Workshop:
Understanding the Relationship between Physical Symptoms and traumatic experiences

NHS
Cambridgeshire and Peterborough
NHS Foundation Trust

PART 4- Understanding the relationship between trauma and FND

Pride in our adults and specialist mental health services

What do we mean by Functional Neurological Disorder: Other names

"Oh, I'm sure we mean the same thing, Professor, only we use different words."

Barbara Shermund (1/11/1930)

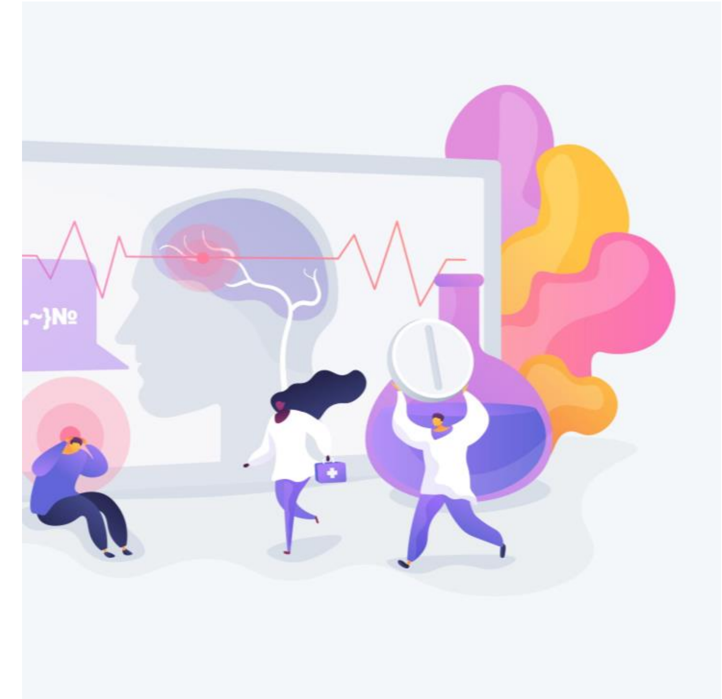
- Somatoform disorders
- Psychosomatic disorders / symptoms
- Psychogenic symptoms
- Dissociative symptoms
- Medically Unexplained Symptoms ('MUS')
- Persistent Physical Symptoms
- Somatic Symptom Disorder (DSM5)
- Dissociative neurological symptom disorder (ICD11)

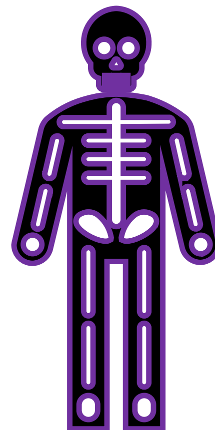
FND can involve multiple components…
And everyone's experience is different

Body: non-epileptic seizures (NES), drop attacks, paralysis, out of body experiences, tremors, functional weakness, photophobia and double vision; speech impairment and stutter; touch sensitivity; chronic pain; gate and balance problems; paralysis and weakness, depersonalisation.

Mind: racing thoughts, memory problems, difficulties focusing, anxiety, depression, fear, anger- memory loss; brain fog; fatigue; anxiety; avoidance, difficulties concentrating, dissociation

Emotions: anxiety, depression, fear and hopelessness





Theories of how chronic, excessive stress and FND are related

General principles

FND is a NORMAL reaction to an overwhelming experiences that exceeds the person's ability to cope or integrate what has happened.

- Such experiences can be *long term experiences of chronic stress or a single traumatic event that overloads the person's nervous system (=MORE STRESS)*
- *This is more likely to happen if a person has a reduced capacity to cope in the first place (SMALL WINDOW OF TOLERANCE) due to under/ over developed parts of the brain*
- *And/ or other factors that mean that they are more sensitive to stresses in the environment*

The Window of tolerance

The Window of tolerance-

- Refers to the range of specific emotions, and level of affect intensity or physiological arousal a given person can tolerate before becoming dysregulated and hyperaroused or hypoaroused.
- Unhelpful body-mind-emotion pathways are created possibly because stress exceed the capacity of an individuals window of tolerance
- When the window is exceeded our body may triger a hyper arousal (fight/ flight/ freeze) action or hypo arousal when there is perceived unescapable threat

Hyperarousal

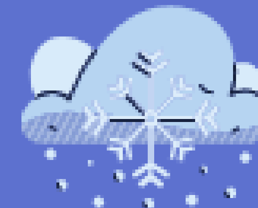
- Anxious
- Overwhlemed
- Angry
- Flight or flee

Dysregulation

Our window can vary and decrease in size depending on our environment, stresses, trauma, and past experiences. When this occurs, we can dysregulate and "shoot" out the window where we can experience hyperarousal or hypoarousal.

Dysregulation

Hypoarousal



- Shut down
- Numbness/zoned out
- Disconnect
- Freeze

Beacon House – Window of Tolerance

The Window Of Tolerance (edited version of our original 2018 video) – YouTube

Mobilising strategies
“HYPERAROUSAL”

Fight- Run away	**Flight –Fight back**	**Freezing- be still but alert (active immobilising)-**
The body tenses ready to push back and push out against attack- could present- stiffness/ jerks/ seizures/ involuntary movements	can be twisting or jerking/ flinching/ putting a hand out (not just your typical flight) , tremors, stuttering	The alert system remains highly activated but the individual looks completely still (rabbit in the headlights)-presents as immobile but highly alert

Immobilising
“HYPOAROUSAL”
Shutting the body down to avoid attack

Submission/ Fawn/ detaching while doing-	**Dissociation/behavioural shutdown or collapse**
giving in to the attacker/ being passive- giving in to abuse or neglect in a mechanical or automatic way without feeling (dissociation and disconnection from the body)	-freezing, fainting, limpness, drop attacks, blankness/ dissociation from emotional and physical feelings, collapsing, functional/ muscle weakness, paralysis, tremor, seizures-

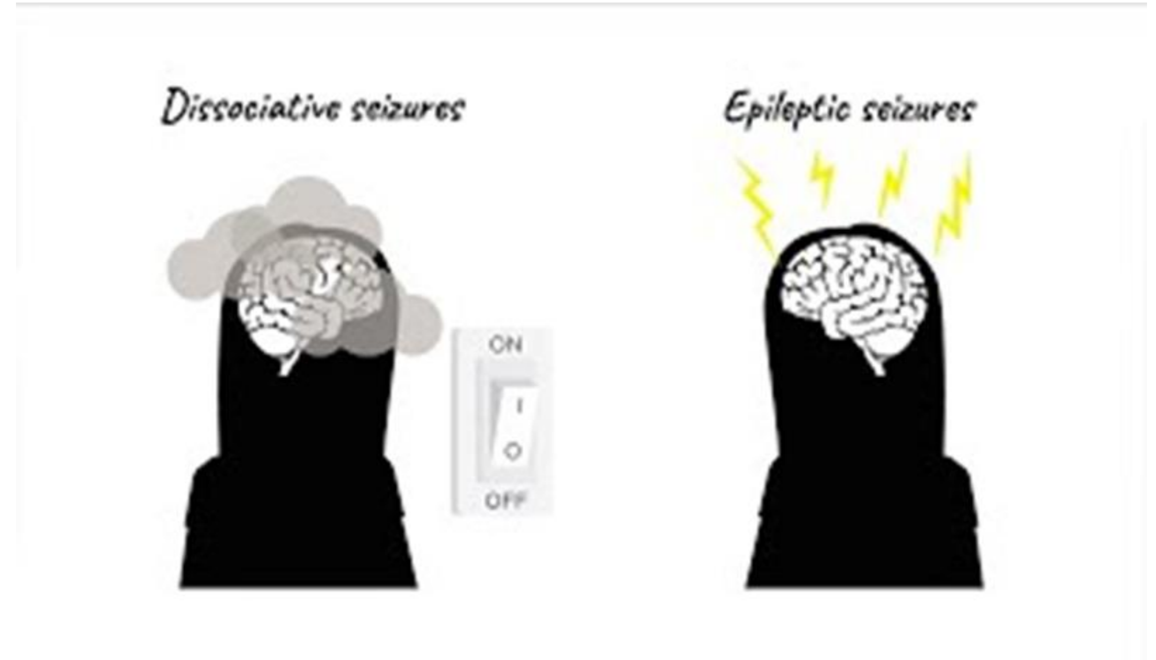
Non epileptic/ dissociative seizures explained by this theories

Overview:

Similar epileptic seizures in how they feel and look but it is thought that dissociation is the central mechanism

Also referred to as:

- Non-epileptic seizures
- Pseudo seizures
- Non-epileptic attacks
- Functional seizures
- Psychogenic seizures



What happens during dissociative seizures?

What happens during a dissociative seizure varies greatly from one person to another.

Some people lose awareness during the attack; others remain aware but may be unable to move or respond normally to those around them.

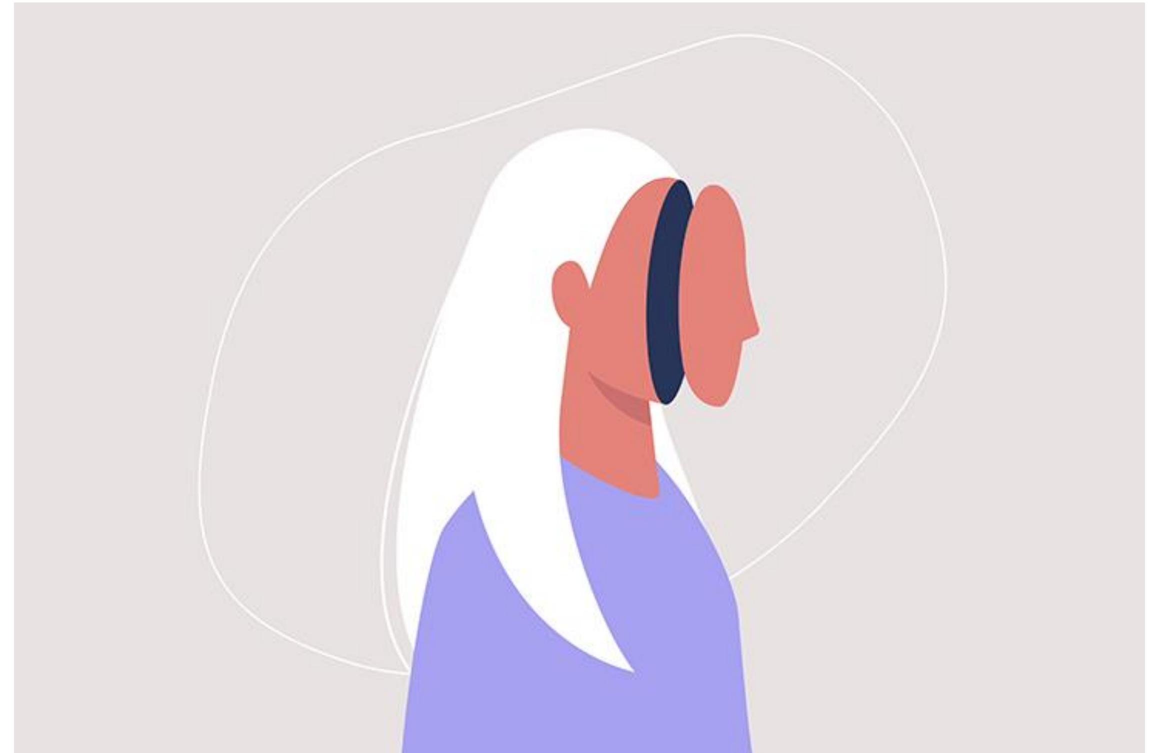
Some people fall to the ground and their arms or legs may shake, which is why an episode of functional symptoms can look similar to an epileptic seizure.

Breathing may change and the individual might lose bladder control, bite their tongue or hurt themselves.

The episode may go on for some time

Why might your brain think you need to physically dissociate?

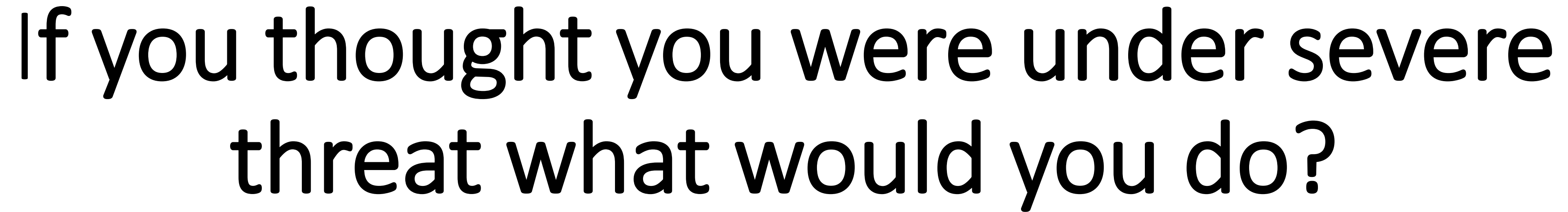
- Dissociation is an extreme form of hypoarousal and serves a protective function (a switching off/ shut down switch when no other options seem available)
- If you cannot escape you **can** find a way of not feeling
- If you think you are going to die or be severely harm you "play dead“
- Depersonalization (body)
- Derealization (environment)



Why do animals play dead? The survival function of Tonic Immobility

- **Apparent death**[a] is a behavior in which animals take on the appearance of being dead. It is an immobile state most often triggered by a predatory attack and can be found in a wide range of animals from insects and crustaceans to mammals, birds, reptiles, amphibians, and fish.[1][5][2] Apparent death is separate from the freezing behavior seen in some animals

- The precept is that the prey animal 'pretends' to be dead to be able to escape when/if the predator relaxes its concentration.



If you thought you were under severe threat what would you do?

- Dissociation (a form of hypo arousal) is a survival mechanism the brain employs when it thinks stress is high and escape is impossible
- The threat can be physical or psychological e.g. Dissociative seizures can happen as a cut-off mechanism to stop bad memories from being re-lived. The person splits off (or dissociates) from their feelings about the experience because it is too difficult to cope with.
- A person is unable to connect with reality and realise they are not in danger
- Often people are generally disconnected from their everyday emotions so are less conscious of what might signal threat
- Some people's brains try and help them survive by disappearing or "dying" before they will be killed

Why would a WOT/nervous system be overloaded?

POSSIBLE reasons…

- Sensory oversensitivity

OR

- Exposure to chronic trauma

OR

- A Single trauma
- Difficulties in recognising and coping with emotions

- All of these could lead to a smaller Window of Tolerance and too much stress for the resources available

Ideas that support this: Clinical Formulations

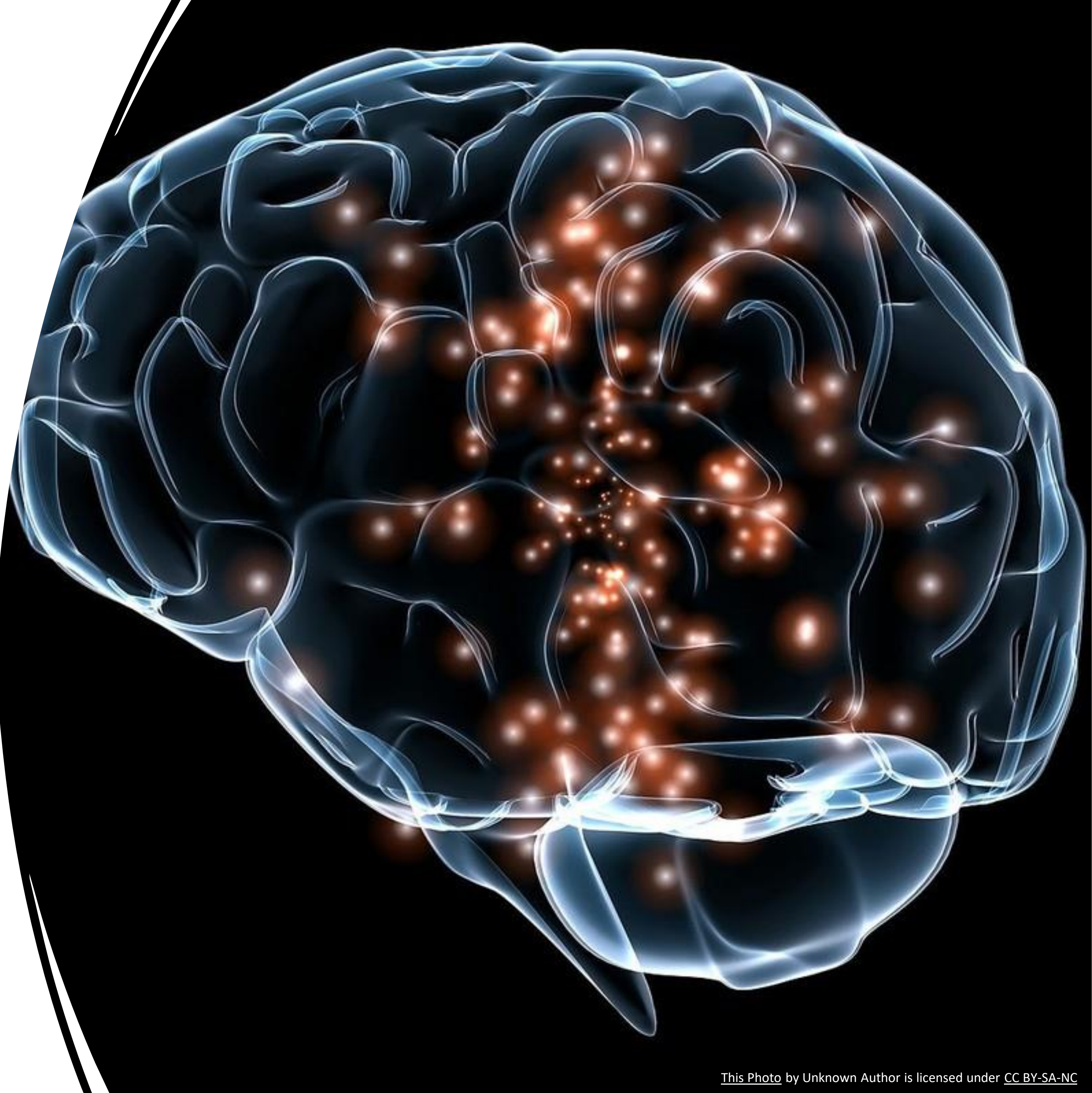
- For some people a functional seizure can be understood as a dissociative response to reminders of past trauma
- For others dissociative attacks appear to be linked to stress becoming too much (e.g. feeling like a sensory/ stress overload)
- For some functional seizures are understood as the physical manifestation/ representation of emotions they are neither aware of or express "The Body keeps the score"

NOTE: Some people's stress capacity might be exceeded by the addition of a physical/ neurological problem

EVIDENCE

1. Experience of trauma is associated with an increased risk of FND

- People with FND were more likely to report emotional neglect/sexual abuse or physical abuse
- Children with FND are more likely to have experienced life stressors
- Remember “What is traumatic?”- repeated illness in childhood/ neurodivergence- are all traumatic if in a large enough dose



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2. People with FND are more likely to block out emotions as the main coping response

- Studies show that people with FND have a greater tendency to cope with problems by suppressing emotions than matched controls
- If things get stressful people are more likely to use avoidance as a key strategy
- People with FND score higher on the DES (Dissociative experiences scale)

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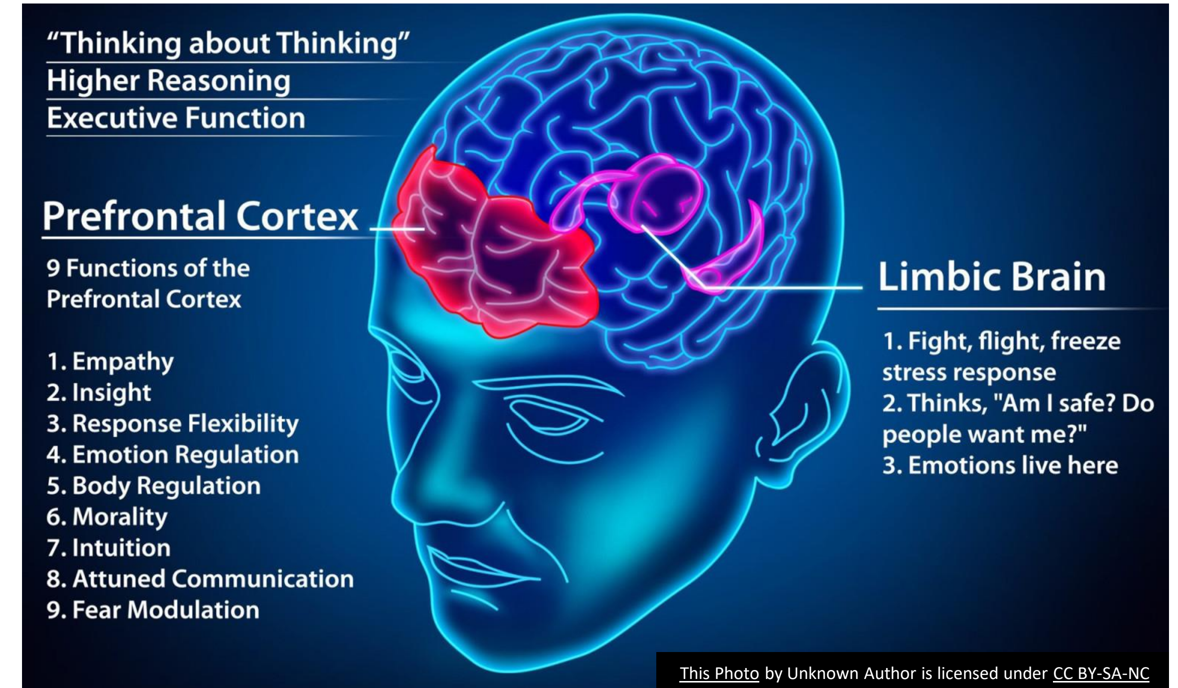
3. We know in FND that areas involved in emotion and memory are involved (emotional awareness and PTSD?)

- In a review of neuroimaging studies Perez et al (2015) proposed that NEAD and FMD are brought about by *alterations of the neural networks mediating emotional expression, regulation, and awareness*



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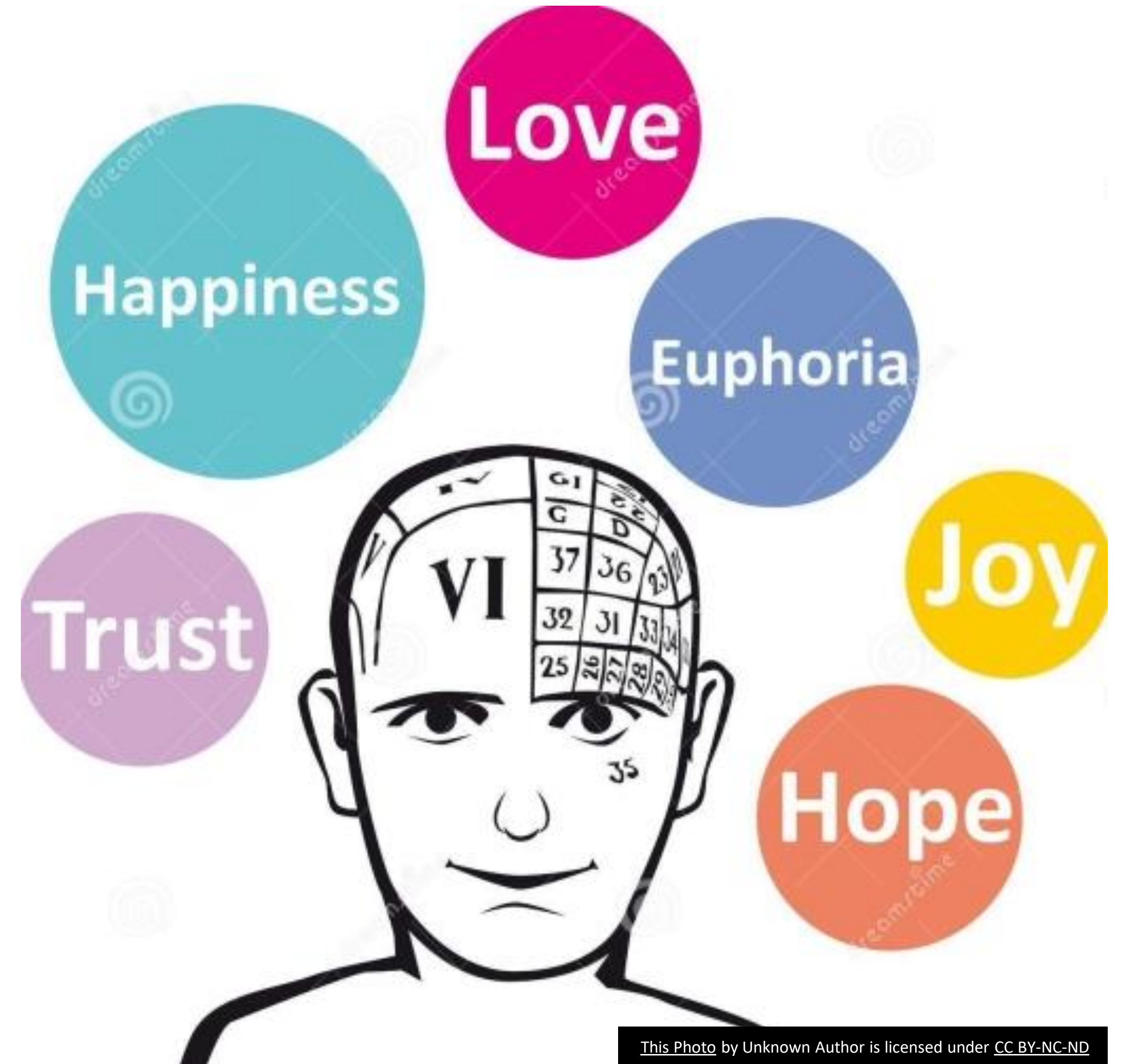
4. FND is associated with difficulties in being able to recognise and label emotions

- Higher rates of alexithymia
- Difficulties in clarifying and being aware of emotions
- Difficulties in identifying emotions
- Reduced interoceptive ability



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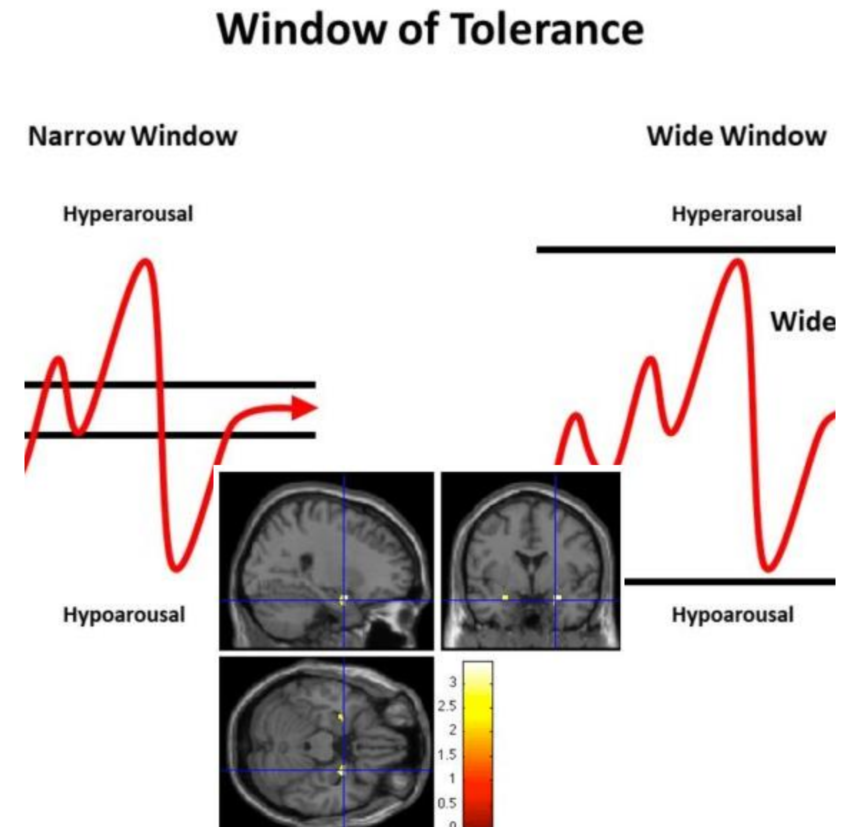
5. Brain studies show a more sensitized threat system and stronger relationship between emotions and movements

Research shows that individuals with FND have:

1. Greater sensitivity to emotional stimuli, especially threat signals, and therefore, higher arousal at baseline (i.e., more generally, day-to-day)
2. With this higher sensitivity a more reactive "mobilization" response (i.e., preparing to act – fight/flight/freeze)
3. Higher amygdala activity AND *increased link between the amygdala and motor area in response to a traumatic event*
4. Higher functional connectivity between the amygdala and supplementary motor area (SMA) during processing of both positive and negative emotional stimuli



6. Many individuals with FND experience **sensory sensitivities or sensory symptoms**.

The central nervous system is designed to filter out redundant and unnecessary stimuli and organize sensorimotor information into an integrated experience. This process is called the **“gating mechanism,”** and it may be dysregulated in many clients with FND who describe a variety of sensory challenges that manifest as over-sensitivity or under-sensitivity.

It is highly personal

- FND is highly personal and never the same- there is not one treatment protocol that fits all.
- The reasons that someone might more easily become hyper/ hypo aroused differs is different for different people
- Exposure to complex trauma is one explanation but this can contribute to FND in many ways
- Some people experience more hyperarousal, others hypoarousal, others will fluctuate between both