



Trauma, the Brain and Recovery



Course Outline

- Basic Understanding
- Regions of the Brain Implicated In Trauma



INTRODUCTION

What is Trauma?

Trauma is a response to a deeply distressing or disturbing event that overwhelms the body's natural coping mechanism, causing feelings of helplessness, diminished sense of self and inability to feel a full range of emotions and experiences.



Causes of Trauma

Trauma can happen through a variety of negative life events, which may include:

- Catastrophic injuries or illnesses
- Childhood abuse (emotional, physical or sexual)
- War
- Childhood neglect or abandonment
- Rape
- Natural disaster (such as earthquakes, hurricanes, tornadoes etc.)
- Birth stress, for both mother and infant
- Invasive medical and dental procedures
- Accidents (such as car crashes, falls, etc.)



Gene-environment interactions:

Some genes have been found to predict adult PTSD symptoms; e.g. DA transporter gene, serotonin transporter proteins, women's pituitary adenylate cyclase-activating peptide (PACAP). Binder E.B. et al 2019; Segman, R.H. et al. 2002; Ressler, K.J. et al. 2011)

Trauma heritability studies indicate moderate to severe heritability. Traumatic symptoms can be epigenetically transferred. Caroline M. N. et al. 2019; Yehuda, R. & Lehrner, A. (2018)

Symptoms of Trauma

Traumatic symptoms are very complex and diverse depending on the intensity, duration and nature of the traumatic event.
(Lander, L., 1991 (the ruins of memories))

Symptoms can be divided into 2 major categories:

- Hyperarousal (physical and psychological)
- Hypoarousal/Dissociation



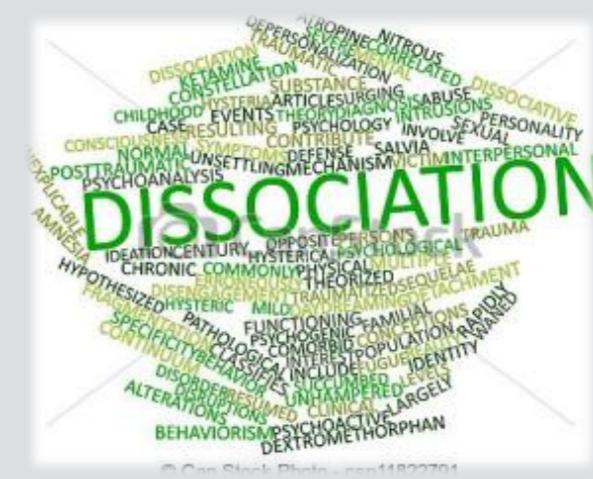
Hyperarousal Symptoms (physical and psychological)

- Hypervigilance
- Intrusive imagery or flashbacks
- Hyperactivity
- Abrupt mood swings (such as rage reactions, temper tantrums, anger or crying)
- Nightmare and night terrors
- Low stress threshold
- Difficulty in sleeping
- Shame and lack of self-worth
- Panic attacks, phobias and anxiety
- Attraction to dangerous situations
- Addictive behaviours (such as, over/undereating, drinking, smoking, etc.)
- Avoidance behaviours (such as avoiding places, memories, people or activities)
- Mental blankness or spaced-out feelings

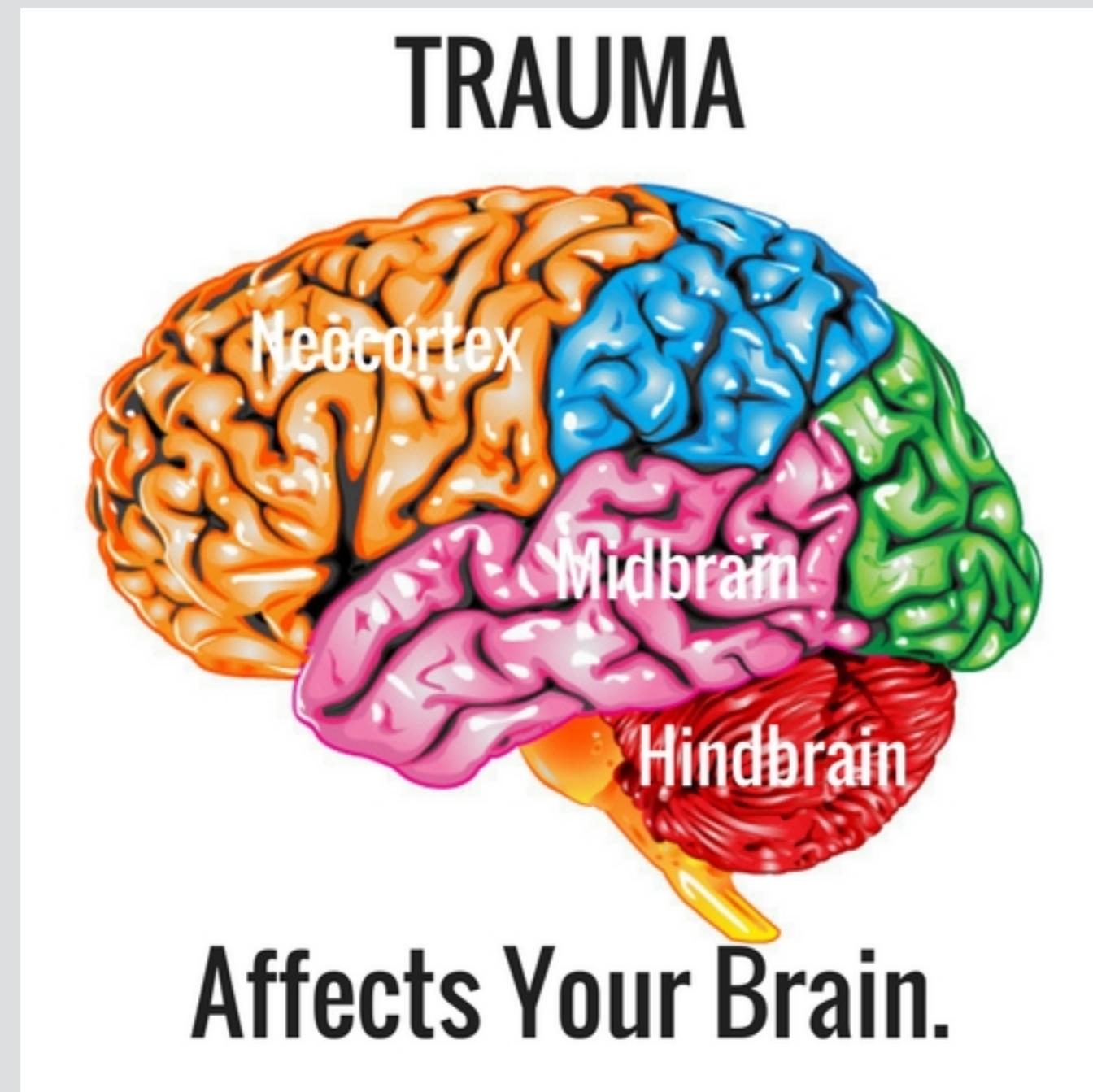


Hypoarousal/Dissociation Symptoms

- Symptoms of dissociation depend on the severity and types, which may include (Van der Kolk et al., 1995, (Dissociation and the fragmentary nature of traumatic memories)):
 - Depersonalisation (feeling detached from one's life, thoughts and feelings)
 - Problems with handling intense emotions
 - Sudden and unexpected shifts in mood
 - Derealisation (feeling as though the world is distorted or not real)
 - Dissociative amnesia (localised, selective, generalised or systematised)
 - Feeling compelled to behave in a certain way
 - Immobility, freezing and overwhelming feeling of helplessness



Trauma and the Brain



Wieck, A. et al. (2014)

Trauma affects different regions of the brain.

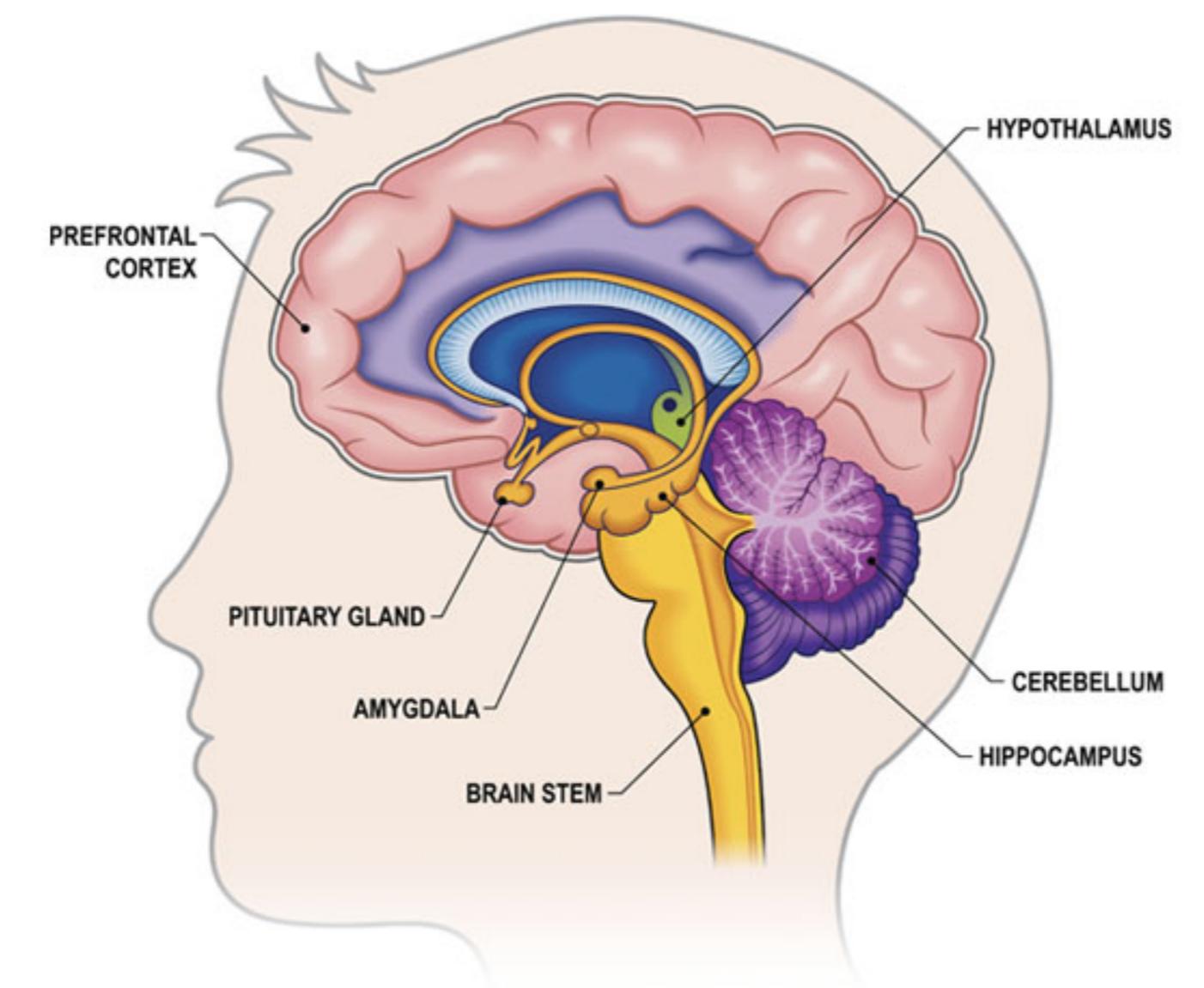
(Feinstein J.S., et al., 2011; LeDoux J., 2012; Edelman G. M., et al., 2013)

These brain regions include:

- Pre-frontal cortex
- Amygdala
- Hippocampus
- Broca's area
- Anterior cingulate



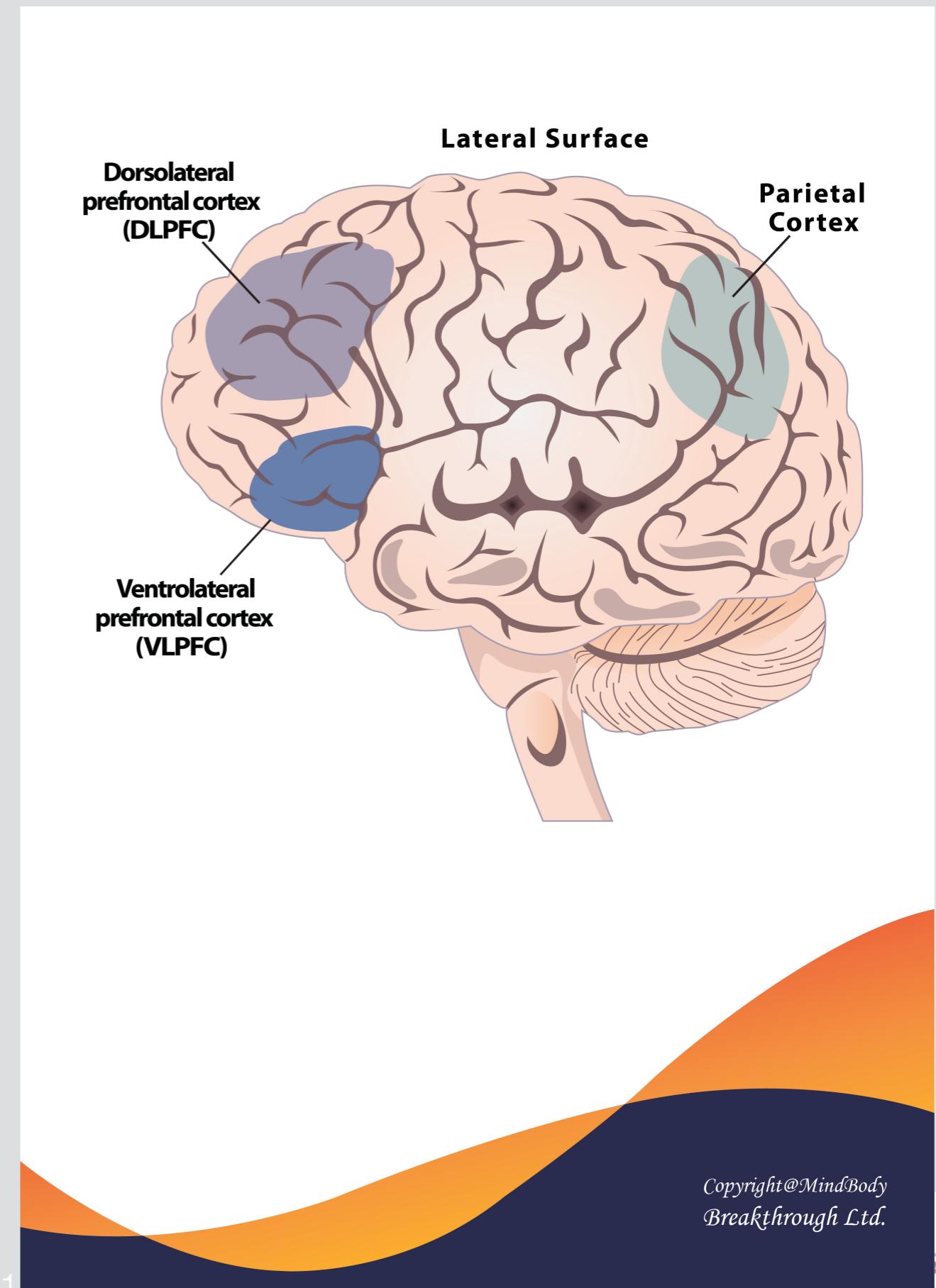
Pre-frontal cortex, Amygdala and Hippocampus



- Decreased prefrontal cortex volume has been observed in multiple trauma survivors. Rauch, S.L. et al. (2003)
- Individuals with borderline personality disorder and early abuse (CPTSD) have been found to have smaller amygdala volume. Vermetten, E. et al. (2011)
- Smaller hippocampal volume has been reported in several stress-related psychiatric disorders, including post-traumatic stress disorder (PTSD). Vermetten, E. et al. (2011)

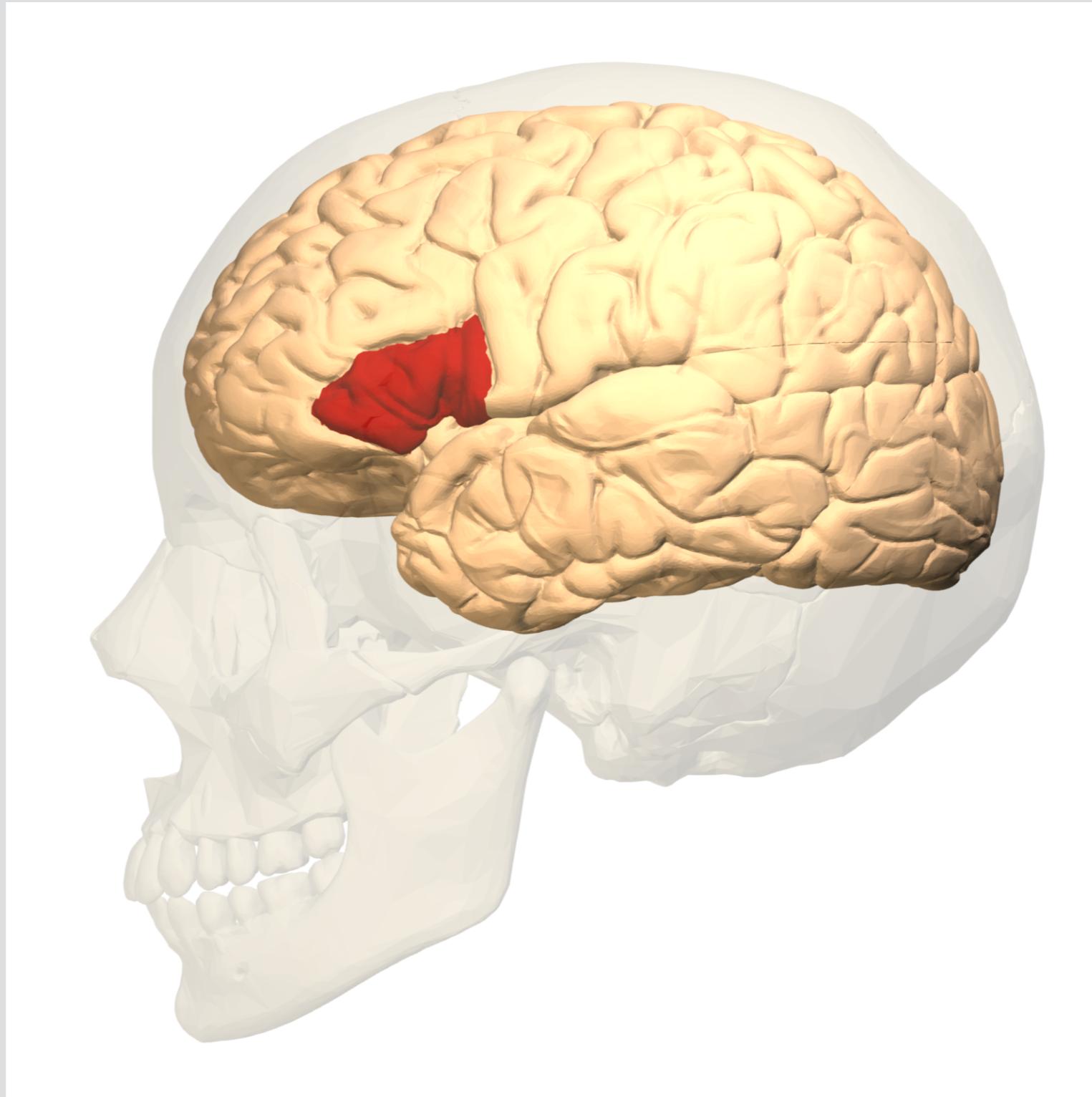
Dorsolateral Pre-frontal Cortex (DLPFC)

- The DLPFC is referred to as the time-keeper of the brain.
- When the DLPFC is deactivated, people become trapped in the past, without a sense of past, present and future (van Der Kolk, 2014).



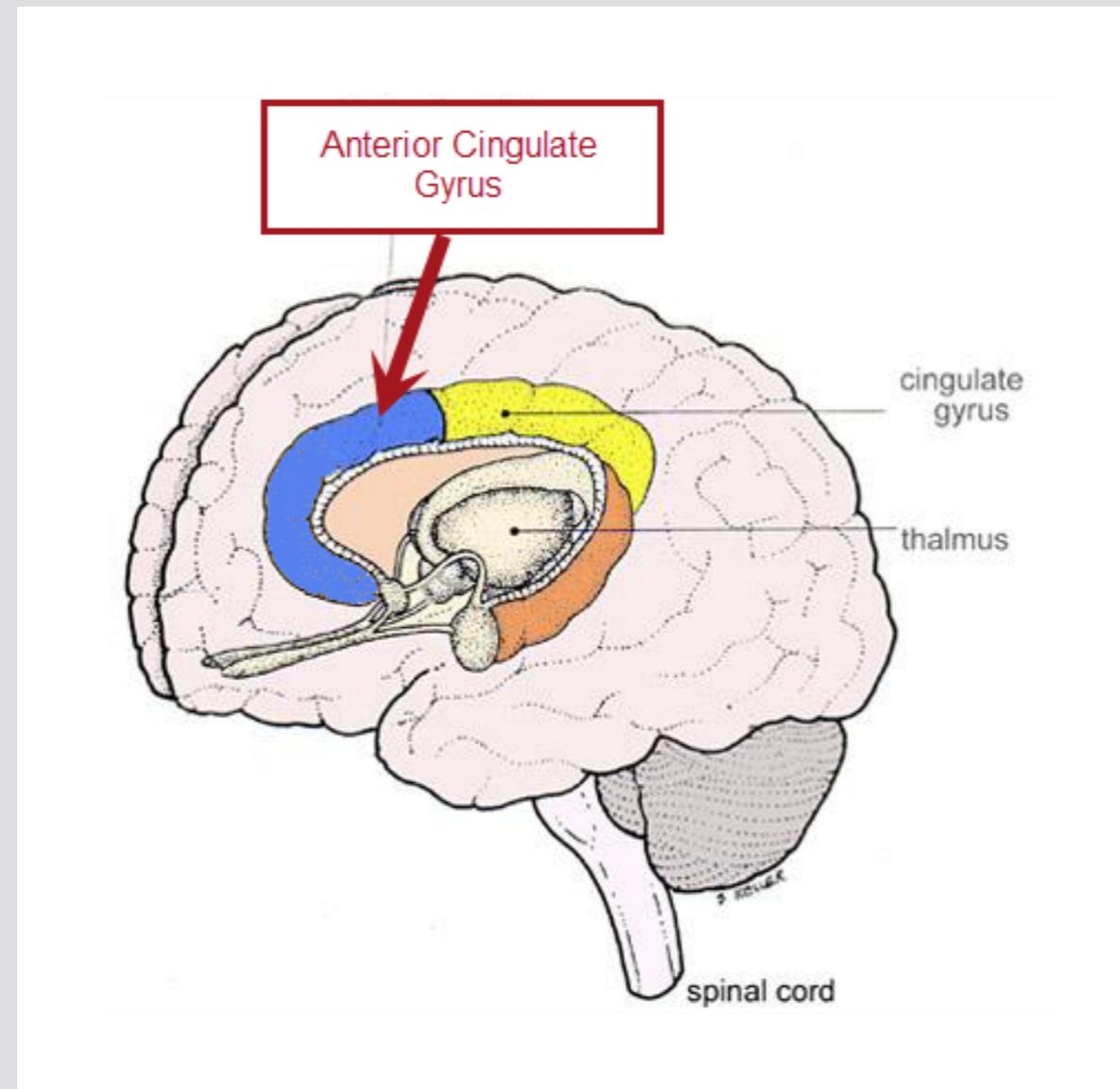
Broca's Area

This is the region of the brain involved in converting our internal experiences (feelings, thoughts, sensations) into communicable speech (van der Kolk, 2014).



Anterior Cingulate Gyrus (ACG)

This is the region of the brain known as the gear-shifter. It is involved in cognitive flexibility, self-sensing and consciousness



McGovern RA and Sheith SA, (2017); Hong, J.S, et al (2016),

Q&A Session

Online Recovery Courses & Materials

Please Visit:
www.mindbodybreakthrough.net

MindBody Breakthrough

Well-Being & Motivational Resources

Keep in Touch

Facebook/Instagram: mindbody breakthrough

**Join our Mental Health Discussion Group on our Facebook page
(Mindbody breakthrough)**

- Twitter: waleoladipol / mindbodybreakthrough

**For in-house seminar/general enquiries, please email:
enquiries@mindbodybreakthrough.net**

Join the MindBody Breakthrough Network

**Youtube Channel: search Wale Oladipo to access
meditation clips**

Thanks for attending!