Biopsychosocial Approach to Treating Sleep Difficulties in Refugees

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NSW Service for the Treatment and Rehabilitation of Torture and Trauma Survivors

STARTTS Clinical Masterclass 6th December 2022

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ANFI Australian NeuroFeedback Institute A PROGRAM OF STARTTS

Objectives of the presentation

- Describe the impact of chronic trauma on sleep
- Using a case study illustrate STARTTS biopsychosocial model of care in addressing refugee trauma
- Look at the effectiveness of neurofeedback in addressing psychophysiological effects of chronic trauma, focusing on brain dysregulation, arousal and sleep difficulties
- Describe importance of behavioural activation program in improving sleep and overall well-being
- Explain how interventions focused on addressing psychophysiological effects of chronic trauma can prepare the client for trauma reprocessing.

Diagnostic considerations NF Clinic Data N=100

Complex PTSD (PTSD + disturbance in self-organisation)

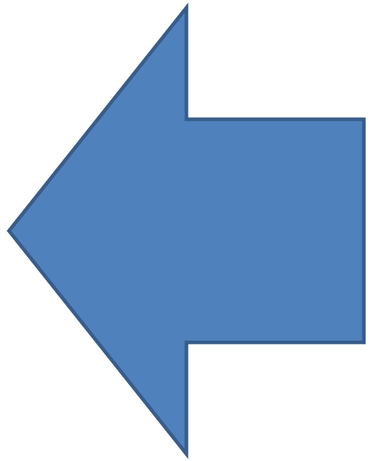
Chronic PTSD with dissociative symptoms

Major Depressive Disorder/Persistent Depressive Disorder

Somatic Symptom Disorder with predominant pain

Persistent Complex Bereavement Disorder

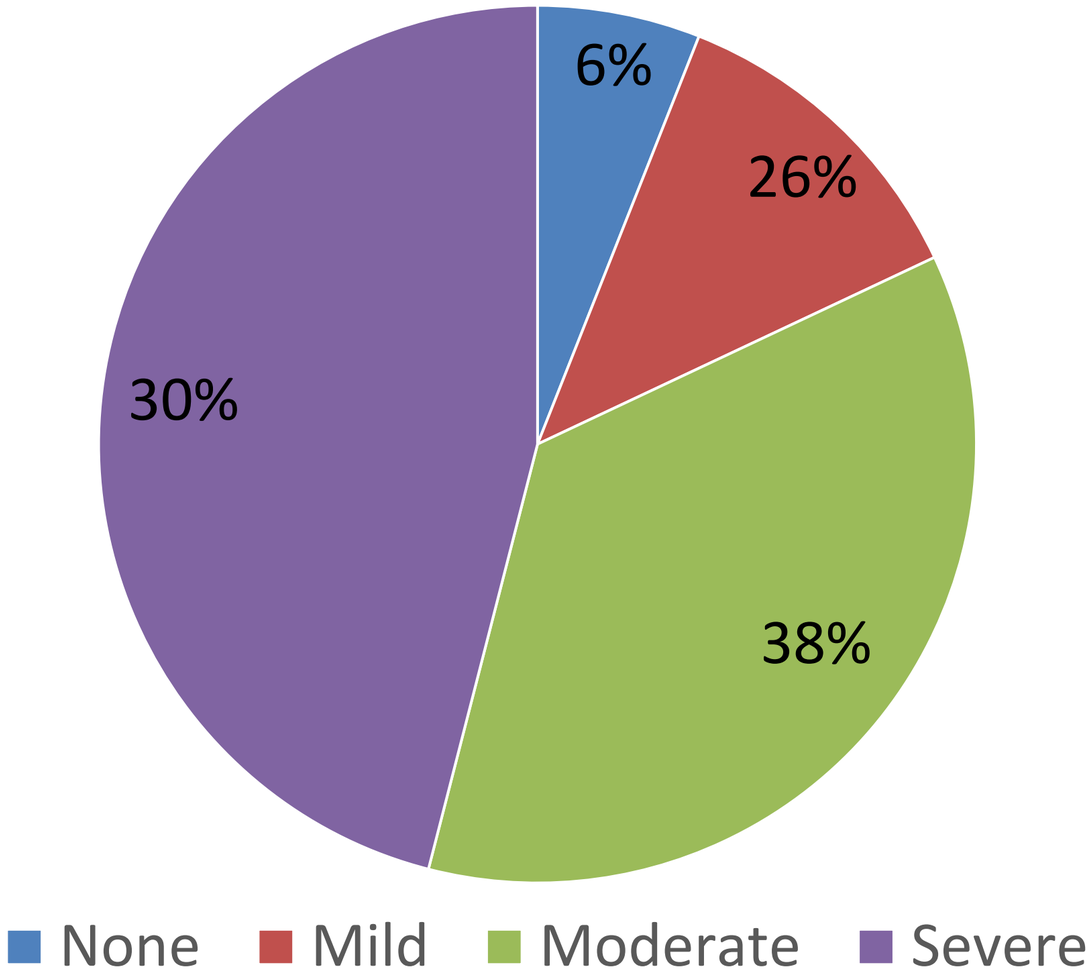
Sleep Disorders



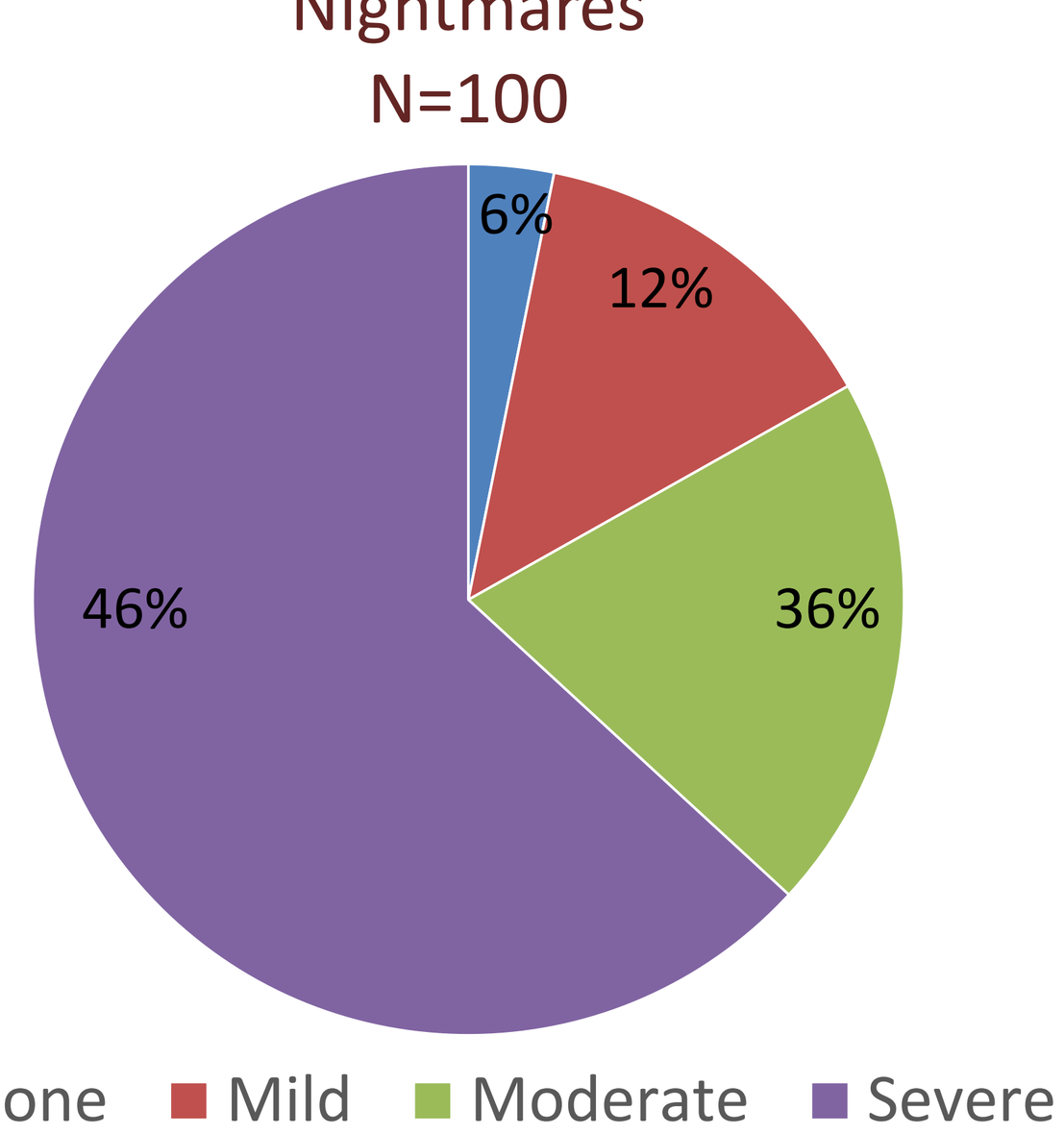
Dysregulated nervous system

# Difficulty falling asleep and sleep maintenance
N=100

68% moderate to severe sleep difficulties



82% moderate to severe nightmares



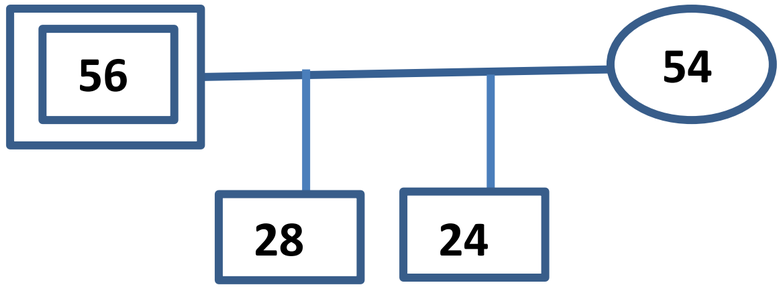
Insomnia
Sleep Apnea
Circadian Rhythm Sleep Wake Disorder

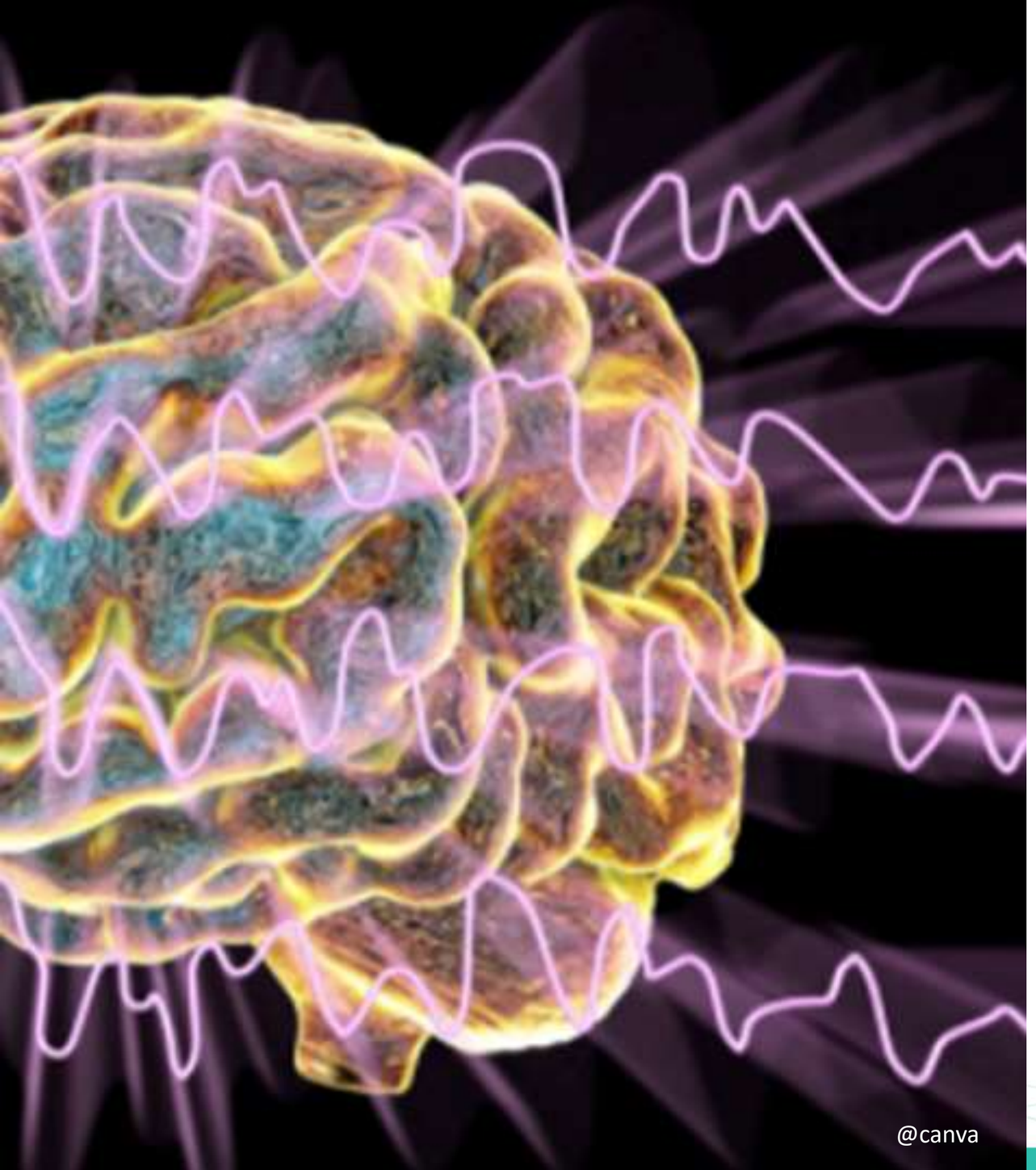
Mr. Elam, 56 years, COB: Afghanistan

DOA: 02 August 2003
DOR: 30 May 2011

History of war and refugee trauma

- Witnessed killings and destruction
- Exposed to grenade and bomb attacks
- Lack of shelter and food
- Traumatic flee from Afghanistan
- Separation from family members
- Asylum in Pakistan





Main symptoms:

1. Insomnia/nightmares/intrusions
2. Increased arousal
3. Anxiety/Panic
4. Mood dysregulation
5. Paranoid ideation
6. Chronic headaches/dizziness

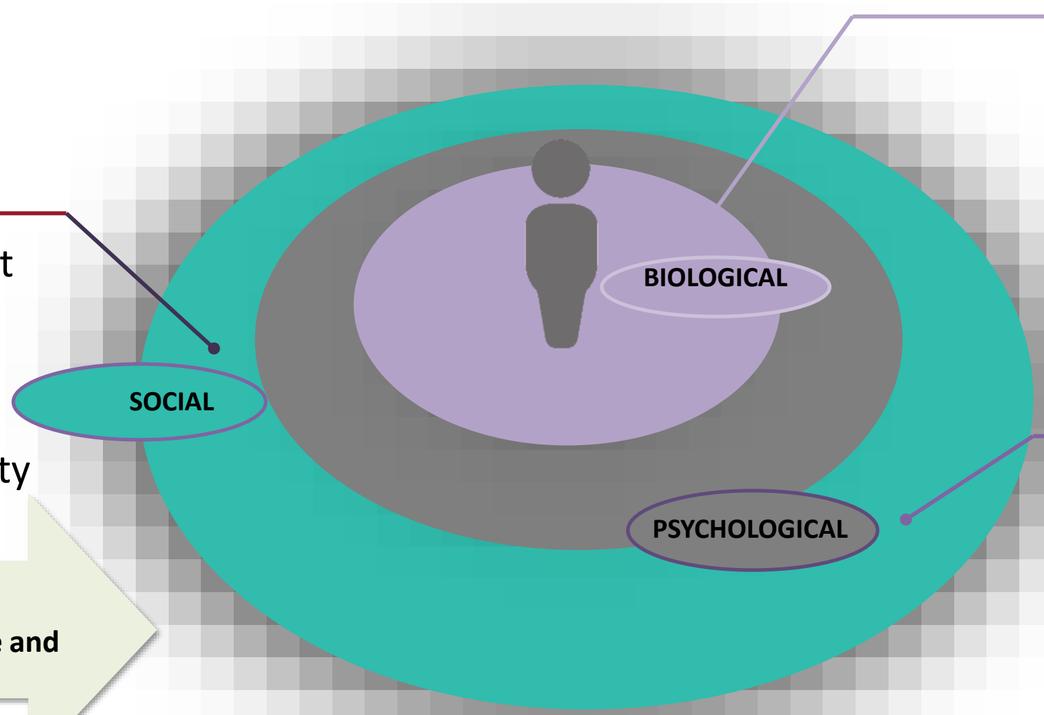
TEMPORAL LOBE EPILEPSY

4-5 seizures a week!

STARTTS' Biopsychosocial Approach

SOCIAL

Interventions to develop social support systems. increase work/school readiness, reduce isolation, promote positive social relations, eg. School programs, Capoeira, groups, community events



INTERVENTIONS

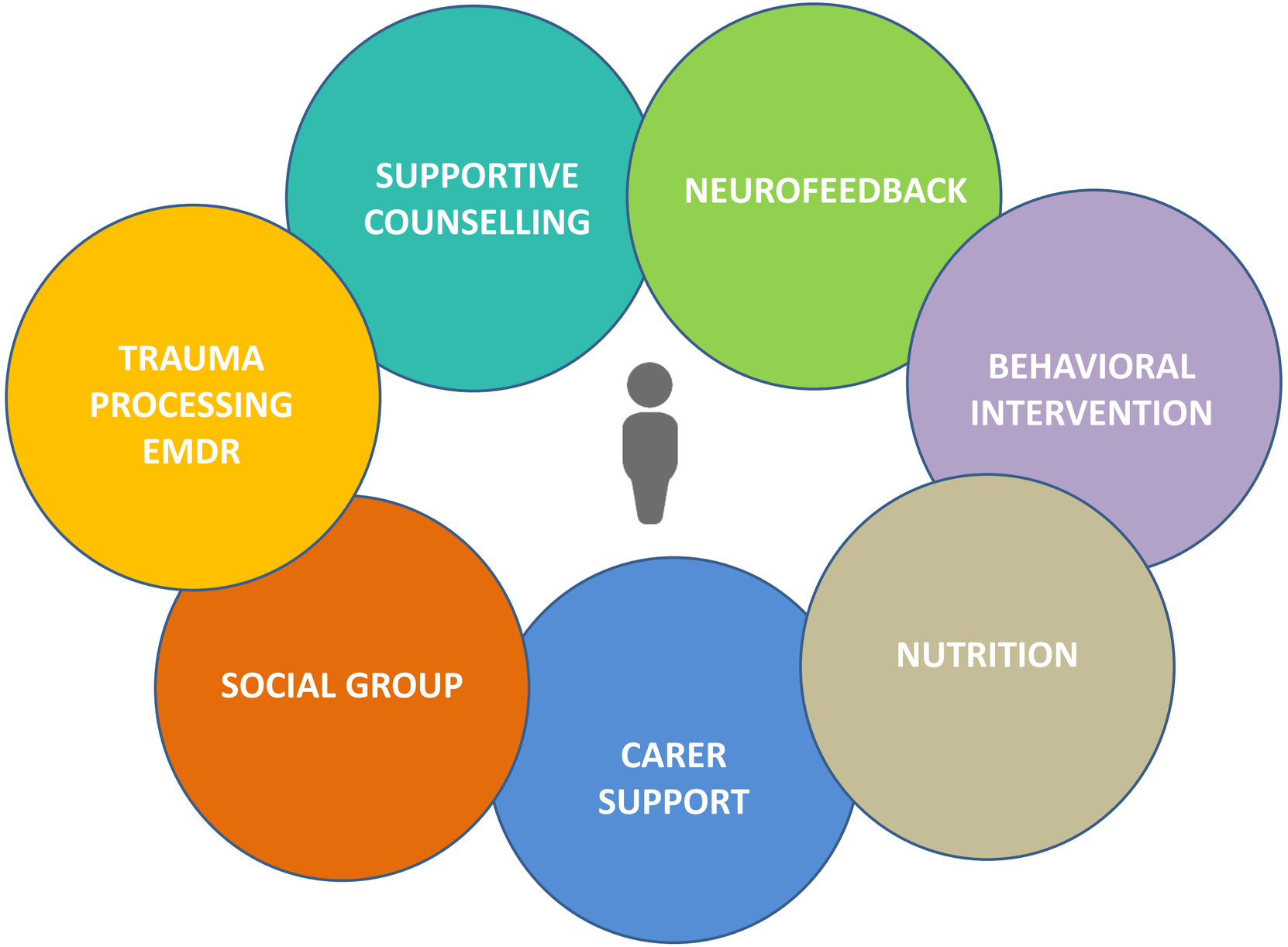
To enhance strengths and resilience and address effects of trauma

BIOLOGICAL

Interventions to help reverse the effects of trauma on brain, eg. Biofeedback, Neurofeedback, yoga, mindfulness, SSP, Auditory Training, Body activation

PSYCHOLOGICAL

Interventions to help people process trauma, make sense of the world, rebuild identity, rebuild secure attachment, regain self-esteem, the capacity to trust. Psychotherapy, Work with parents/carers, Group work


SUPPORTIVE COUNSELLING
NEUROFEEDBACK
TRAUMA PROCESSING EMDR
BEHAVIORAL INTERVENTION
SOCIAL GROUP
CARER SUPPORT
NUTRITION

History of Treatment at STARTTS

Nov 2011
54 counselling sessions

Nov 2014
60 neurofeedback sessions

Nov 2016
20 grief therapy sessions

March 2017
20 Neurofeedback – booster sessions

June 2017
11 behavioral activation + nutrition sessions

Oct 2018
13 trauma reprocessing sessions (EMDR)

March 2019
Discharge from STARTTS services

Group intervention
Medication
Family support (work with the career)

Supportive Counselling

- Building trust with the service and sense of safety external and internal
- Assessment and referrals (internal and external)
- Psychoeducation
- Active listening and respect
- Stabilisation (emotional regulation and symptom management)
- Grief and loss counselling
- Case management and advocacy

UNABLE TO ENGAGE IN TRAUMA PROCESSING DUE TO HIS SEIZURES

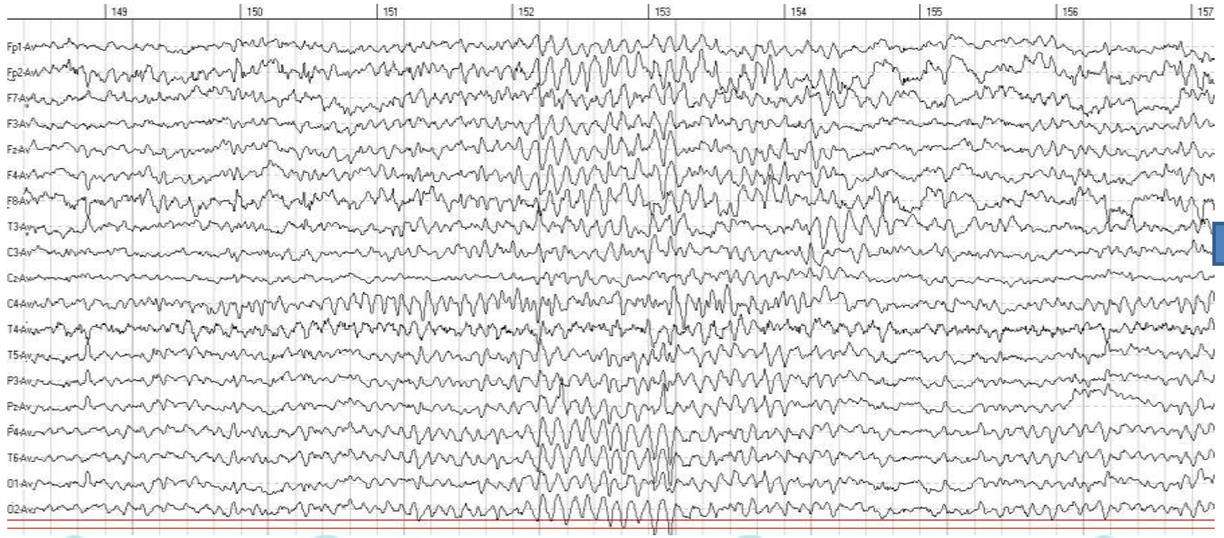
Neurofeedback Treatment at STARTTS

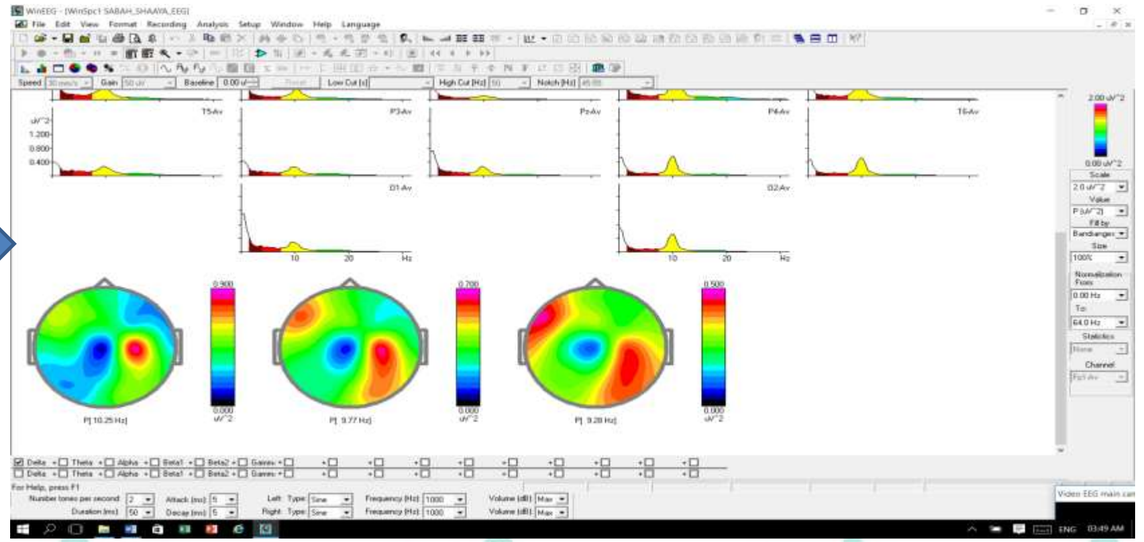
Reasons for referral:

- sleep issues
- hyperarousal and
- mood instability
- frequent seizures

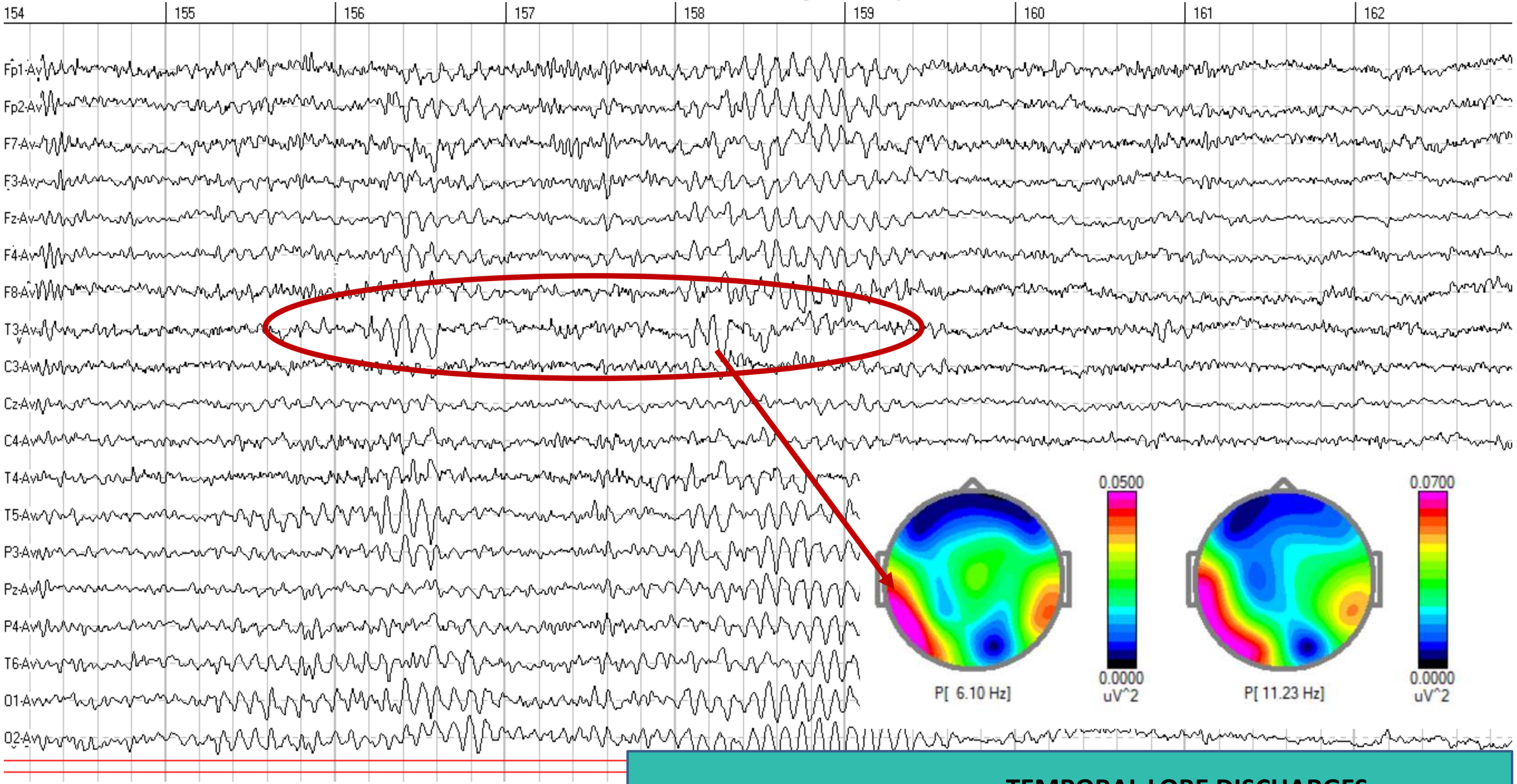
QEEG assessment

- Quantitative EEG (**Electroencephalogram)** analysis is used to detect the normal or abnormal background rhythms and inform about the areas of the brain that are not functioning optimally
- In combination with clinical assessment it can contribute to planning therapy interventions, including medication and measuring treatment outcomes.





EEG recording eyes closed, under medication: Keppra (Levetiracetam) 3000 mg/day

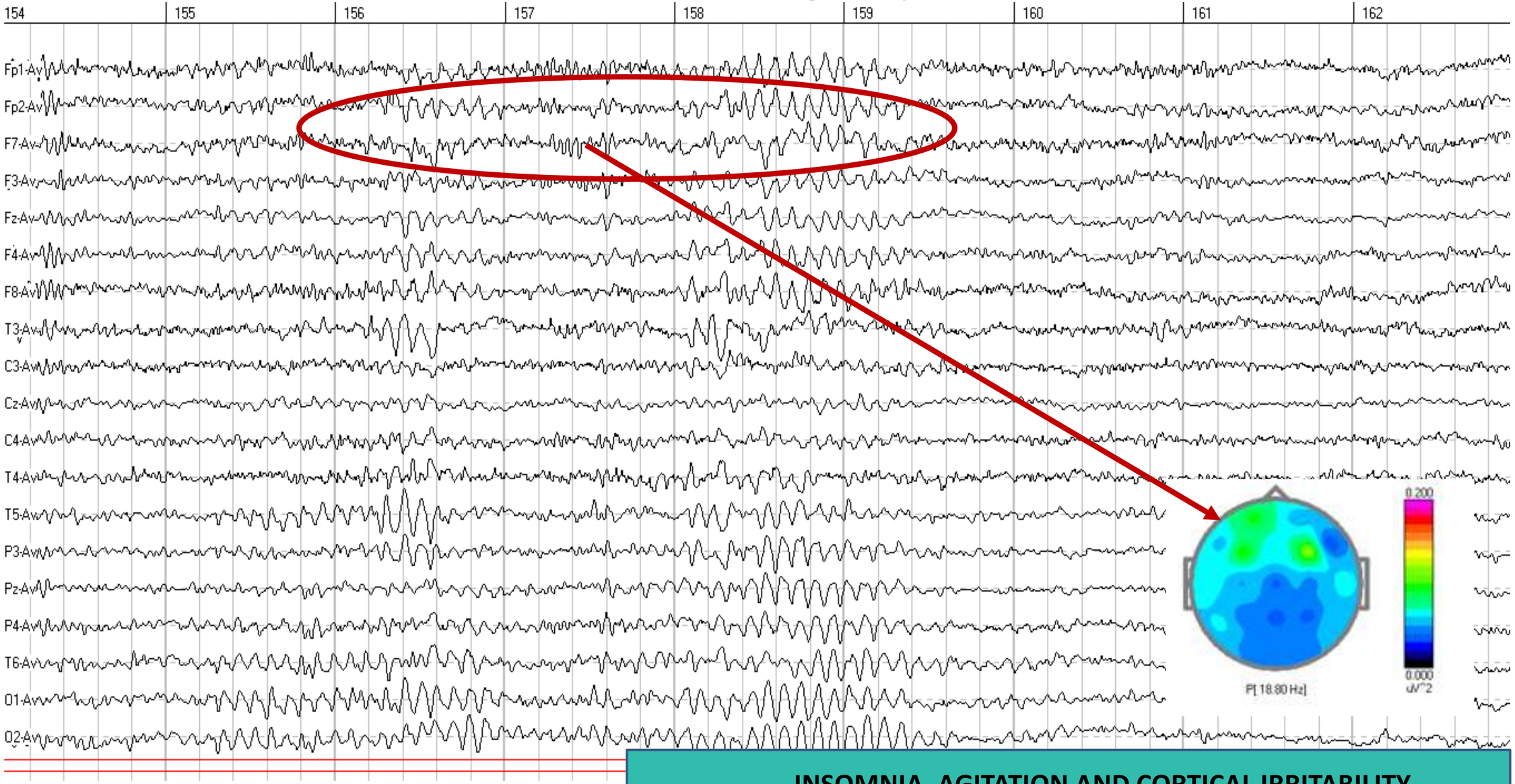


TEMPORAL LOBE DISCHARGES

EEG recording eyes closed, under medication: Keppra (Levetiracetam) 3000 mg/day

MOOD DYSREGULATION

EEG recording eyes closed, under medication: Keppra (Levetiracetam) 3000 mg/day

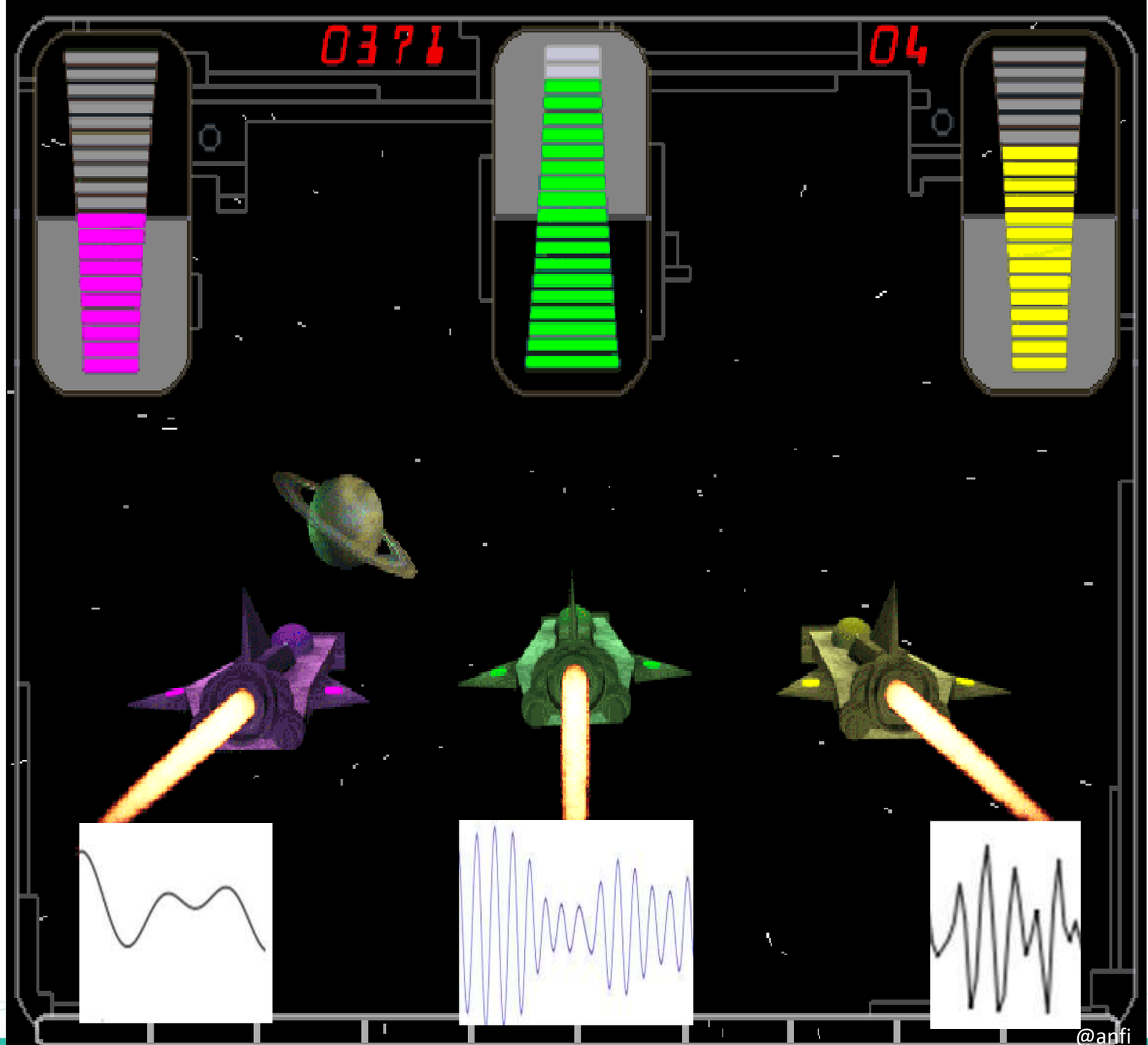


INSOMNIA, AGITATION AND CORTICAL IRRITABILITY

Neurofeedback

Training the brain to produce brainwaves that are more regular and stable, reorganizing brainwave patterns and strengthening underutilized neural networks.

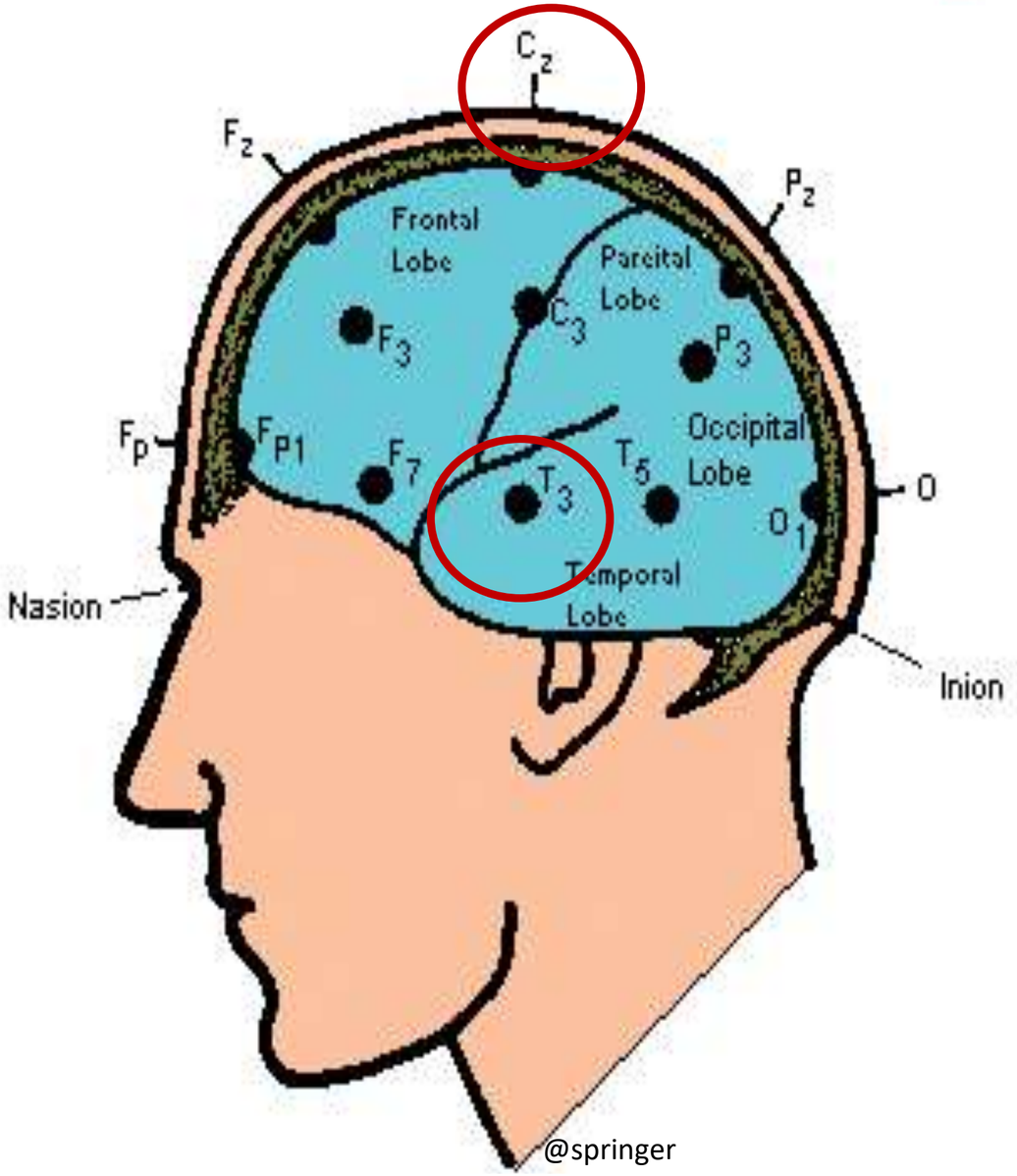
More stable and function appropriate brainwave activity is associated with better self-regulation of mood and emotions.



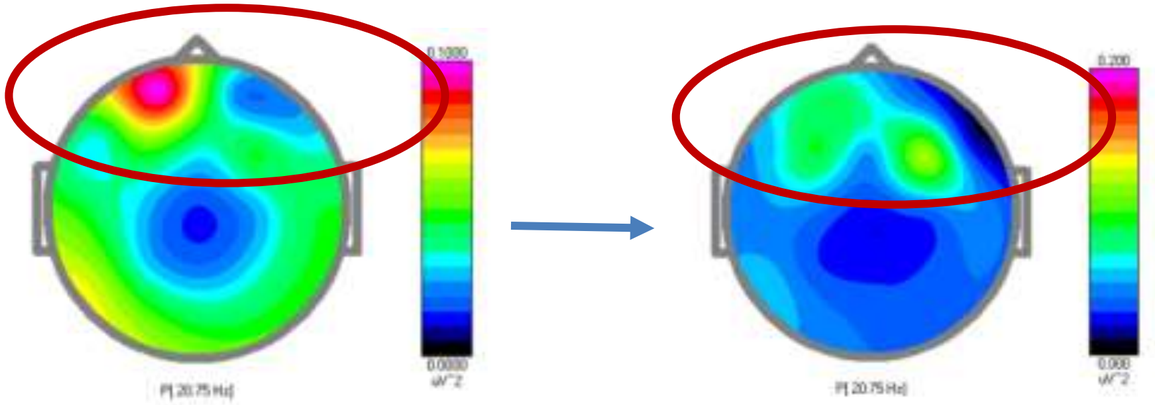
Neurofeedback Treatment

November 2014 – June 2016 – 60 sessions
Focus on CNS stabilisation

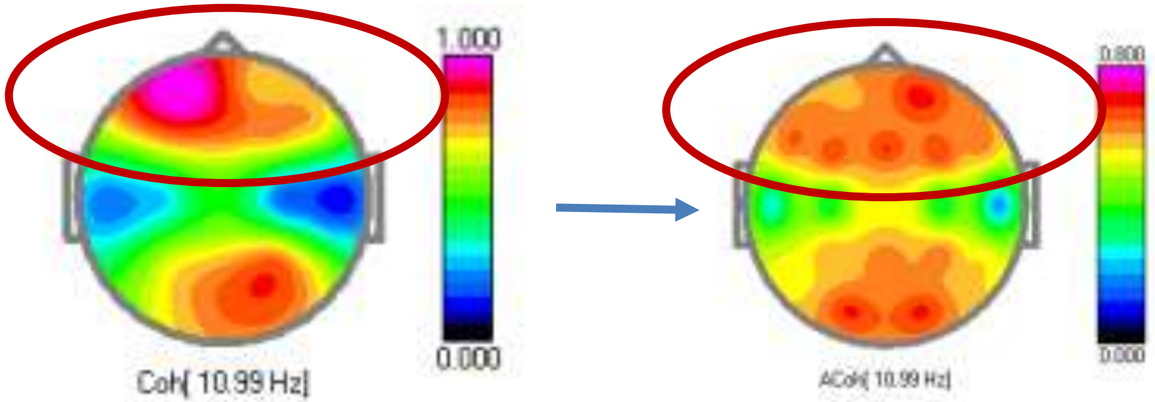
April 2017 – October 2017 – 20 sessions
Booster sessions



Changes in brain functioning pre-post neurofeedback



A decrease in the amount and distribution of beta spindles indicate reduction in the peripheral and central nervous system arousal.



A substantial reduction in the alpha coherences frontally indicates improved frontal lobe functioning, Indicating increased ability to regulate affect.

Treatment outcomes following neurofeedback

- Seizures reduced from 3-4 per week to once in two months
- Reduced dosage of his anticonvulsants medication
- Headaches and dizziness seized
- Improved affect regulation
- Reduced symptoms of hyperarousal

- Referred to body focused team for further treatment

Body focus Intervention

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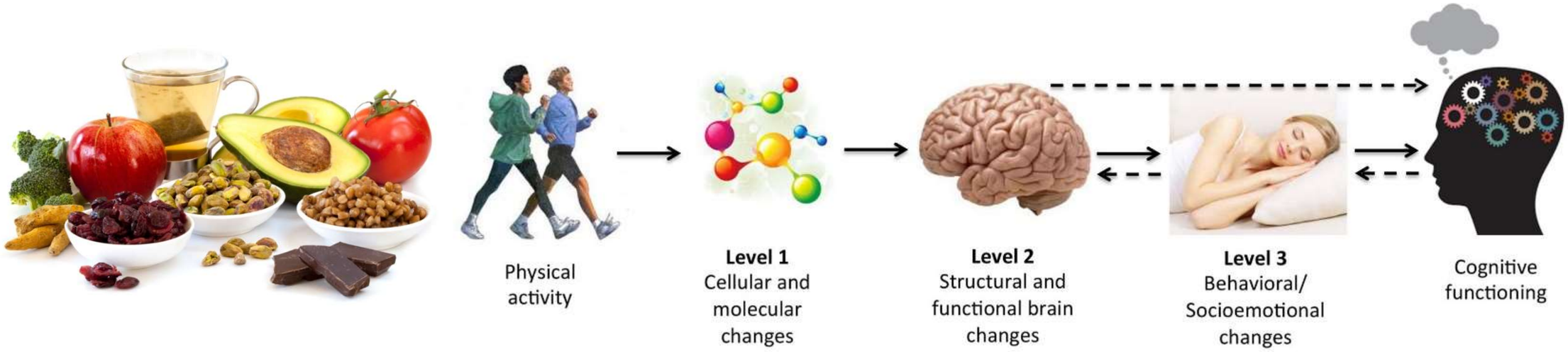
Behavioral Activation 14 sessions (David Perez)

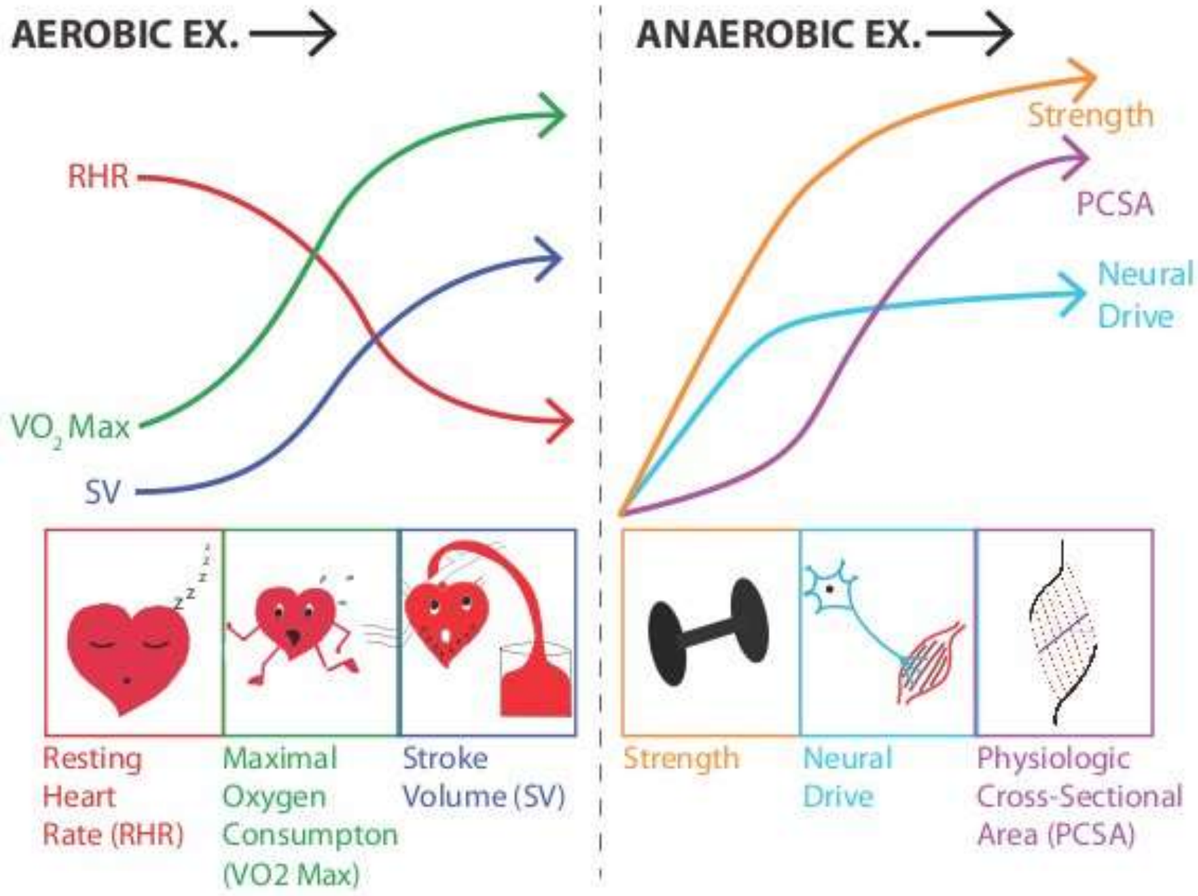
- Motivational interview
- Exercise recommendation and modification to enhance sleep hygiene
- Goal setting
- Psychoeducation
- Body composition assessment and progress monitoring
- HRV breathing exercises practice for home

Nutritional advise 2 sessions (Sayori Tsugawa)



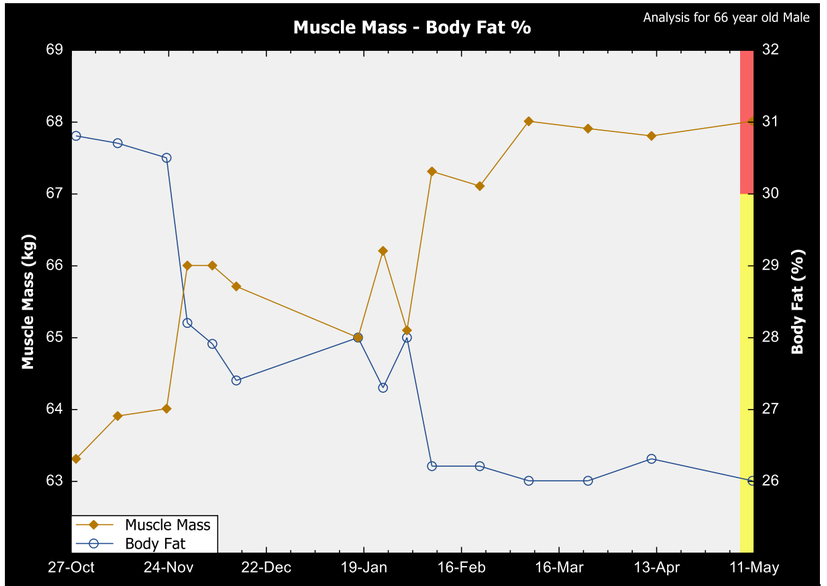
Exercise And Sleep

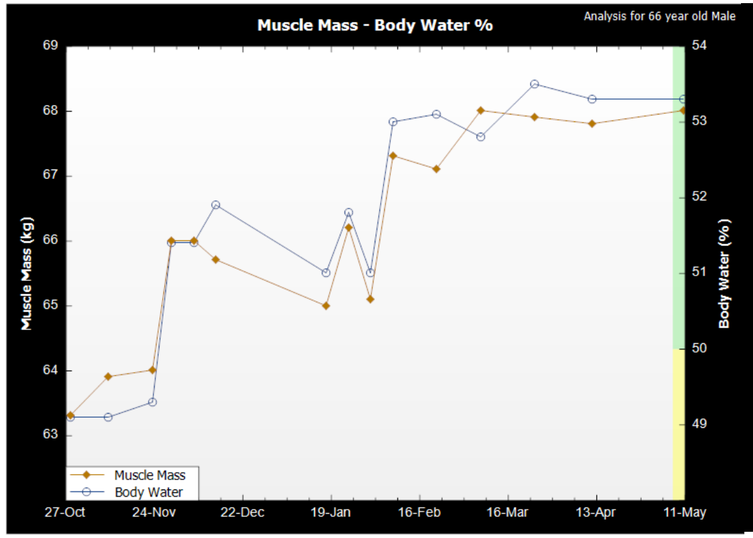
- “Physical activity and sleep are reciprocally related. A meta-analysis of physical activity interventions showed that higher levels of physical activity were associated with increased sleep duration, sleep efficiency, slow-wave sleep, and subjective quality, as well as decreased sleep latency and wake after sleep onset ”.

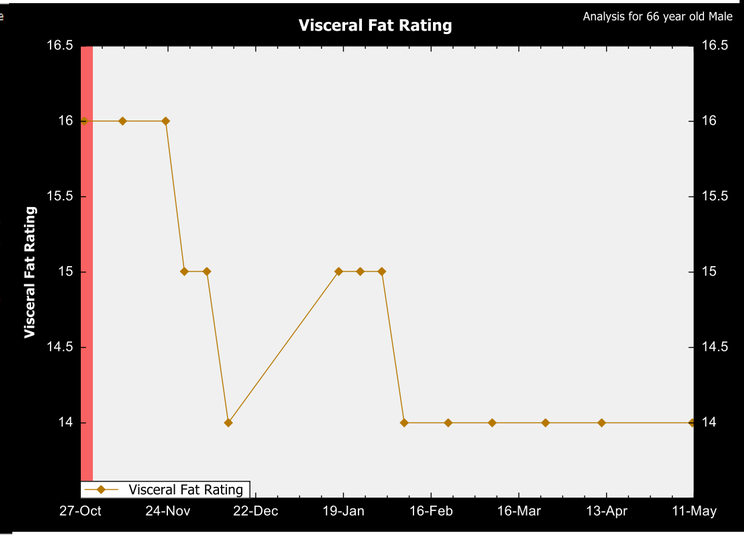


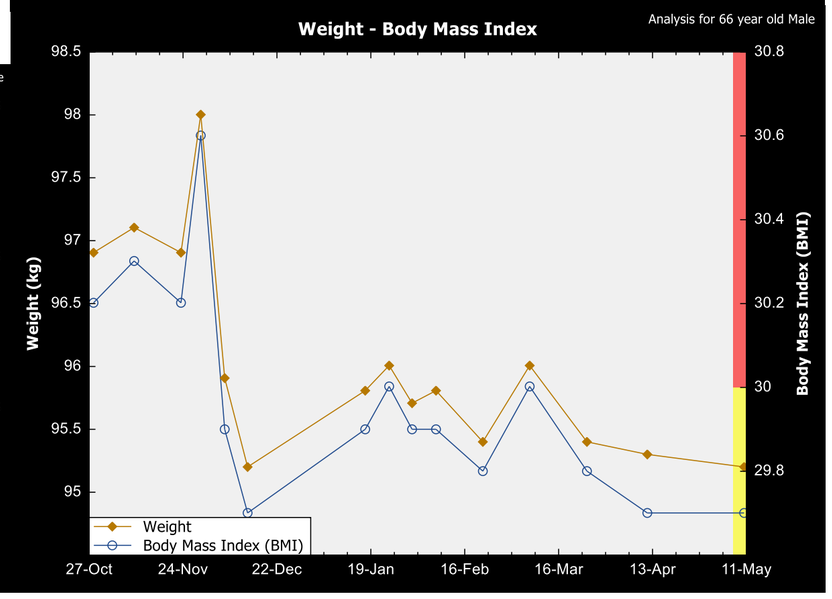
Kredlow MA, Capozzoli MC, Hearon BA, Calkins AW, Otto MW. The effects of physical activity on sleep: a meta-analytic review. *J Behav Med.* 2015;38:427–449. doi: 10.1007/s10865-015-9617-6.

BODY COMPOSITION READINGS (TANITA BC-601)









Nutrition

Eat for health
Australian Dietary Guidelines

Guideline 1

To achieve and maintain a healthy weight, be physically active and choose amounts of nutritious food and drinks to meet your energy needs

Guideline 2

Enjoy a wide variety of nutritious foods from five food groups every day

Guideline 3

Limit intake of foods containing saturated fat, added salt, added sugars and alcohol

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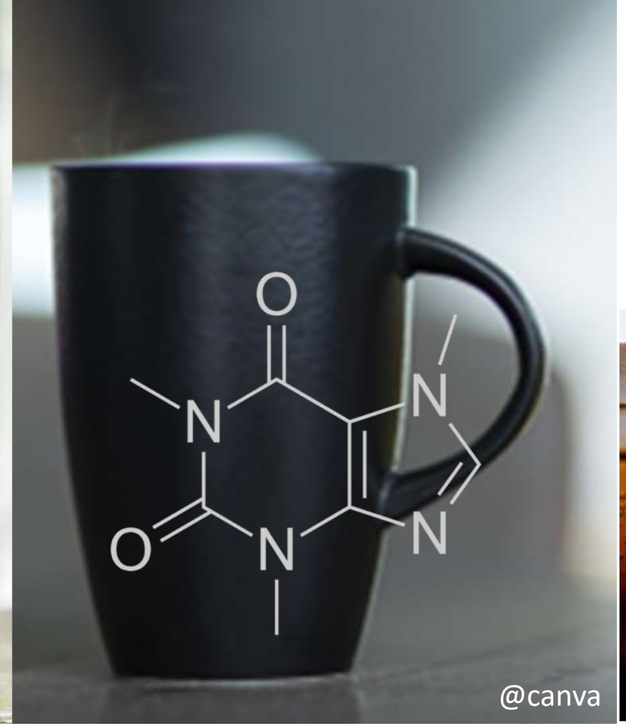
Caffeine and soft drink



The client was consuming

- several caffeinated beverages daily (coca cola and tea)
- drinking tea in the afternoon and before dinner time.

- Caffeine is the most widely consumed the central nervous system stimulant in the world.
- Caffeine is efficiently and quickly absorbed by the stomach and small intestine, with peak plasma levels occurring in the first 30 mins. It has a highly variable half-life, ranging from 2 to 10 hours.
- Caffeine is an adenosine-receptor antagonist. The presence of caffeine in the central nervous system reduces the gradual onset of drowsiness associated with extended periods of wakefulness. (1)
- There are individual differences in sensitivity to the psychotropic effects of caffeine including effect on sleep, vigilance, anxiety and depression (2)

Soft drink and sugars

- 375ml of typical cola contains 48.75mg of caffeine

Nutrition information

Serving size:	250 **mL**		
Ave. Quantity	**per Serving**	**%DI***	**per 100mL**
Energy	450 kJ	5%	180 kJ
	108 cal	5%	43 cal
Protein	0 g	0%	0 g
Fat, total	0 g	0%	0 g
Saturated Fat	0 g	0%	0 g
Carbohydrate	**27 g**	9%	10.6 g
Sugar	**27 g**	29%	10.6 g
Sodium	25 mg	1%	10 mg

*% Daily Intake per serve is based on an average adult diet of 8700kJ.
Your daily intake may be higher or lower depending on your energy needs.

250ml bottle

27g of sugar = About **5** teaspoons
108 kilocalories
452 kilojoules

1 can 330mL

35g of sugar = **About 7 teaspoons**
140 kilocalories
560kilojuiles

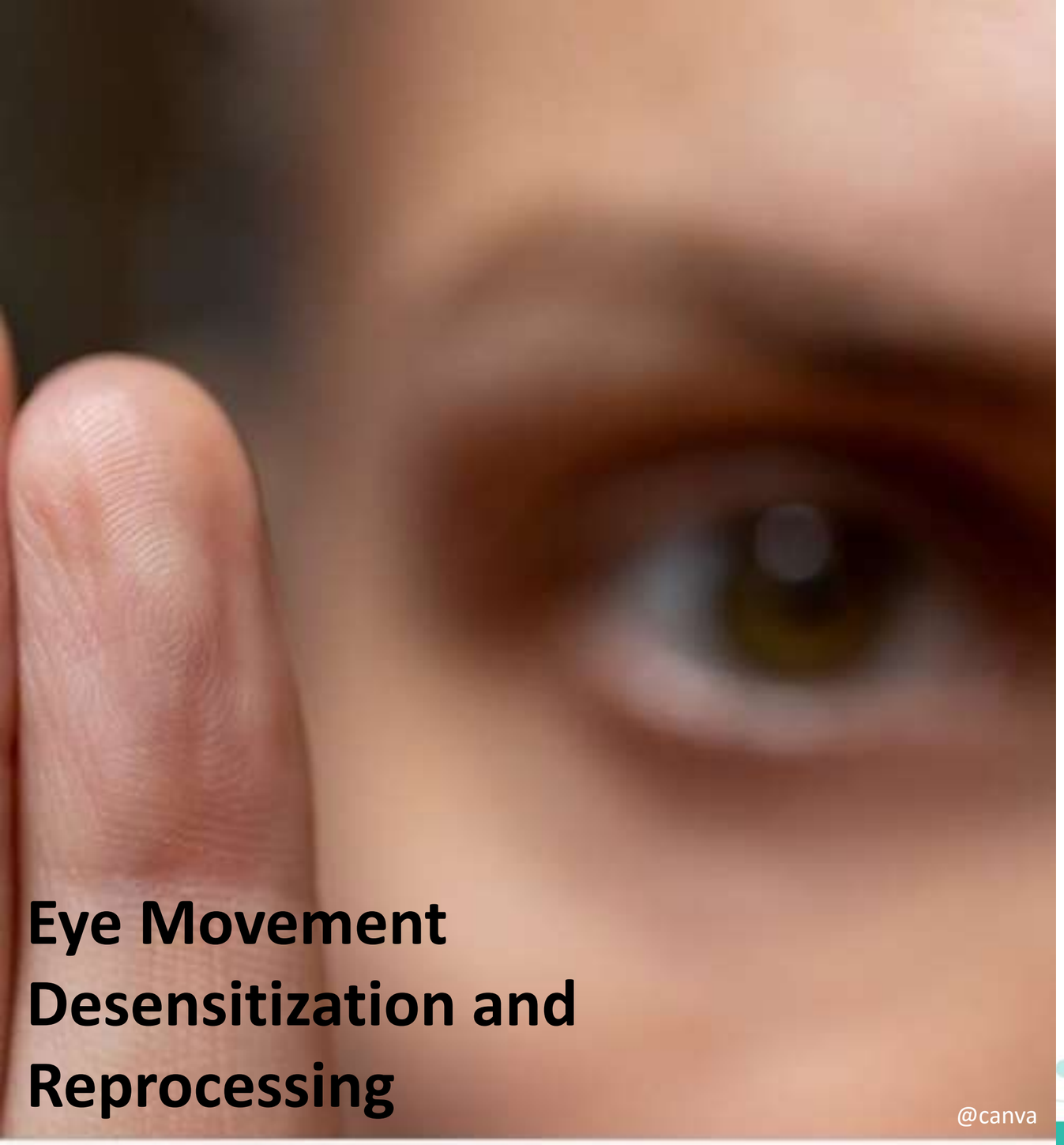
Frozen coke medium

33.8g of sugar = About 6 teaspoons
135kilocalories
540kilojoules

Frozen coke Large

45.5g sugar = About 9 teaspoons
182kilocalories
728 kilojoules

Cola Drink Contains:
Carbonated Water, Sugar, Colour (150d), Food Acid (338), Flavour, Caffeine. Contains Caffeine.
Information was taken from Macdonaldo.com.au and coca cola.com.au



EMDR

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Neurofeedback and behavioral activation prepared the client physiologically for trauma reprocessing.

The client's symptoms of intrusion (recurrent nightmares and flashbacks) are explained as brain's attempts to "metabolise" past traumatic events.

Client was guided to identify several particularly distressing images and memories he was thinking and dreaming about – to identify the symptoms of intrusion that affected his sleep.

EMDR sessions, were focused on these disturbing memories and to help him process his traumatic experiences.

Treatment Outcomes

At the end of his treatment Mr. Elam was physically fit, socially engaged and free of his trauma related symptoms. He was able to enjoy life with his family.

	PRE	AT THE END OF TREATMENTS
HTQ (cut-off score for PTSD = 2.5)	3.1	1.6
HSCL-A (cut-off score for anxiety = 1.75)	2.4	2.0
HSCL-D (cut-off score for depression = 1.75)	2.0	1.5

Take home message

Refugee traumas are often complex and require staged and multimodal interventions;

Impact on the nervous system results from cumulative and often severe trauma AND the daily stress of resettlement;

Sleep is one of the most affected functions and treatment often require multimodal approach for the best outcomes;

Neurofeedback and body focused interventions are a valuable adjunct to psychotherapy, as they effectively address trauma on a physiological level;

Preparation of the client for trauma processing is an important part of their treatment;

BioPsychoSocial Model of care is a valuable approach to the treatment of clients with chronic and complex trauma related to war, torture and refugee experiences.

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