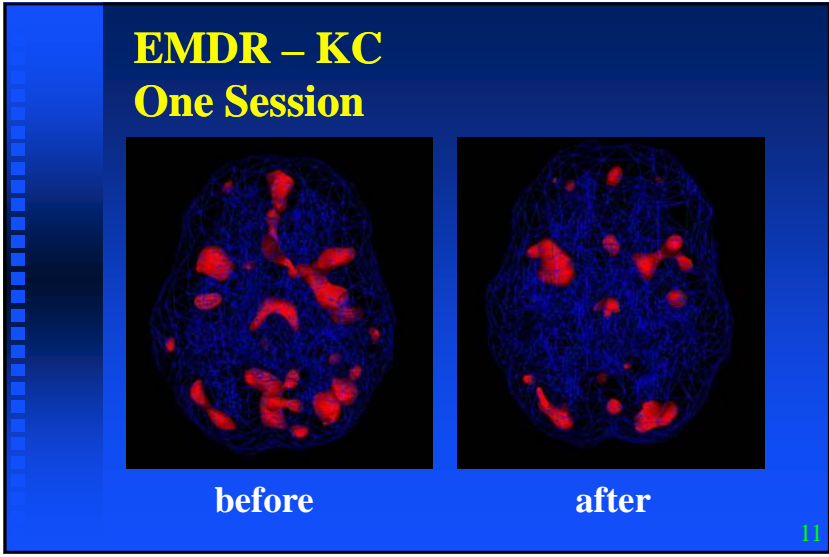
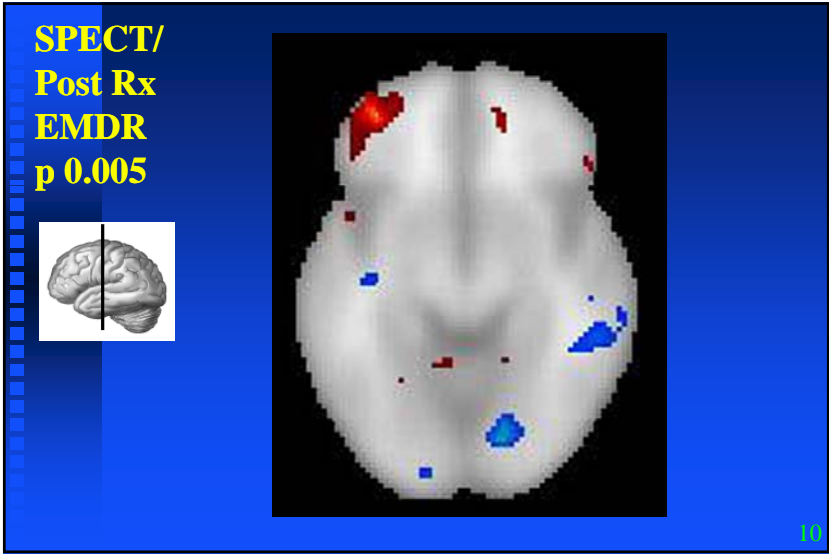
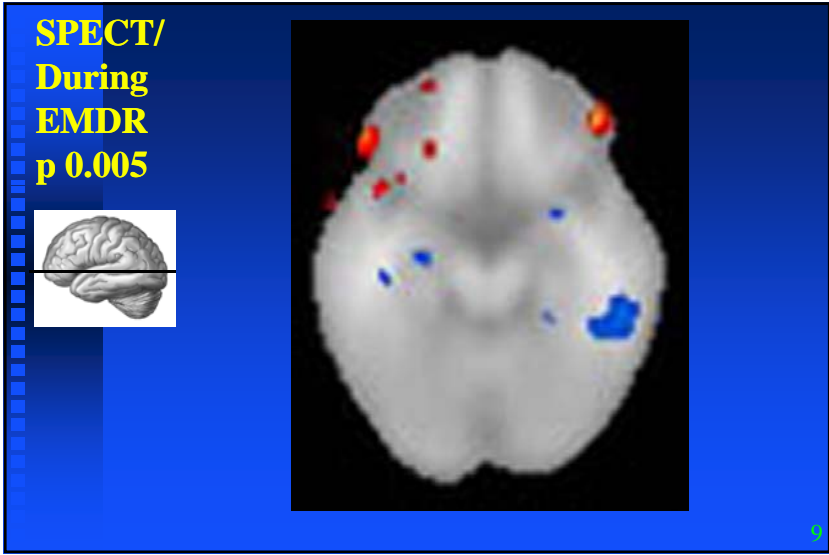
- 19 patients with PTSD by DSM-IV
- Compared to 19 age, sex matched normals
- Baseline study
- Analysis – SPM
- Results – marked increased prefrontal and left and right temporal lobe activity



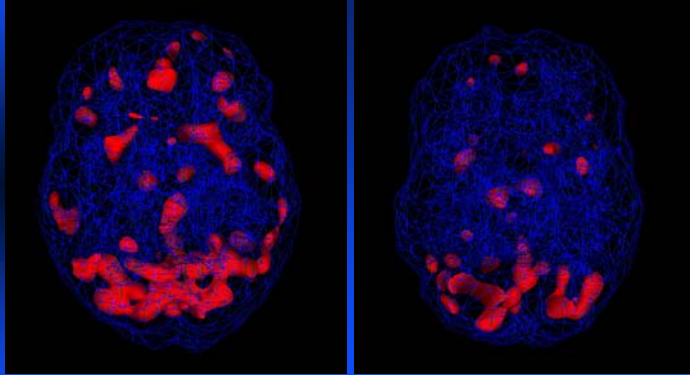
- ### SPECT and EMDR
- Amen Clinic 2001 - 2003 Study
- 6 patients with PTSD by DSM-IV
  - 3 States
    - Concentration
    - First EMDR session
    - After Treatment
- 6



- ### SPECT and EMDR
- Amen Clinic 2001 - 2003 Study Results
- Initial EMDR session (s) increases overall brain activity, especially in the prefrontal areas, but decreases right temporal lobe activity
  - After Rx with EMDR increased prefrontal activity, especially on left and significant decreased right temporal lobe activity
- 8



## EMDR -- MH



before

after

13

## Does PTSD Reset the Brain?

- Yes
- More likely in vulnerable patients
- Vulnerability seen with pre-existing PFC, AC, BG or limbic problems, patients with brain injuries and pre-existing mood disorders or ADD

14

## Does EMDR Help?

- Yes, in our study
- Clinically, marked decrease in symptoms
- Seen on brain SPECT imaging, especially calming in right lateral temporal lobe and increases in PFC

15

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16