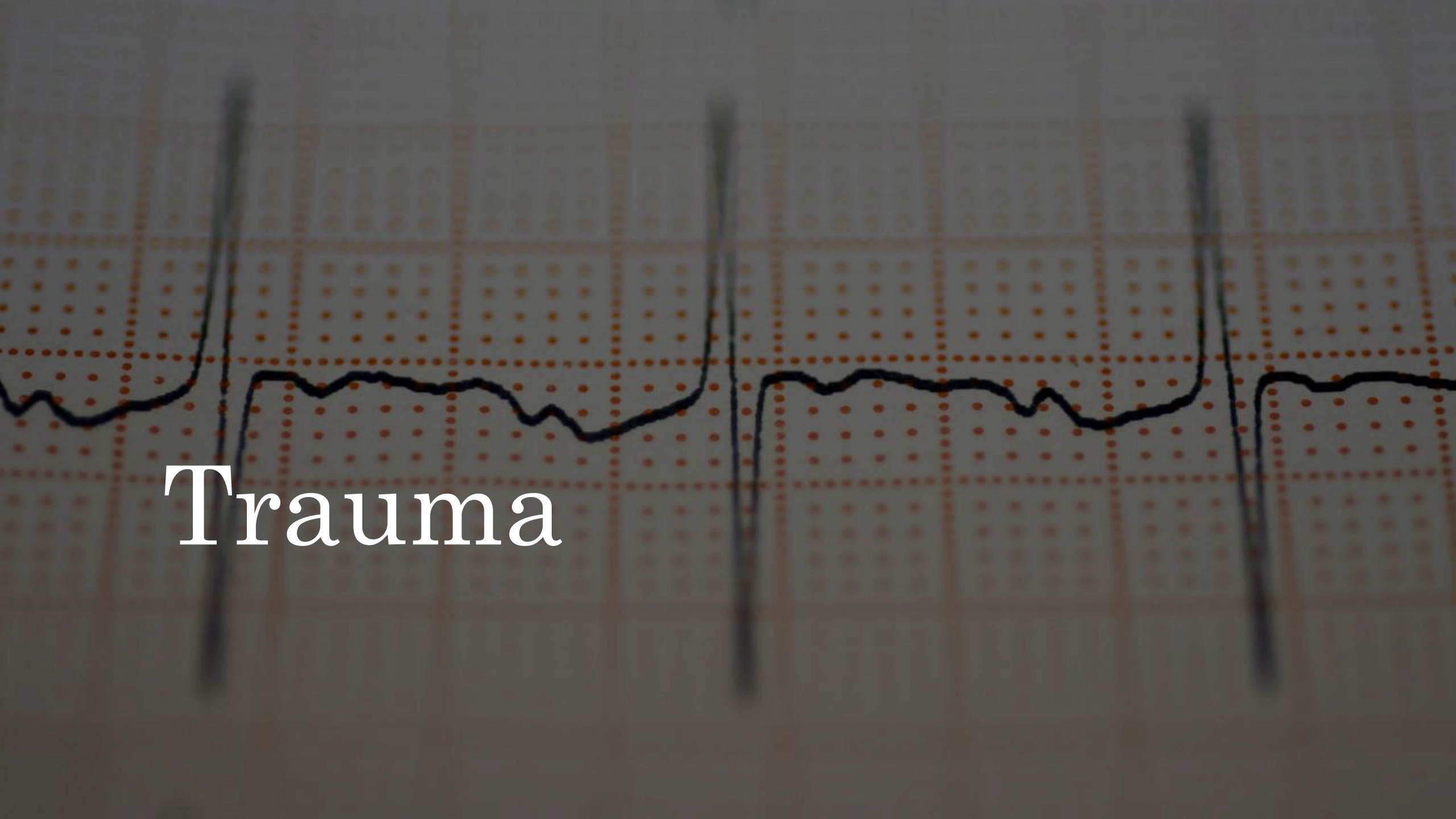




Trauma



What is trauma?

- The traumatic event can cause overwhelming emotions and can be extremely distressing.
- The ability to cope can become impaired.
- Subjective experience
- The effects of the trauma can last for a long time.

What experiences might cause trauma?

- Childhood abuse
- Serious accidents
- Witness to violence, either at home or externally.
- Disasters
- Fires
- Conflict
- Immigration, including refugees
- Homelessness
- Parents involved in military conflict
- Disruption with attachment
- Intrusive medical examinations



Trauma is deceptive

- It is difficult to recognise an individual who is traumatised. Their behaviours might present as:
- ADHD
- Bipolar disorder
- Anxiety
- Depression
- Aggression
- Withdrawal



Hyper vigilance

- An individual who has been traumatised might be hyper vigilant.
- Perpetually scanning for danger.
- On edge and constantly moving.
- Inability to focus.
- (Which is why they may be diagnosed with ADHD).

Distractions

- Alcohol and drug addictions
- Risk taking behaviours
- Early sexualised behaviour



Stressors and support

Discrimination

Poverty

Community
disturbance and
violence

Homelessness
and high levels
of mobility

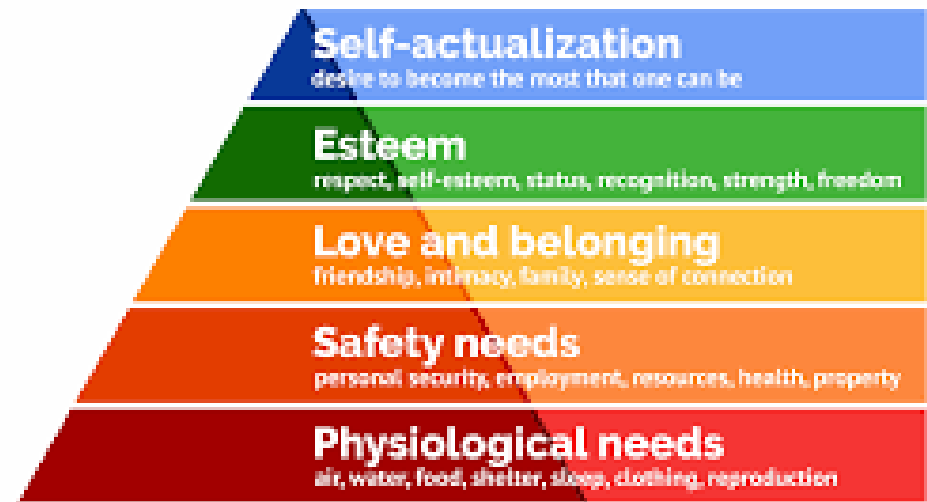
Support
networks:

Friends, family,
neighbours,
teachers,

Caring support
networks.

Safety

- When a traumatic event occurs the sense of safety for the individual has been compromised.
- Safety is the basic need that we all require to live our lives (recall Maslow's hierarchy of needs).
- Types of safety include:
 - Emotional
 - Physical
 - Social
- Loss of safety is one of the key aspects of trauma



Maslow's hierarchy of needs

Lack of safety

- Behaviours might include:
- Dissociation
- Sleeping
- Mood shifts
- Disconnected
- Aggressiveness
- Overly compliant



Traumatic events and world view

- How does a traumatic event change the worldview perspective of an individual.
- **Sense of Safety** - Before a traumatic experience, individuals may believe the world is a relatively safe place. Trauma can shatter this belief, leaving people feeling vulnerable or constantly threatened.
- **Trust in Others** - Trauma, especially when caused by people (such as abuse or betrayal), can erode a person's ability to trust others. This can lead to suspicion, difficulty forming close relationships, or even withdrawing from social interactions altogether.



Traumatic events and world view

- **Sense of Control and Predictability** - Many traumatic events involve a lack of control, creating a perception that life is unpredictable and uncontrollable.
- Individuals might respond by attempting to rigidly control aspects of their environment to regain a sense of order or, conversely, may feel helpless and resign themselves to a lack of agency.
- **Meaning and Purpose** - Trauma can lead individuals to question the meaning or fairness of life. This is especially true in the face of trauma involving deep loss, senseless violence, or events that defy explanation.
- Some people may struggle with existential questions and feelings of hopelessness, while others may find a renewed sense of purpose or a drive to advocate for change based on their experiences.



Traumatic events and world view

- **Identity and Self-Perception** - Trauma can change how people see themselves, leading to shame, guilt, or a negative self-image. They might view themselves as "damaged," "unworthy," or defined by their trauma.
- Conversely, some may emerge with a deeper understanding of their resilience, gaining a sense of strength or growth from having survived.
- **View of the Future** - Traumatized individuals may struggle to envision a positive future or feel stuck in a cycle of fear and pessimism. The idea of a "better tomorrow" might feel distant or unrealistic.
- However, with support and healing, some find that processing their trauma opens them to new perspectives, empathy, or opportunities to reframe their future.



Triggers

- Sounds
- Smells
- Tastes
- Environment
- Tones of voice
- Time of year
- Objects





Grounding exercise

- **The 5-4-3-2-1 Grounding Exercise:**

1. **5 Things You Can See**

Look around you and name five things that you can see. It can be anything in your surroundings, like a book, a lamp, or a cloud outside.

2. **4 Things You Can Feel**

Notice four things you can feel. Focus on sensations, like the texture of your clothing, the surface you are sitting on, or the cool air on your skin.

3. **3 Things You Can Hear**

Pay attention to three sounds. These could be external sounds, like the chirping of birds, the hum of a fan, or even the sound of your breath.

4. **2 Things You Can Smell**

Take note of two things you can smell. If you can't immediately detect a scent, try noticing your environment or find something to smell, like coffee or soap.

5. **1 Thing You Can Taste**

Focus on one thing you can taste. This could be something in your mouth, like gum, a drink, or even just your tongue.

- This exercise helps ground you in the present by encouraging your senses to engage with the environment around you. It can be done anywhere and typically only takes a few minutes to help you feel more centered and present.

Trauma and the brain

- Re-experiencing - This "re-experiencing" is a core symptom of Post-Traumatic Stress Disorder (PTSD) and can manifest as flashbacks, nightmares, intrusive memories, or intense emotional and physical reactions to triggers.
- The brain regions involved are:
 - Amygdala
 - Hippocampus
 - Sympathetic Nervous System
 - Prefrontal Cortex
- (not forgetting the role of Cortisol and adrenaline)



Trauma and the brain

- Avoidance - Avoidance behaviours are a common response to trauma.
- They involve deliberate avoidance of people, places, situations, thoughts, or feelings that might remind an individual of the traumatic event.
- While avoidance can feel protective and reduce distress, it often reinforces the cycle of fear, prevents healing, and interferes with daily functioning and relationships over time.
- They can involve emotional numbing, distractions, substance abuse, dissociation and the adoption of specific rituals.



Trauma and the brain

- Arousal - Trauma significantly alters brain arousal, leading to a state of heightened reactivity and changes in how the brain processes stimuli.
- This response is driven by the brain's stress-response system and can lead to a prolonged state of hyperarousal or, in some cases, hypoarousal (numbing or shutting down).
- The brain regions involved are again, Amygdala, Hippocampus, Sympathetic Nervous System, Prefrontal Cortex and the Hypothalamic-Pituitary-Adrenal Axis (HPA).



Early childhood trauma

- Early childhood trauma can shape the development of the brain.
- This also includes during pregnancy. It can influence how the brain develops from an early age.
- This can have a knock-on effect throughout the individual's life.
- **Altered Stress Response System:** stress or trauma in childhood can disrupt the hypothalamic-pituitary-adrenal (HPA) axis, leading to prolonged stress responses. Children may remain in a heightened state of "fight-or-flight" activation, impacting their ability to regulate stress later in life.



Early childhood trauma

- **Changes in Brain Structure:** Trauma can lead to changes in the development of critical brain regions such as the:
- **Amygdala:** Increased activity in the amygdala can make children more prone to fear, anxiety, and hypervigilance.
- **Hippocampus:** Trauma may lead to a smaller hippocampus, affecting memory, learning, and the ability to differentiate between past and present experiences.
- **Prefrontal Cortex:** Reduced activity in the prefrontal cortex can impair decision-making, impulse control, and emotional regulation.
- **Neurotransmitter Imbalances:** Trauma can alter the levels of neurotransmitters like serotonin and dopamine, contributing to mood disorders, anxiety, and behavioural issues.



Early childhood trauma

- **Emotional and Behavioural Effects**
- **Emotional Dysregulation:** Children exposed to trauma often have difficulty managing their emotions. They may experience intense emotional reactions, mood swings, or difficulty calming themselves.
- **Attachment Issues:** Trauma, particularly neglect or loss, can disrupt a child's ability to form healthy attachments with caregivers.
- **Aggression, defiance, hyperactivity and inattention** are also prevalent.



Early childhood trauma

- **Cognitive and Academic Challenges**
- **Learning Difficulties:** Trauma can impair cognitive development, memory, and executive function. Children may struggle to concentrate, retain information, or perform well in school.
- **Delayed Development:** Trauma can slow or disrupt normal developmental milestones, such as language, motor skills, or social-emotional growth.
- **Negative Self-Image:** Children may internalize feelings of guilt, shame, or worthlessness, believing that they are "bad" or undeserving of love.



Early childhood trauma

- **Physical Health Issues**
- **Chronic Health Problems:** Childhood trauma is associated with increased risk of chronic illnesses later in life, such as heart disease, diabetes, and autoimmune conditions. This is partly due to the long-term effects of chronic stress on the body.
- **Sleep Disturbances:** Trauma can lead to nightmares, night terrors, and difficulties falling or staying asleep, impacting a child's ability to rest and recover.
- **Increased Risk of Substance Abuse:** In adolescence and adulthood, trauma survivors may turn to substances as a way of coping with emotional pain.



Early childhood trauma

- **Social and Relational Issues**
- **Difficulty Trusting Others:** Early trauma, especially if caused by caregivers, can make it difficult for children to trust others or feel safe in relationships.
- **Poor Social Skills:** Children who have experienced trauma may struggle with making friends, understanding social cues, or managing conflicts.
- **Isolation:** Some children withdraw from peers and social situations, feeling alienated, different, or disconnected from others.



Early childhood trauma

- **Increased Risk for Mental Health Disorders**
- **Anxiety and Depression:** Trauma can lead to heightened feelings of fear, sadness, or hopelessness, increasing the risk for anxiety and depression throughout life.
- **Post-Traumatic Stress Disorder (PTSD):** Some children develop PTSD, characterized by re-experiencing trauma (e.g., flashbacks, nightmares), avoidance of triggers, and hyperarousal symptoms.
- **Eating Disorders and Self-Harm:** Trauma survivors may engage in disordered eating or self-injury as a way to cope with emotional distress.



Early childhood trauma

- **Behavioural Coping Mechanisms**
- **Avoidance Behaviours:** Children may engage in behaviours aimed at avoiding reminders of the trauma, such as compulsive routines, distractions, or dissociation (emotional detachment).
- **Risk-Taking Behaviour:** Some children engage in risky behaviours as a way of coping with pain or seeking a sense of control.

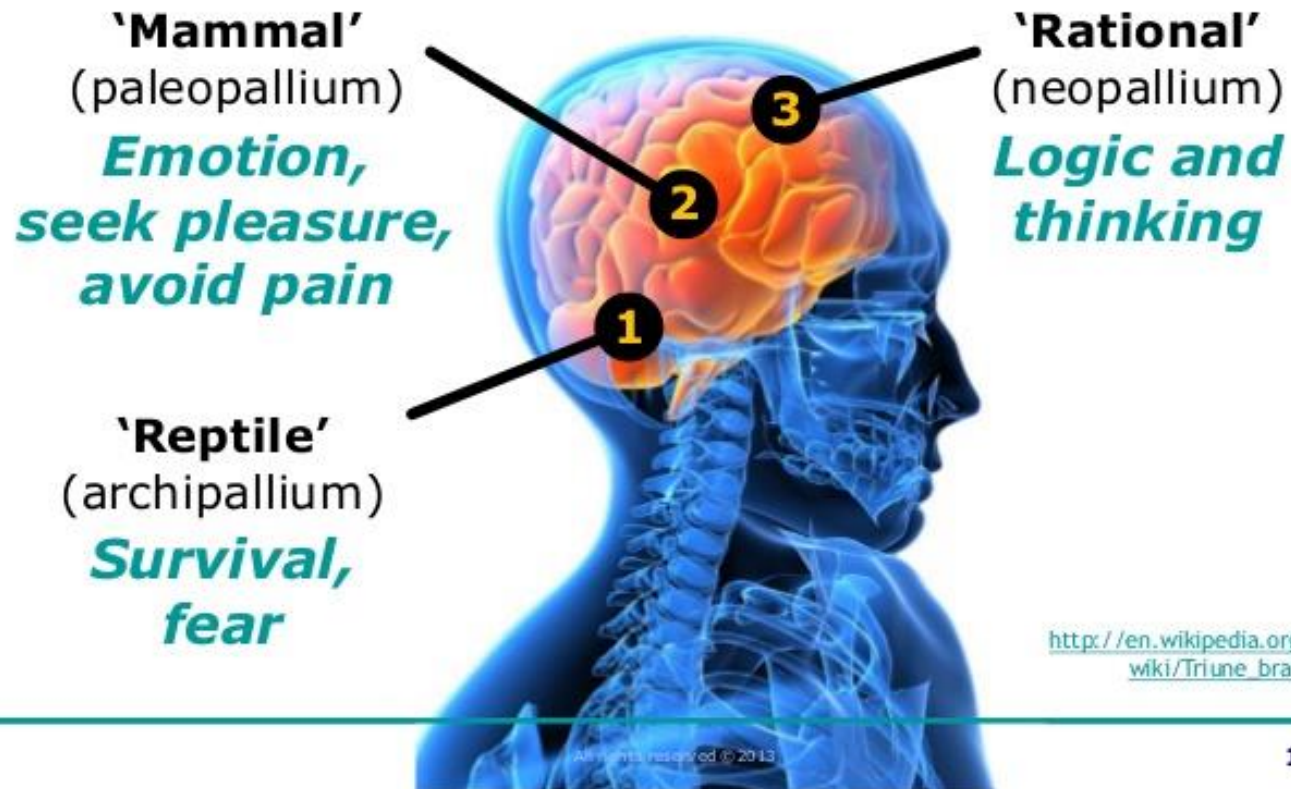




Trauma and brain function – summary!

- Learning
- Attention and memory
- Automatic responses
- Ability to build and maintain relationships
- Self-regulation

The triune brain

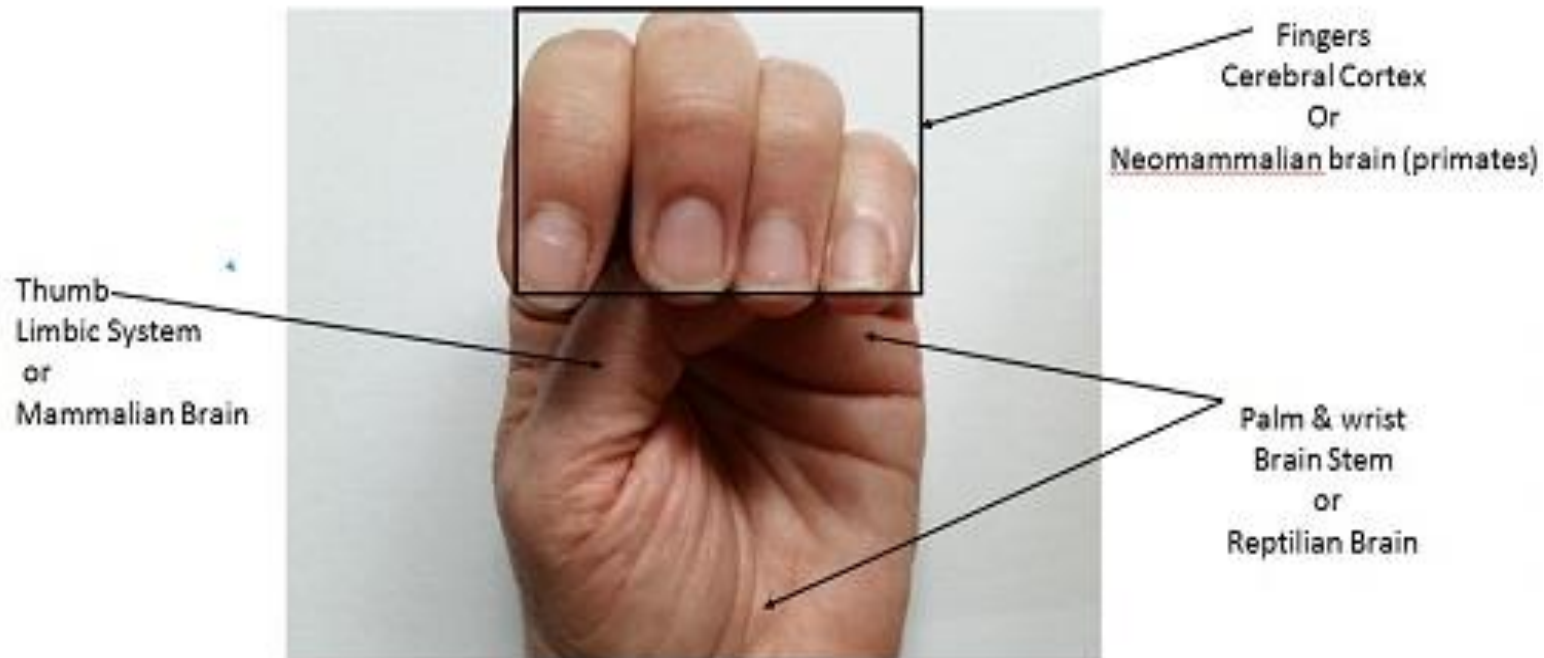


Triune brain
model
(McLean
1960`s-1970`s).

A simplistic model to show
how the brain contributes
to our emotion, cognition
and behaviour.

Hand Model of the Triune Brain

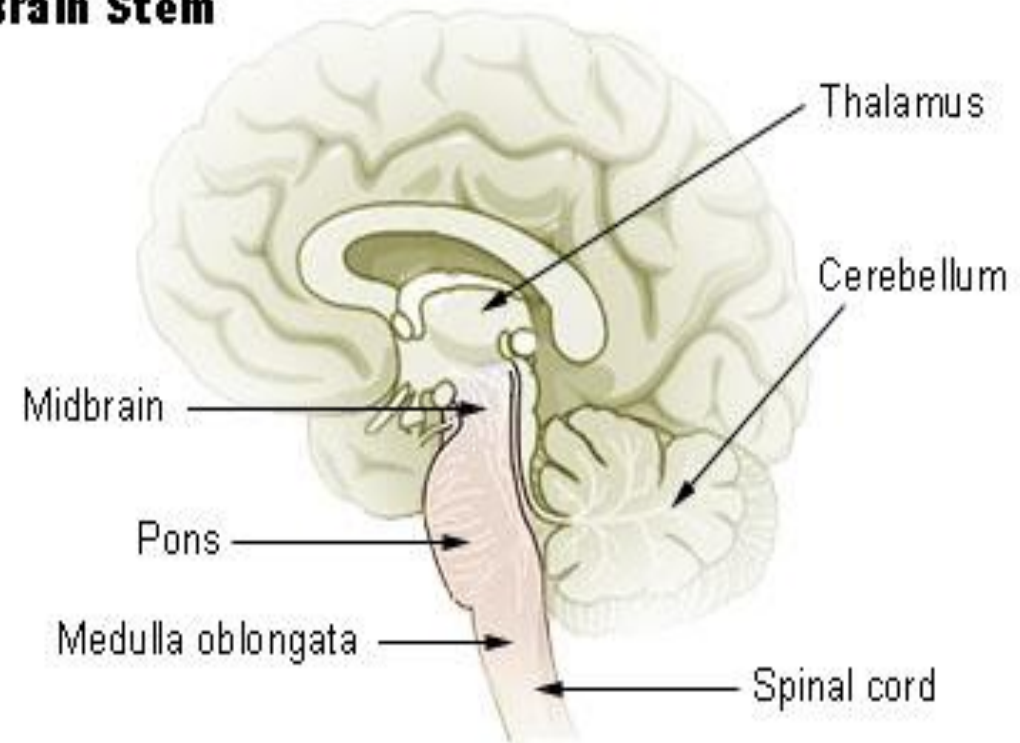
The hand model of the triune brain

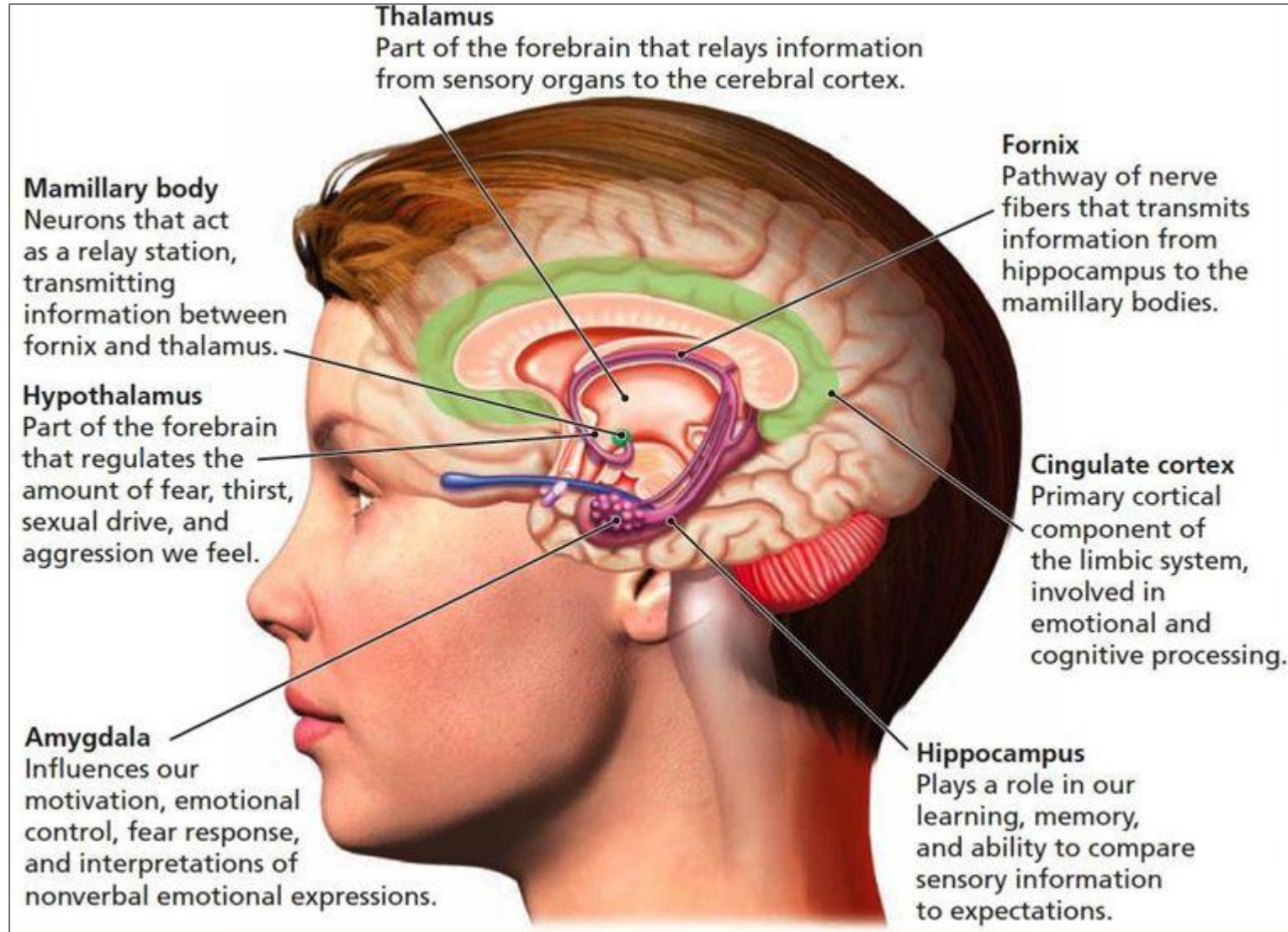


The brain stem

- Develops first
- Most primitive part
- Promotes survival
- Organises and helps to regulate the rest of the brain
- The brain stem is responsible for basic survival functions and instincts. It controls automatic behaviours such as heart rate, breathing, hunger, balance, and the fight-flight-freeze response.
- The reptilian brain is "automatic," meaning it often acts first in response to perceived threats. This can explain reflexive behaviours in stressful or life-threatening situations.

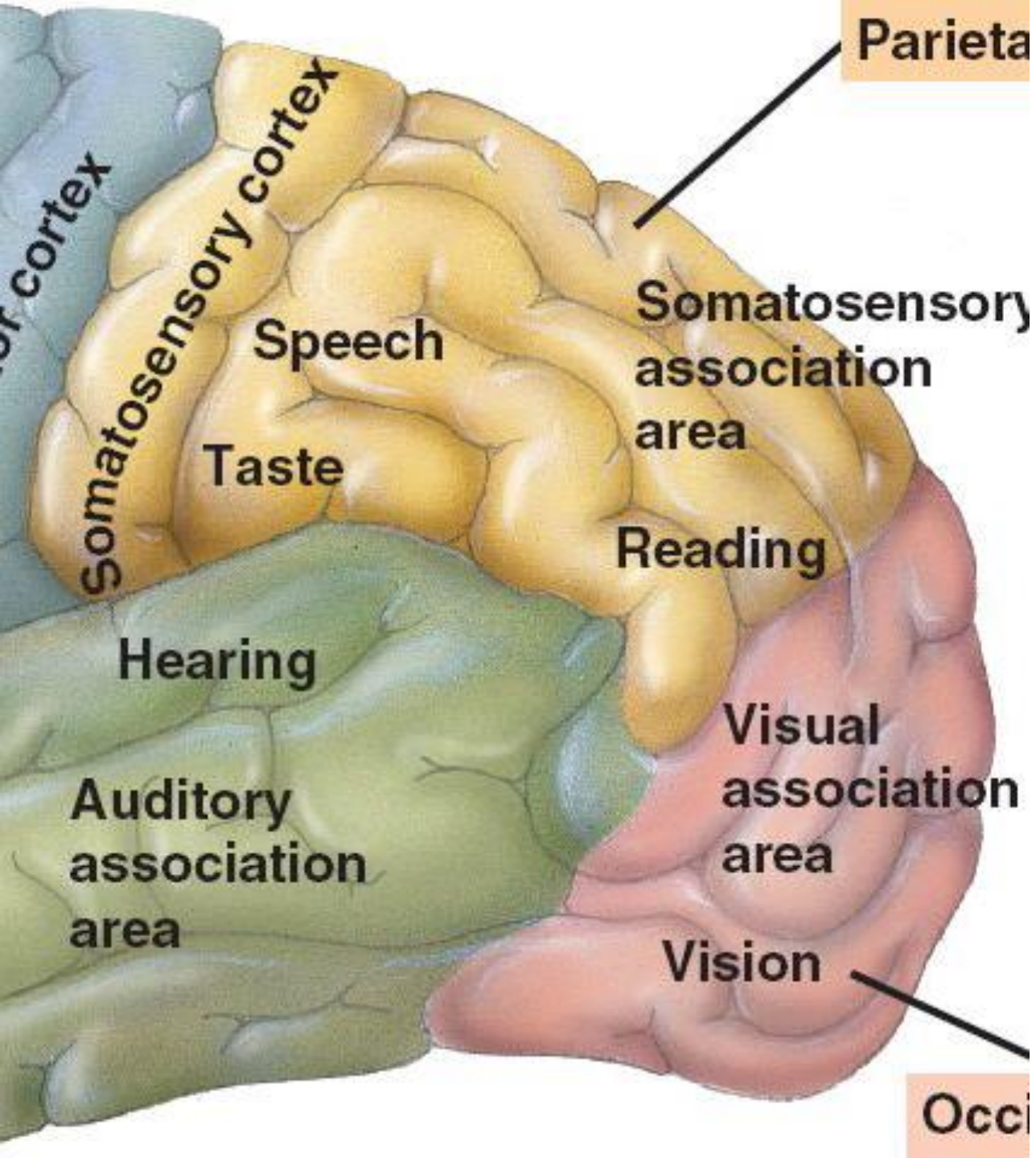
Brain Stem





The limbic system

- More complex,
- Has plasticity.
- Responsible for:
- Emotional states, including fear,
- Memory,
- Self preservation,
- Attachment, bonding.



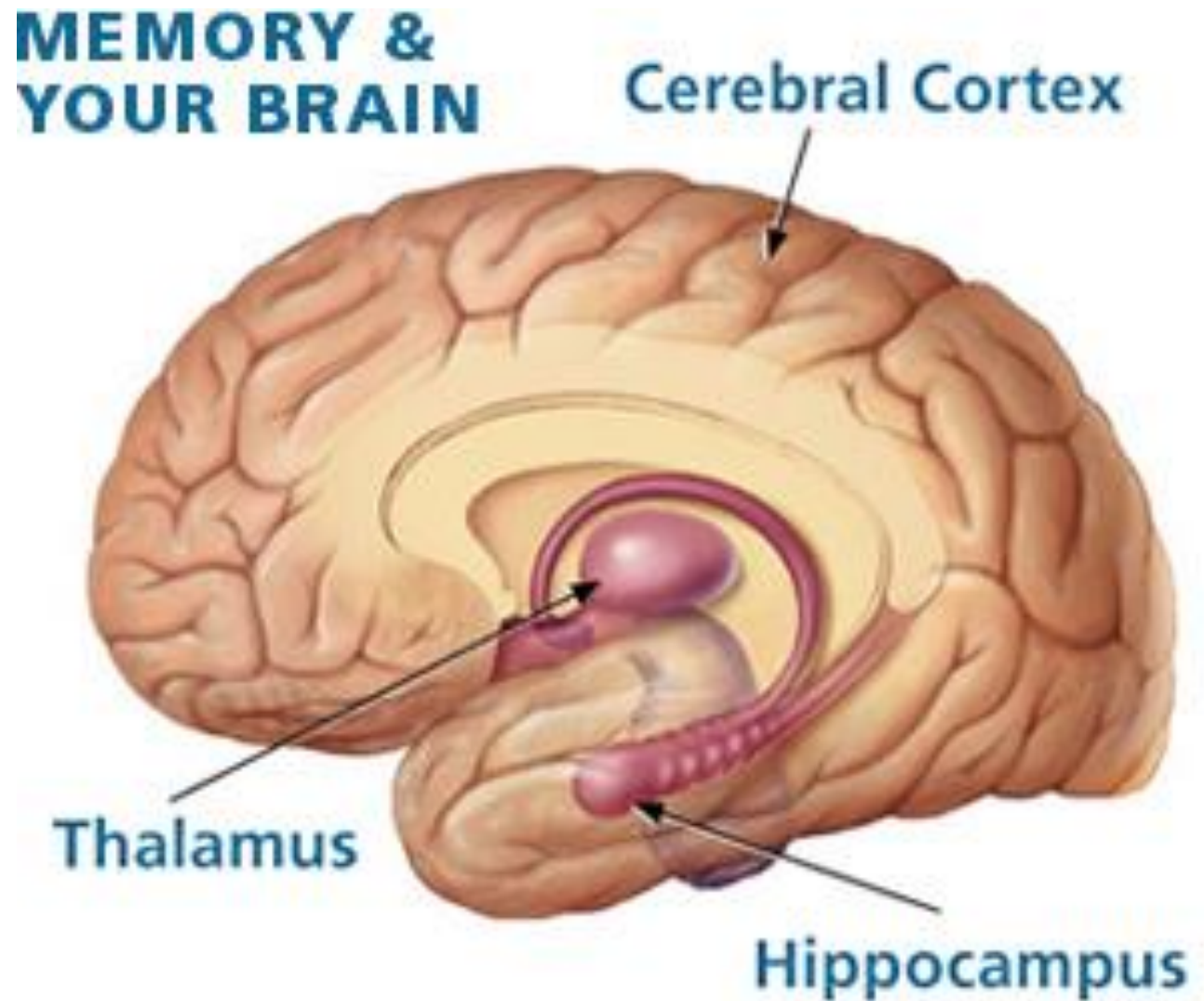
The cortex

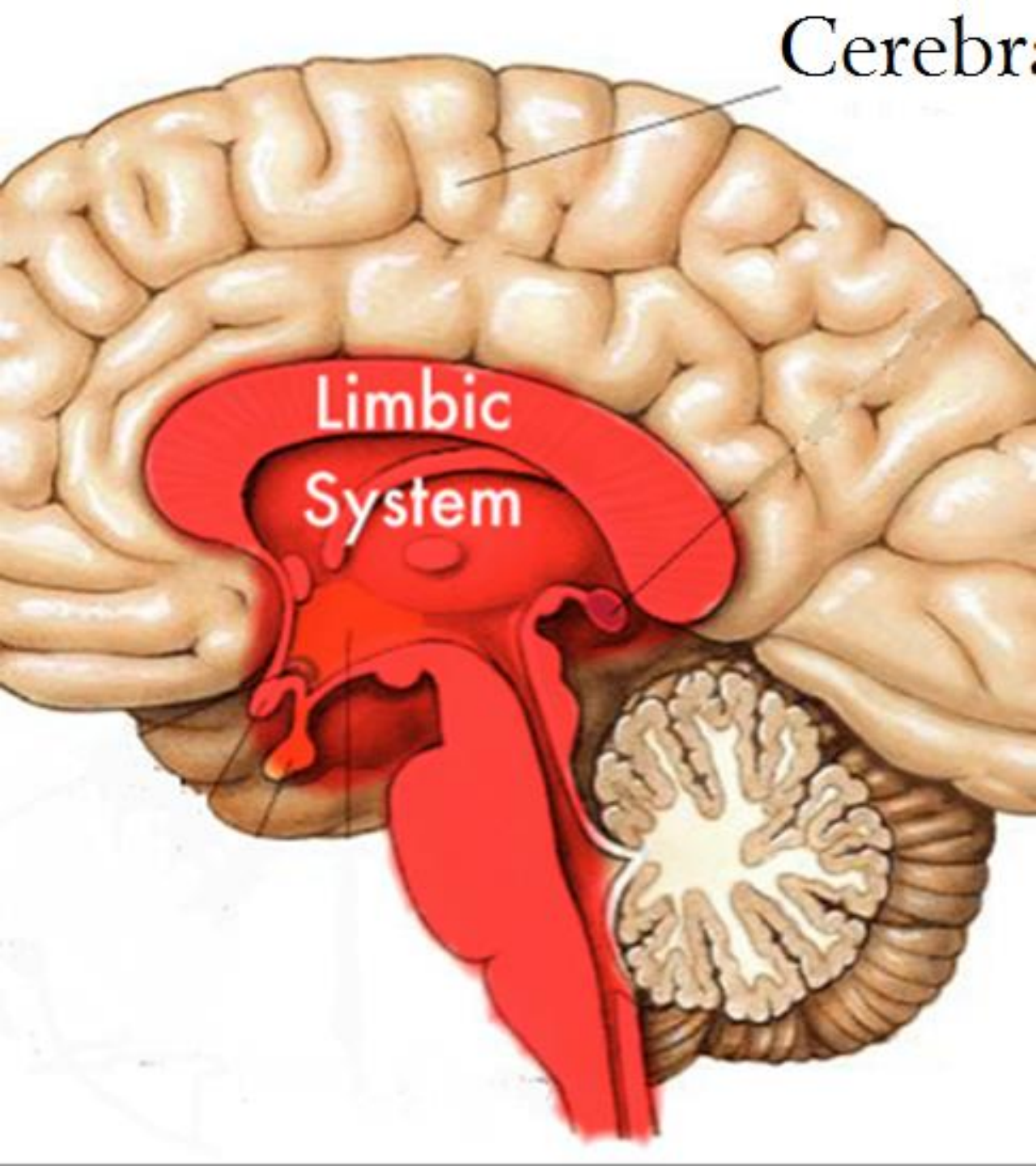
- Outer layering of brain
- Most complex and has most plasticity
- Responsible for:
 - Logical and coherent thinking, reasoning, planning, abstraction and problem solving.
 - Language and communication, decision making.
 - Sensory experiences
 - Impulse control, self reflection long-term consequences, empathy.

Trauma and memories

When we have “normal” memories they are:

- Stored in the cortex
- Experienced as a memory
- Have associated language, one memory can lead to another and so on..





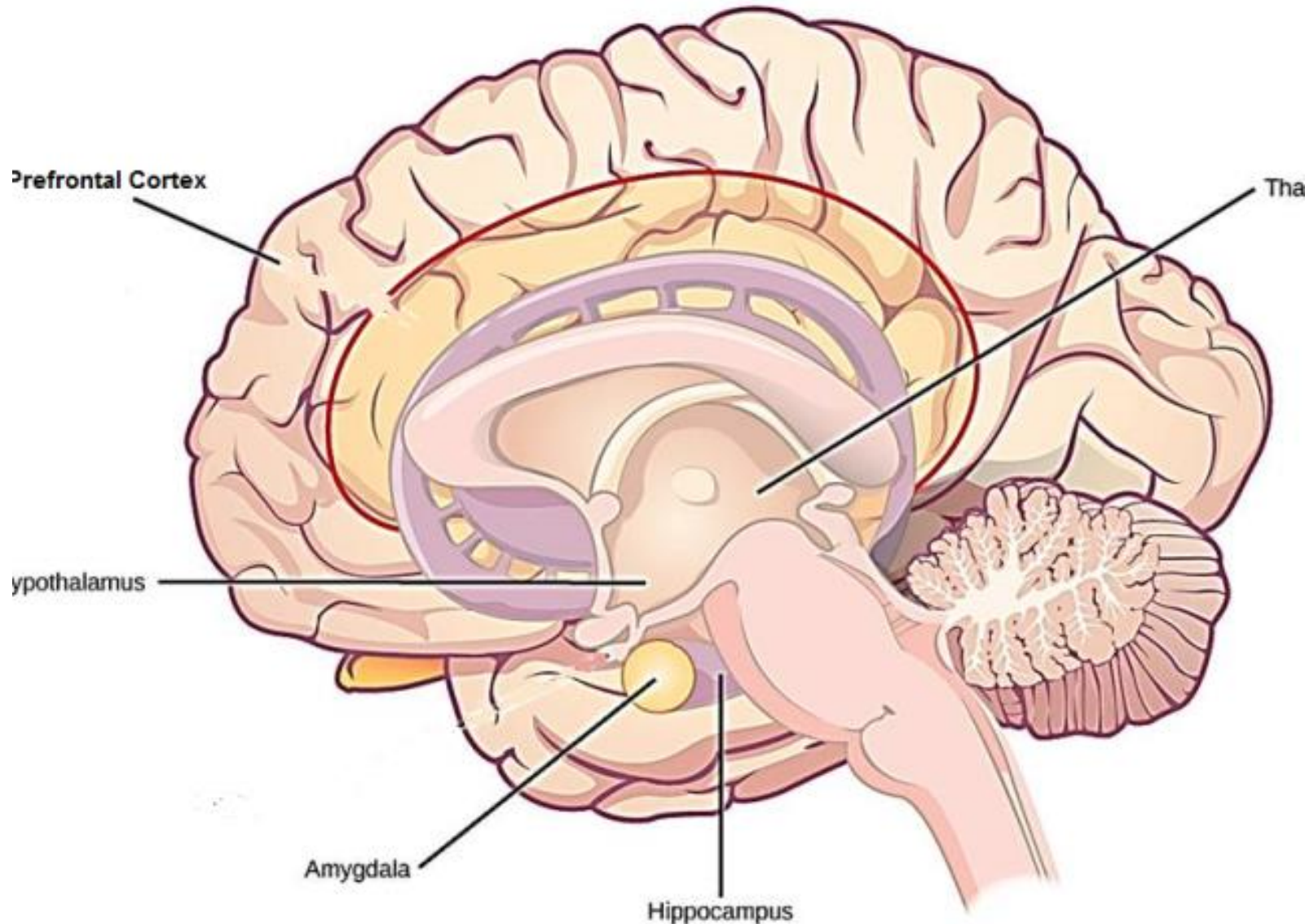
Trauma and memories

- When we have traumatic memories they are:
- Stored in limbic system
- The individual has no control over the retrieval
- They can be triggered by different things
- Re-experienced through flashbacks nightmares, etc.

PTSD and the Brain

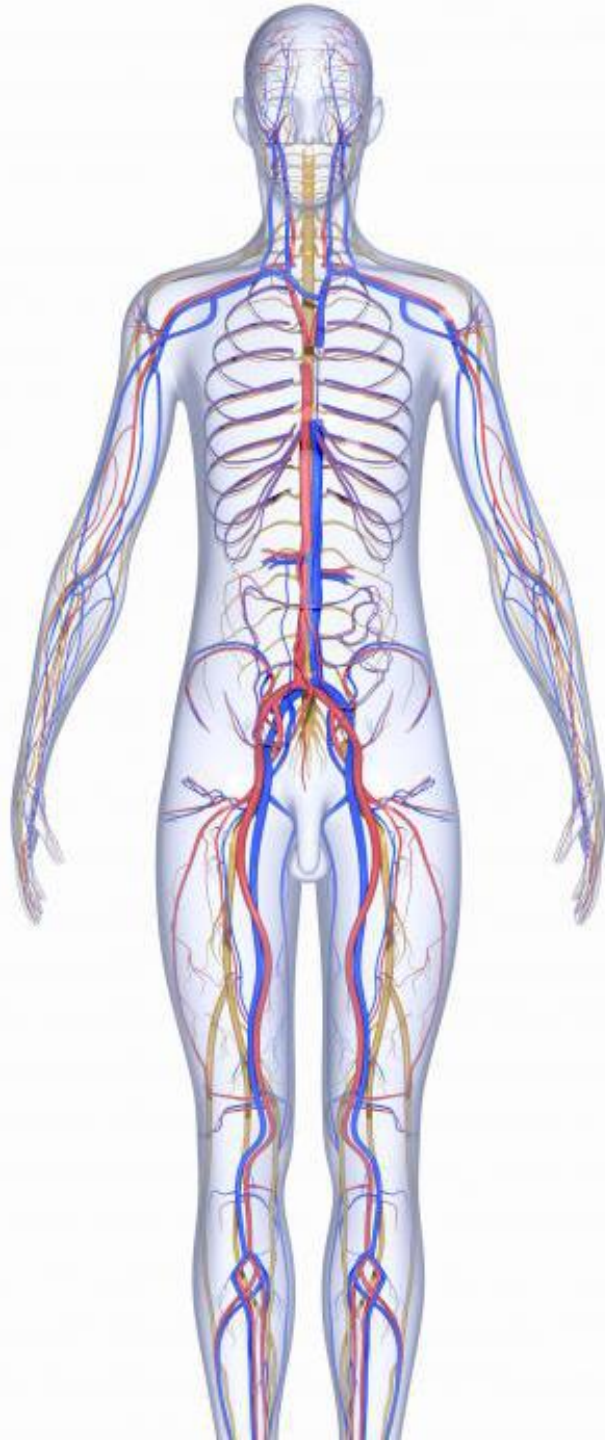
Non-cognitive

- Traumatic experiences and symptoms are housed in the
- Primitive brain
- They are non-conscious, non-verbal and non-cognitive.
- Autonomic nervous system (ANS)



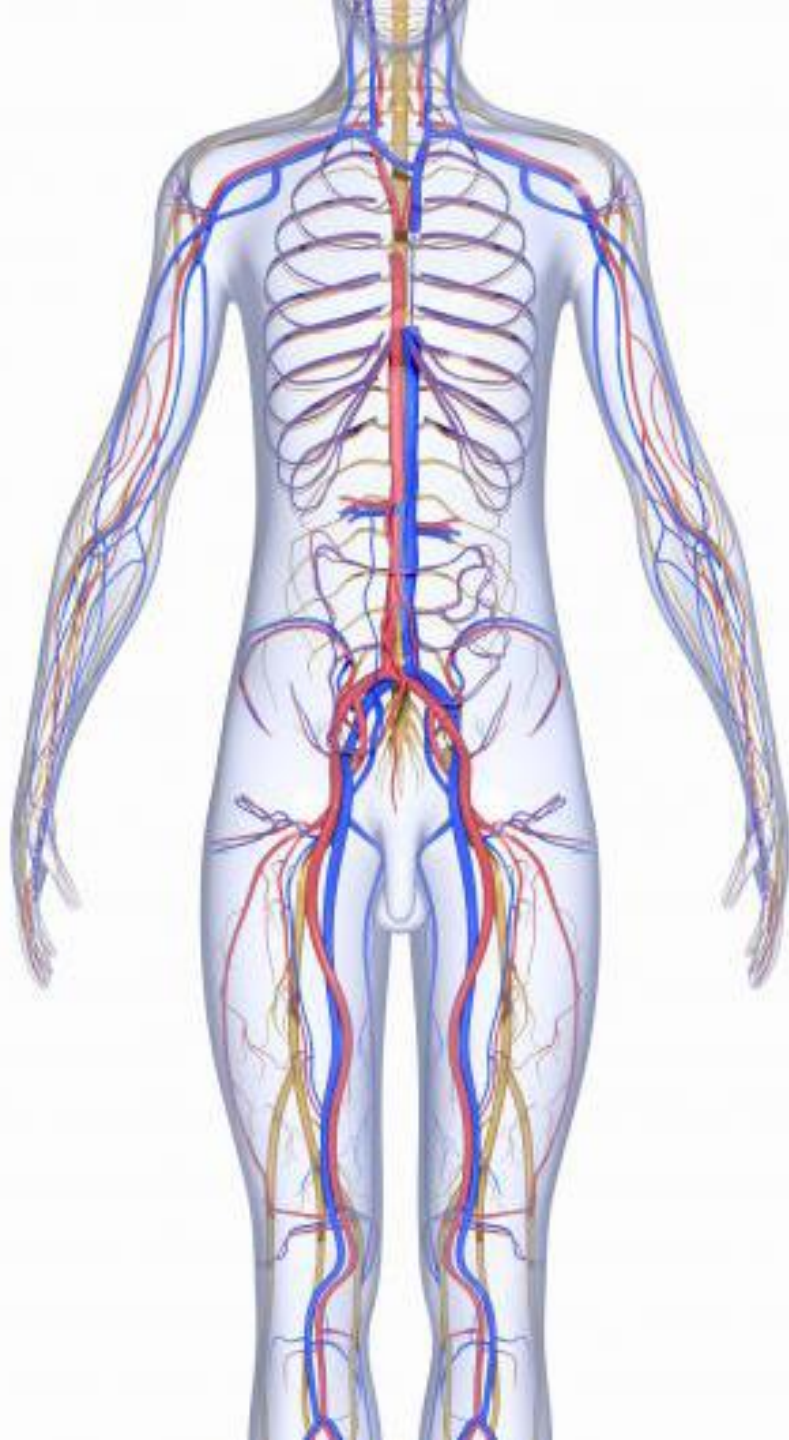
Autonomic Nervous System





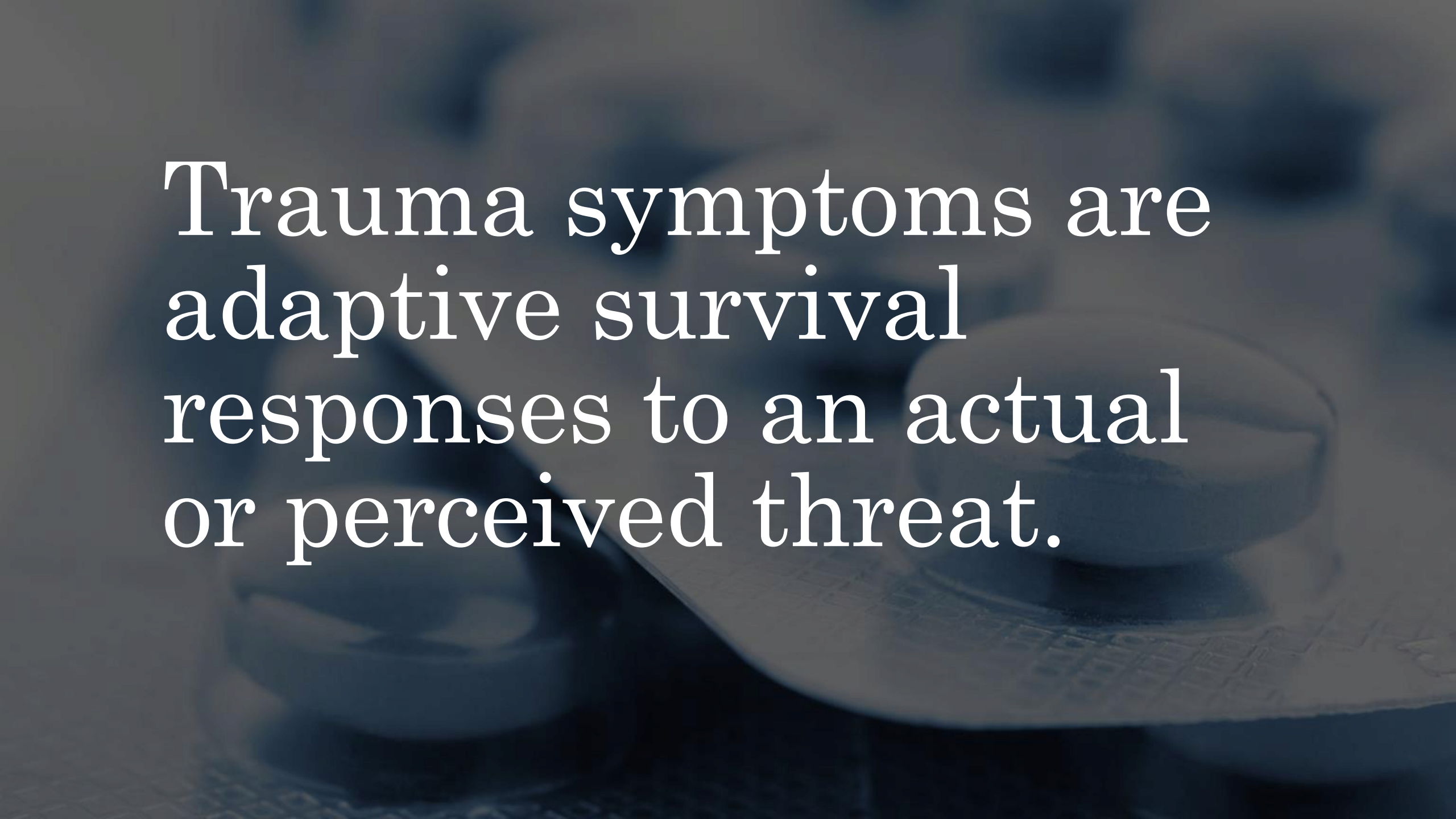
The Autonomic Nervous System

- Regulates the -
- Heart rate
- Temperature
- Pupil dilation, which changes according to the light in the room
- Hormonal balance
- Breathing
- Digestion regulation



The Autonomic Nervous System

- Influences:
- Body sensations
- Emotional state
- Sense of self and others
- World view

A close-up, slightly blurred photograph of a hand holding a pen, poised to write on a notepad. The background is dark and out of focus, emphasizing the hand and the writing instrument. The text is overlaid on the left side of the image.

Trauma symptoms are
adaptive survival
responses to an actual
or perceived threat.



ANS

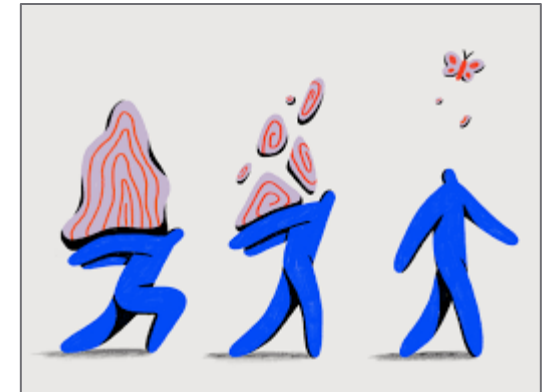
- The ANS is composed of two main branches—the sympathetic nervous system (SNS) and the parasympathetic nervous system (PNS)—that work together to maintain homeostasis within the body.
- However, trauma can disrupt this balance, leading to chronic states of hyper- or hypo-arousal.

How trauma affects the ANS

- The Sympathetic Nervous System (SNS) Activates the "Fight-or-Flight" Response: when faced with perceived threats or danger.
- In traumatic situations, the SNS goes into overdrive to prepare the body to fight, flee, or freeze in response to the danger.
- Chronic Hyperarousal: After trauma, the SNS may remain overactive, even when there is no immediate threat
- Trauma survivors may experience SNS activation when exposed to triggers that remind them of the traumatic event. This can lead to panic attacks, sweating, rapid heartbeat, and a sense of being overwhelmed.
- "Rest-and-Digest" Response: The PNS is responsible for calming the body after a threat has passed. It helps the body return to a state of rest, lower heart rate, and promote recovery processes.
- In cases of extreme or prolonged trauma, the PNS can become overactive, leading to a "freeze" response or a state of hypoarousal. This response may manifest as:
 - Numbness, dissociation, or feeling disconnected from reality.
 - Fatigue, depression, and a sense of "shutting down."

State 1 – mild stress

- Increases energy
- Fear
- Anxiety
- Anger
- Hyper-alertness
- Excitement
- Irritability
- Increased heart-rate and breathing
- Insomnia
- Speedy thoughts
- Somatic tension
- Restlessness
- Feeling nervous



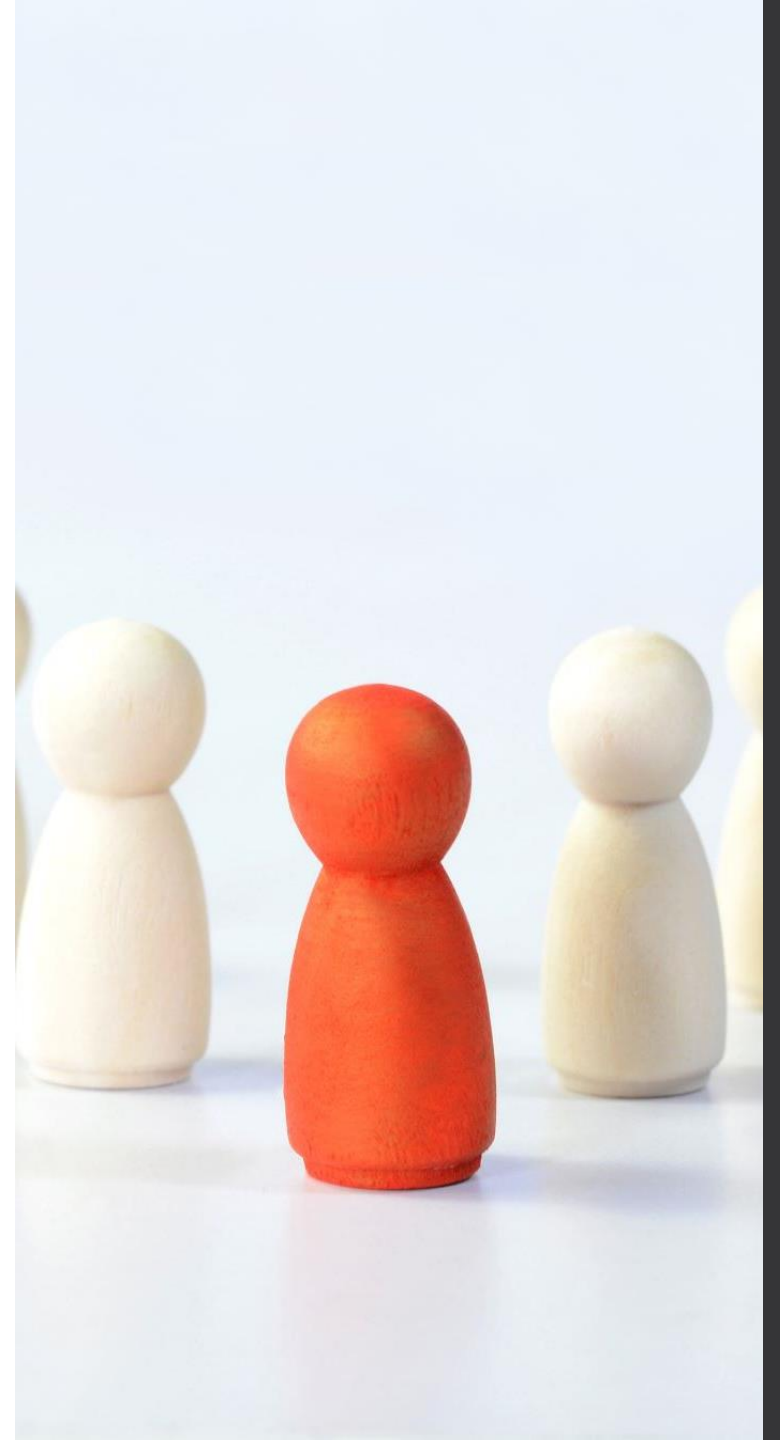


Threat reduction for wild mammals

- When the threat has passed
- They will find somewhere calm to rest
- They go back to the somatic state they were in when the threat occurred
- The symptoms increase in severity and then leave.
- Almost all wild animals DO NOT STAY TRAUMATISED

Human reaction

- With humans we move into that activated state, but we
- ALMOST ALWAYS INTERRUPT THE PROCESS
- Because:
- We don't understand what is happening
- It feels worse before it feels better
- We have a big frontal lobe!



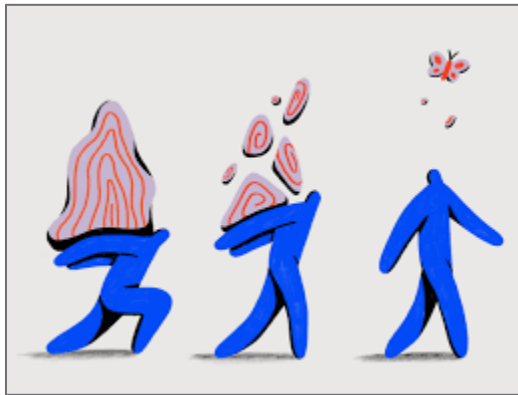


How do we interrupt or stop the process?

- We distract
- Movement
- Mental engagement
- Substances

State 2 - high stress symptoms

- Panic
- Hyperventilation
- Heart racing
- Sweating
- Shaking, trembling
- Rage
- Terror
- Maximum performance
- Very fast thoughts
- Does not and cannot last long.



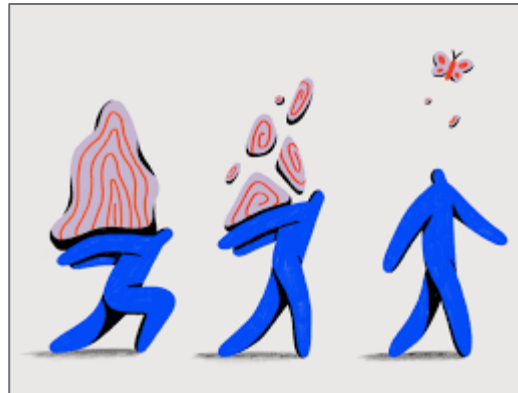
Stress and trauma

- Fighting and flight
- No dissociation so far
- Sympathetic branch of the ANS
- When the threat increases to such a level that we don't think we will make it, a parasympathetic response occurs and the body goes into shut down.



State 3: moderate trauma

- Lethargy
- Sleepiness
- Heaviness
- Collapsed posture
- Feeling cold
- Nausea
- Confusion
- Slow tonight's
- Hopelessness



State 4: severe trauma or dissociation

- Blank effect
- Numbness
- Slackness
- Feelings of unreality
- Complete dissociation





The healing process

- You have to go through the feelings and emotions of state 3, feeling depressed, hopeless.
- State 3 to 2: going from feeling depressed to a high anxiety state.
- State 2 to 1 moving from high anxiety to low anxiety.
- Finally state 1 to 0

Treatments for Trauma

- Trauma-focused cognitive behavioural therapy (TF-CBT)
- Dyadic Developmental Psychotherapy (DDP) with families and foster carers
- Emotionally Focused Therapy (EFT) usually with adults/couples
- Play Therapy e.g. Theraplay.
- Attachment-based therapies, e.g. Attachment-Based Family Therapy (ABFT)
- EMDR - Eye Movement Desensitization and Reprocessing
- Self-Regulation Techniques - Grounding exercises, Breathwork, Mindfulness practices, Yoga - to activate the PSNS to regulate the ANS.
- Polyvagal-informed Therapies
- Social Support – downregulates hyper-arousal or hypo-arousal.
- Parent-Child Interaction Therapy (PCIT)
- Mentalization-Based Treatment (MBT)