

**MAGNETIC
E-RESONANCE
THERAPY (MERTSM)**



Working with our partners at Wave Neuroscience, we offer Magnetic e-Resonance Therapy (MeRTsm) with the goal of improving neurological health and brain function. These improvements are realized through the application of brain wave and heart rhythm analysis to individualized Transcranial Magnetic Stimulation (TMS) therapy.



- MeRTsm uses three FDA approved technologies:
 - i. Quantitative EEG Analysis (qEEG)
 - ii. EKG analysis
 - iii. Transcranial Magnetic Stimulation
- MeRTsm unites these technologies to understand the relationship between the brain and the heart
- Analysis results in a precise and highly individualized MeRTsm protocol varying in frequency and coil location based on the patient's optimal alpha wave activity

Conditions

ADHD	PTSD
Anxiety	Sleep Disorder
ASD-Autism	SUD/Addiction
Depression	TBI/Concussion
Headaches	Seizure Disorders
Memory	Other
Optimization	

MeRTsm Process

1. Tour
2. Intake
3. EEG/EKG
4. Report and protocol generation
5. Physician visit
6. 10 MeRTsm sessions
7. Reassessment
8. Repeat steps 6 & 7 until discharge

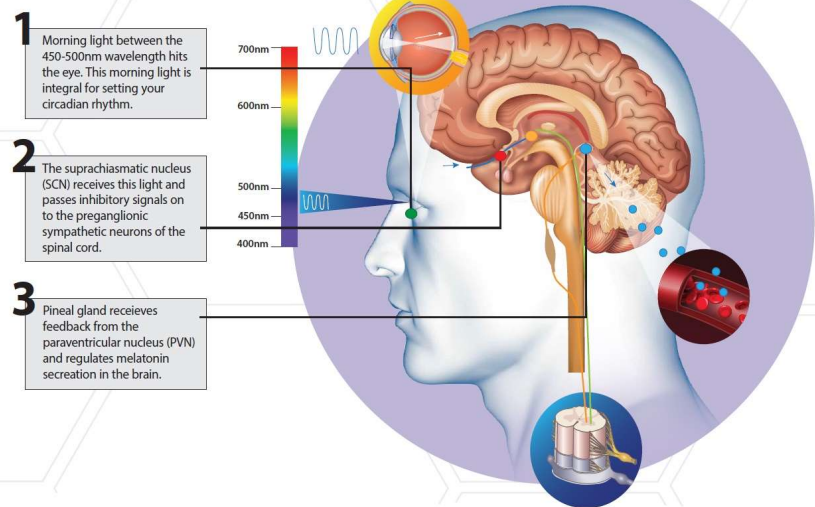
Average of 30 MeRTsm sessions

Blue Light Therapy/Counseling

- MeRTSM is only a piece of full care
- Proper sleep hygiene is equally important
- Counseling in addition is an integral part of most care

Morning Light = Proper Sleep

Proper sleep starts in the morning. Roughly twelve hours after exposure to morning light, melatonin is released in the brain, leading to drowsiness and sleep.

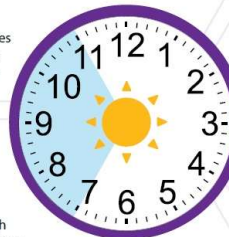


Setting the Circadian Rhythm for Optimal MeRTSM Response

MORNING ROUTINE

What to do: Get at least 45 to 60 minutes exposure to the morning light between 7:00 am and 11:00 am without a barrier such as sunglasses. There are light systems that also provide proper light for indoor use (check with our staff for more information).

Why: During this time, a specific wavelength (450-500nm) of sunlight is emitted as the sun reflects off of the atmosphere. Receiving this light through the eyes starts a complex biological process culminating roughly 12 hours later with the release of melatonin, which leads to drowsiness and sleep.

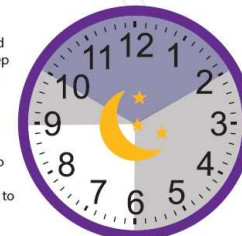


7:00-11:00 am
Morning exposure for at least 45 minutes during this period.

EVENING ROUTINE

What to do: Go to sleep around 9:00 pm to ensure you are asleep between the hours of 10:00 pm and 2:00 am.

Why: Research has shown that the rest provided to the brain during this time frame proves to be one of the most important elements in allowing treatment to be effective and for continued optimal brain health.

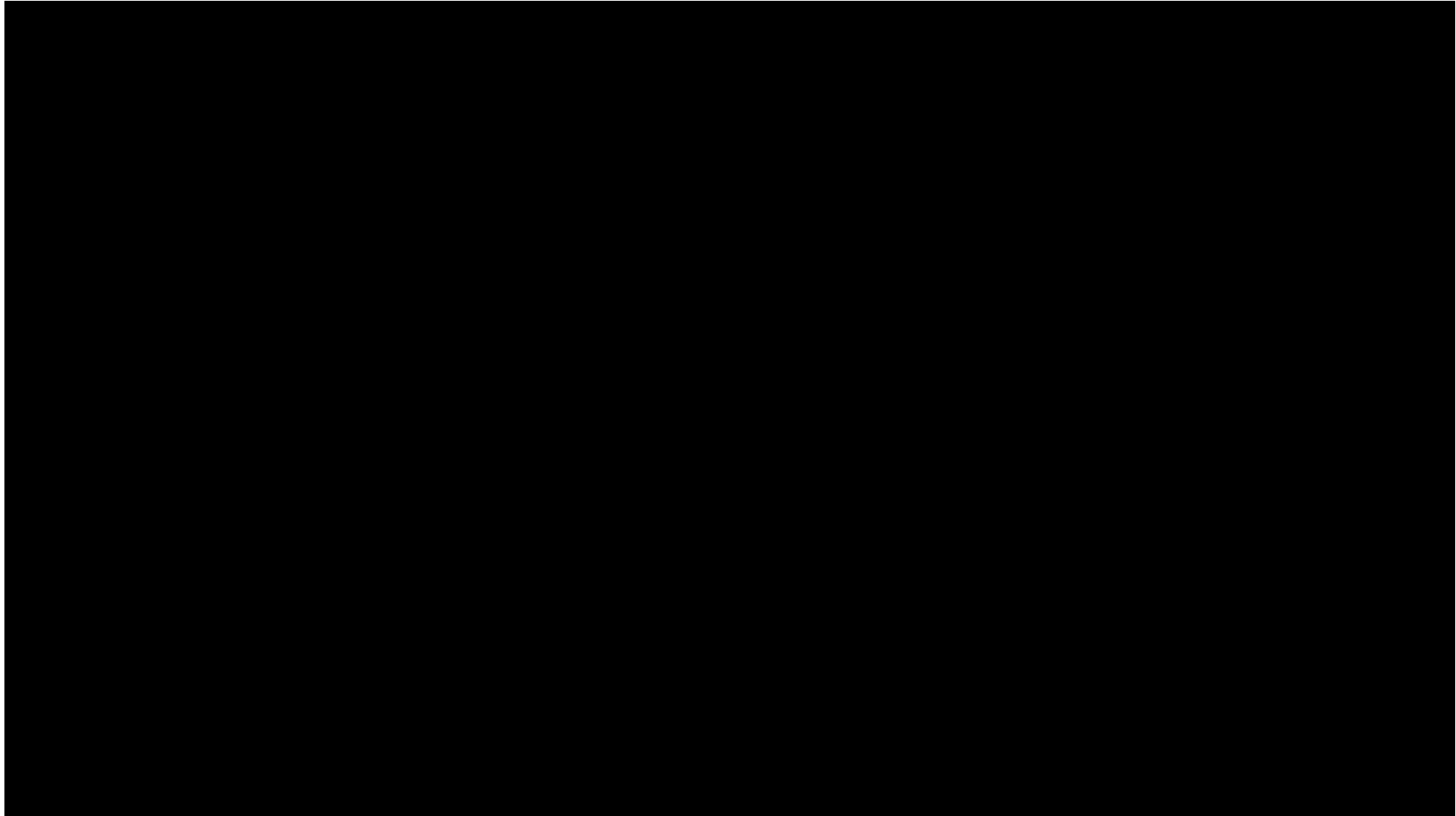


10:00 pm-2:00 am
Sleep during this 4-hour period is critical for efficacious treatment results.



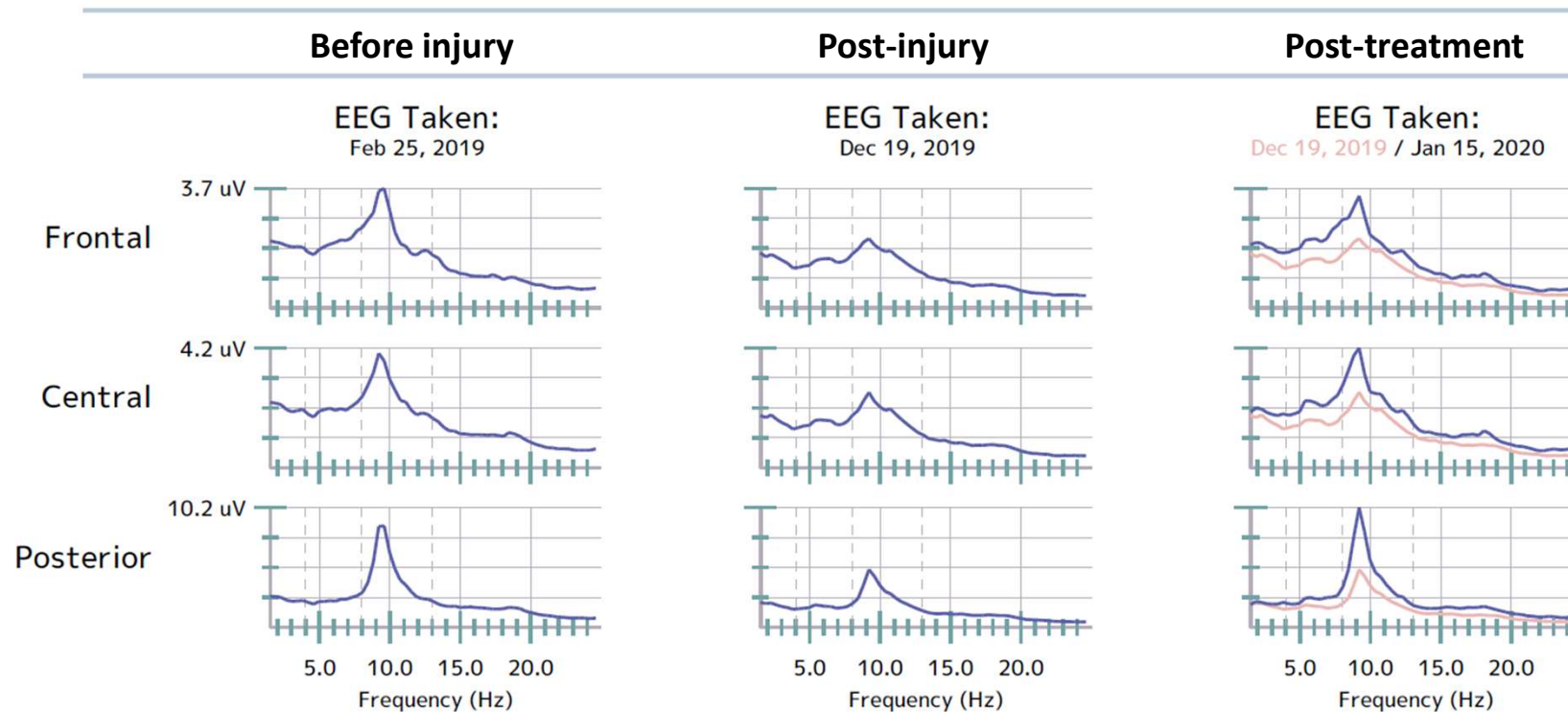
MeRT and PTSD/Addiction

- Wrap around care is essential
- Concurrent conditions are common

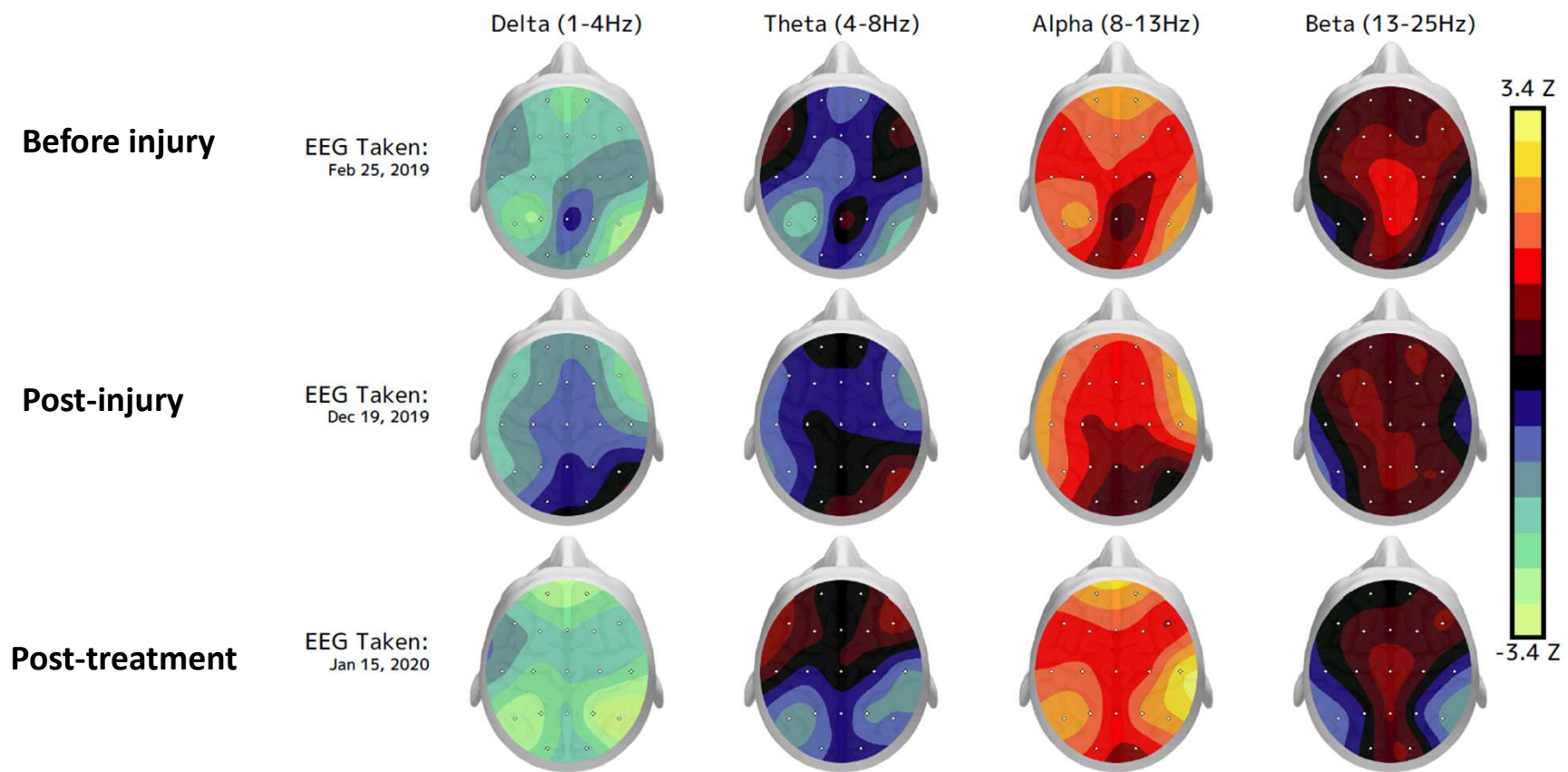


Measurable Objectives: PTSD Case Study

QEEG Magnitude Spectra



Measurable Objectives: PTSD Case Study (Cont.)



Assessment Tool

- Patient Health
Questionnaire (PHQ-9)

Interval	Average Score
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Intake	11.3
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Reassessment #1	5.9
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Reassessment #2	5
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Discharge	4.8
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PTSD Trial Results

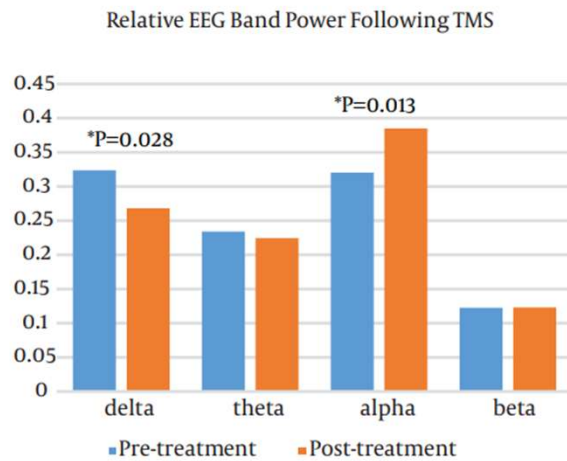


Figure 2. Pre- and Post-MRT EEG Band Power, Relative EEG Alpha Power From Pre- to Post-Treatment Increased From 32.0 Percent to 38.5 Percent ($P = 0.013$), Relative EEG Delta Decreased From 32.3 Percent to 26.8 Percent ($P = 0.028$). Relative Theta-Band and Beta-Band EEG Changes Were Minor and Statistically Insignificant (Theta, 23.4 Percent to 22.4 Percent, $P = 0.545$; Beta, 12.2 Percent To 12.3 Percent, $P = 0.961$).

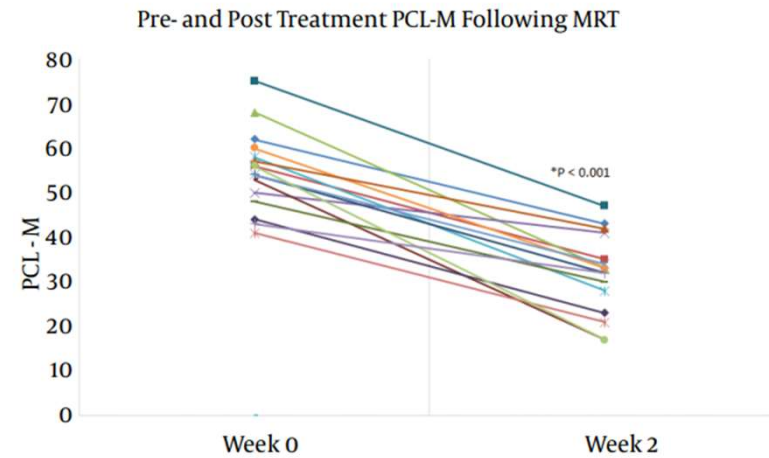
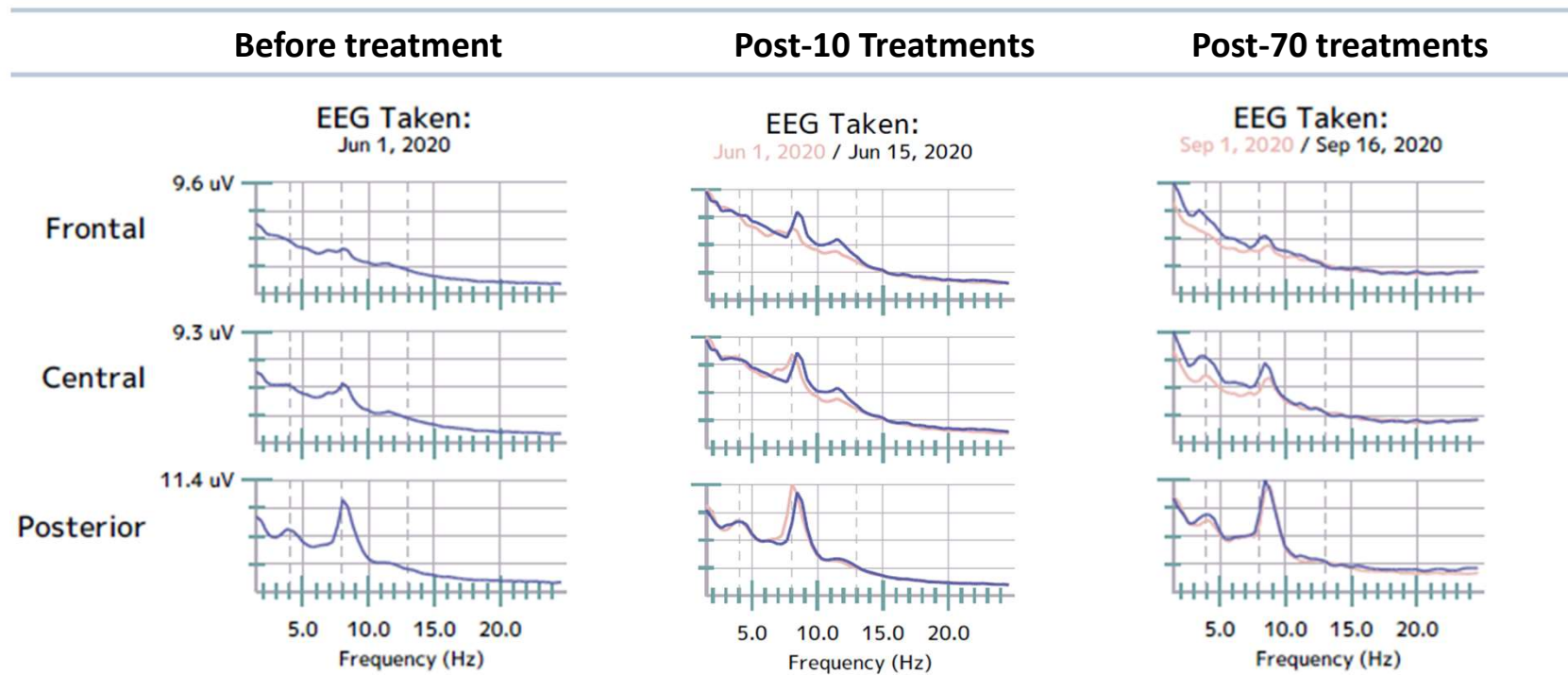


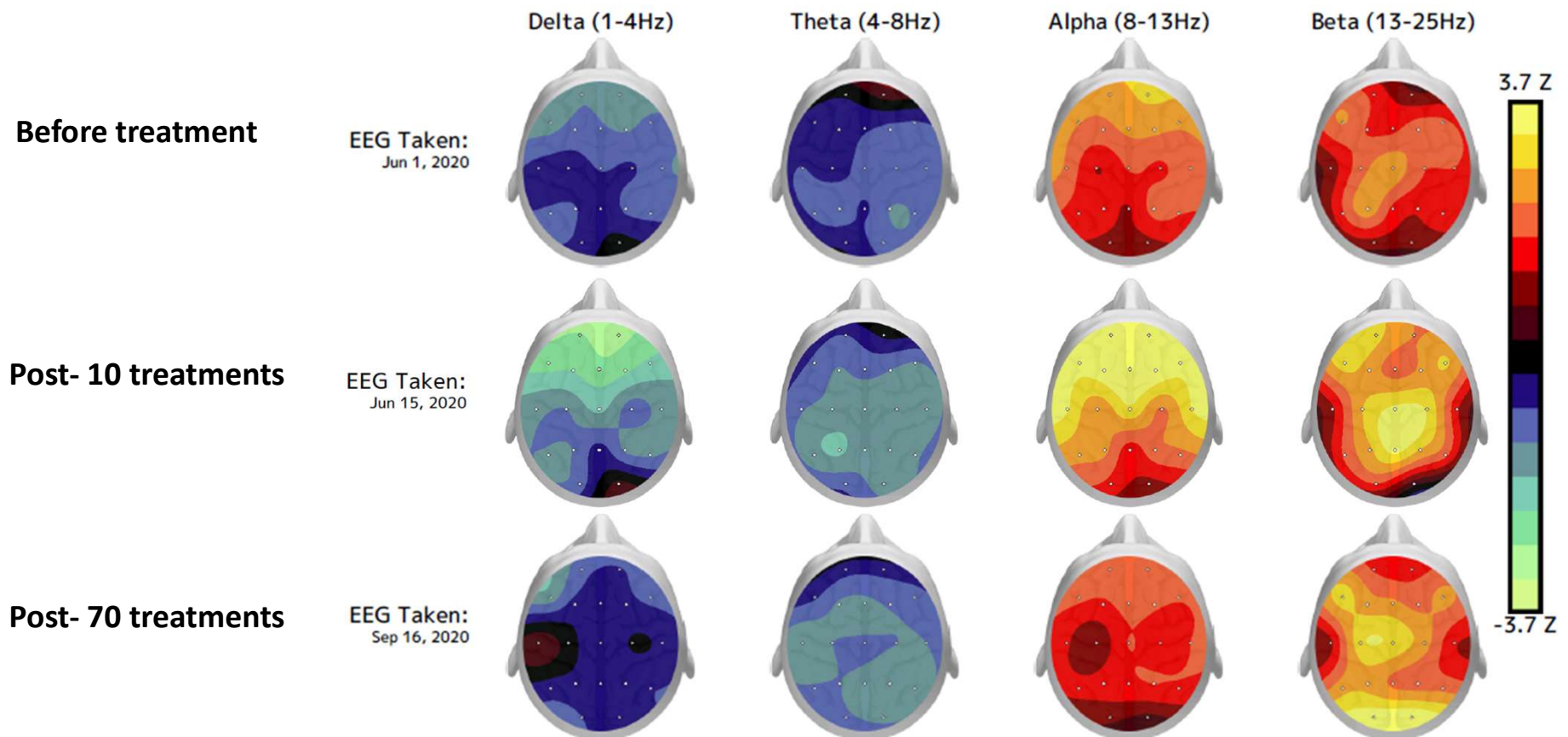
Figure 1. Pre- and Post-MRT PCL-M Scores, Average Initial PCL-M Was 54.9, Range 41 - 75, and Average Post-Treatment PCL-M Was 31.8, Range 17 - 47 (Pre- to Post-Treatment, $P < 0.01$)

Measurable Objectives: ASD Case Study

QEEG Magnitude Spectra



Measurable Objectives: ASD Case Study (Cont.)



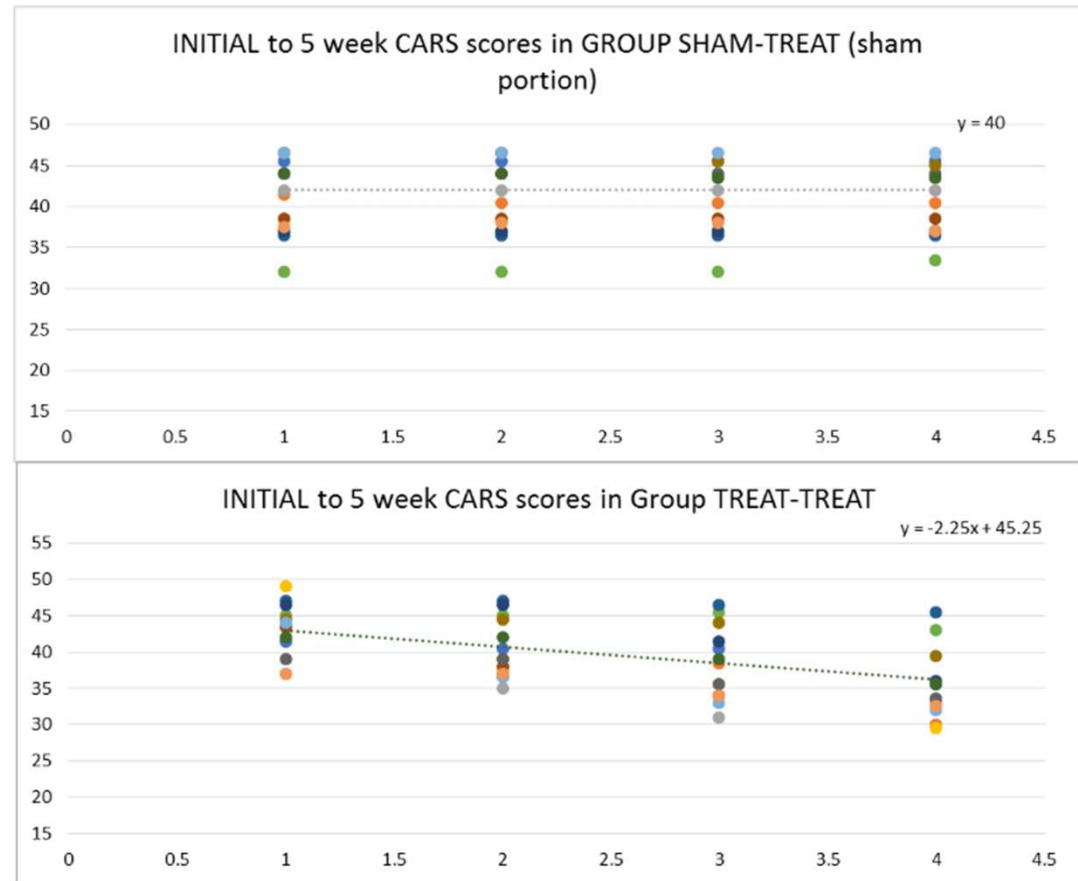
Assessment Tool

- Childhood Autism Rating Scale (CARS)

Interval	Score
Intake	38.5 (Moderately Autistic)
Reassessment #1	30 (Non-Mildly Autistic)
Reassessment #2	24 (Neurotypical)
Discharge (RA #7)	17.5 (Neurotypical)

ASD Trial Results

CARS2-ST Changes over 5 Weeks



Linear regression analysis of CARS2 scores over 5 weeks of therapy. Clinical symptom scores were significantly reduced in treated group versus sham ($p < 0.05$).