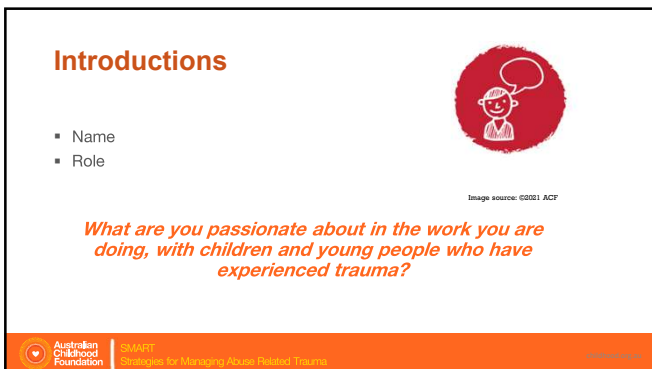


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Outline of our day

- 9.30am Start
- 10.30am Morning Tea Break
- 10.45-11.45 Content
- 11.45- 12pm Short Break
- 12-12.30 reflections for part 2 and close

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Session outline

- **examine** brain development in children
- **understand** the impact of trauma on children’s and young people’s development and functioning
- **develop** strategies for working with traumatised children
- **discuss** whole school or service approaches to supporting traumatised children

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Key learning outcomes – success criteria

- **develop** an enhanced understanding of complex abuse related trauma, with a particular focus on its effects on brain functioning.
- **apply** a framework for responding to children who have been impacted by trauma
- **build** on practice skills and interventions which promote recovery for children in education settings.

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Principles guiding this session



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Your emotional safety is paramount

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SMART PRACTICE




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The importance of you



- Relationships are the key way we learn to engage with the world around us
- Through meaningful connection Oxytocin is realised, a hormone that rejuvenates cell development in the brain
- The quality of relational right – brain to right brain interactions in childhood influence our development in all areas of life

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9

Stop...Pause...Play

HOW TO BE MINDFUL

STOP
When you are doing well, if possible make sure your feet are firmly on the ground.

PAUSE
Focus on your breath. Inhale in slowly, right down into your belly, then exhale completely. Take 5 more slow breaths, being aware of each breath as it reaches out. After several such breaths, you will find that your heart rate has slowed down, your breathing is deeper and you will feel calmer. It is the act of breath that relaxes your body and allows you to feel calmer and think clearly.

PLAY
Respond to your child the way you want to. When you are in this calm state, you will probably be better able to respond in a thoughtful or considered way to your child. You will also be more likely to stay connected to what is going on for your children. You will be more aware of their experience of the situation and how they might be feeling.

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Finding it difficult to stay (want to be) connected?

Well-Connected Brain
Utilizing the front part of the brain

Open Flexible and Adaptive

Stressed out Brain
Utilizing the more primitive middle region of the brain

Closed and Rigid

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Experience Feeling safe in relationship

Mutual Joy Causes Contentment

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Stress

POSITIVE Brief increases in heart rate, mild elevations in stress hormone levels.

TOLERABLE Serious, temporary stress responses, buffered by supportive relationships.

TOXIC Prolonged activation of stress response systems in the absence of protective relationships.

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Trauma

How would you define trauma?

What have you noticed with your students?

Simple	Intergenerational
Complex	Transgenerational
Developmental	Historical/Collective

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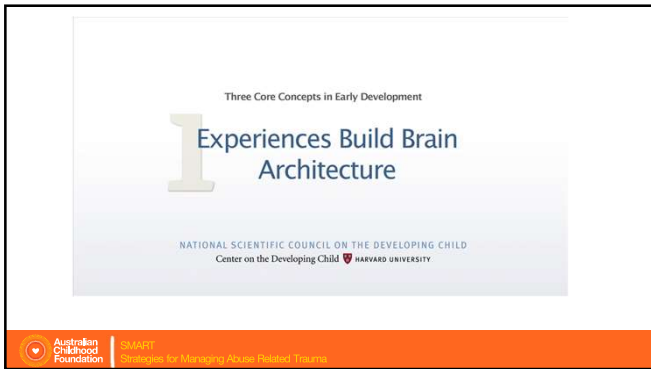
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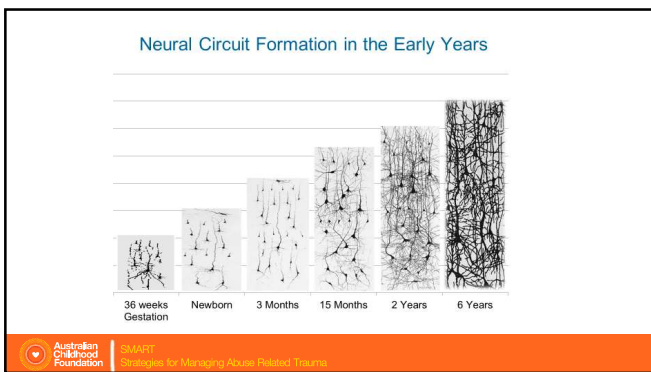
Impact of trauma on the developing brain

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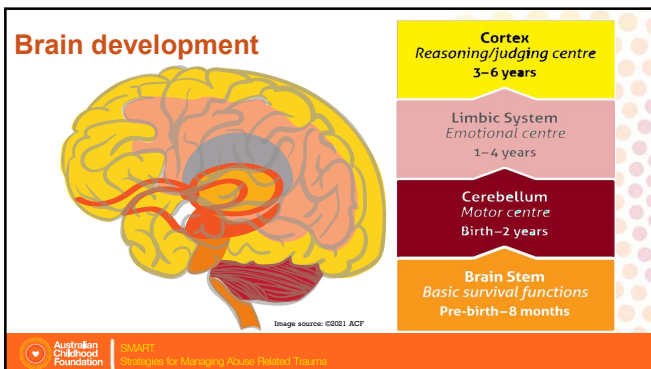
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Strengthening neuronal connections

Provide opportunities for repeated experiences

- Ensure students have an opportunity to practice tasks over and over
- Provide encouragement when tasks are achieved as this will connect to the brains' reward system
- Include lots of physical activities that are repetitive – playing musical instruments, skipping, dancing etc
- Model positive relational connections, emotion, fun and relational attunement




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Brainstem – survival centre

- basic life functions
- first part of our brain to develop & the most developed brain part at birth
- responsible for regulation of our
 - heart rate
 - breathing
 - sucking, swallowing chewing reflexes
 - temperature control
 - blood pressure
 - circadian (sleep) cycle
 - involuntary reflexes




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The brain stem under stress and trauma

- may experience fast or slower heart rate
- shortness of breath or breathing difficulties
- sleep disturbances and unsettledness
- sucking and swallowing and digestion difficulties
- may feel hot or cold or not notice changes in temperature

What do you notice?

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Cerebellum – body and balance centre

- helps us with our posture and balance
- helps us with our coordination and to control our movements
- helps us to know where our body is in space
- helps us with our voluntary movements such as walking and writing




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The cerebellum under stress and trauma

- lack of coordination and balance
- difficulty in maintaining posture
- difficulty in undertaking tasks that require balance
- lack of awareness of their body in space
- difficulty with voluntary movement tasks – walking or writing

What do you notice?

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Growing and regulating the brainstem

Provide activities which are rhythmical and synchronous with others:

- Rhythmic sounds - stories, songs, rhymes & music
- Rhythmic movement
- Rhythmic touch




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SMART PRACTICE Focus – Predictable and Calming

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Growing and regulating the cerebellum

Provide activities which have support and balance, develops gross and fine motor skill elements and are synchronous with others

- Balancing activities
- Stretching – aligning the spine activities
- Spine/lumbar support
- Throwing and catching objects
- Writing, drawing, colouring, making




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Diencephalon – sorting and sending centre

- develops mainly after birth
- sorts out “messages” coming into the brain and sends them out to other parts of the brain
- uses hormones to send signals to body
- hormonal signals tell your body what it needs, eg. food, water, love




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The diencephalon under stress and trauma

- becomes overwhelmed and cannot sort the information
- is unable to send information to the memory and thinking parts of the brain – that pathway shuts down
- it alerts the amygdala which sets of a sensory information response sequence

What do you notice?

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Sensory information response sequence

Three Core Concepts in Early Development

3 Toxic Stress Derails Healthy Development

NATIONAL SCIENTIFIC COUNCIL ON THE DEVELOPING CHILD
Center on the Developing Child HARVARD UNIVERSITY

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Strategies for transforming – diencephalon



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SMART PRACTICE Focus – Responsive and Translating

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Limbic lobe - emotion and memory centre

- develops mainly after birth
- helps us attach an emotion to an experience or memory
- particularly involved with the emotions
- heavily involved in attachment processes
- two important brain parts – the amygdala and the hippocampus are in this part of the brain




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Amygdala

Has three roles:

- Alarm centre - the 'smoke detector' of the brain
- Memory centre - processes & stores implicit memories
- Emotion centre – helps with emotional understanding and regulation




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The amygdala under stress and trauma

- can be over active or under active
- can evoke reminders and flashbacks of the trauma (awakenings)
- may have difficulty in emotional regulation
- may have difficulty in reading facial expressions

What do you notice?

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Strategies for transforming – Amygdala – ALARM CENTRE, IMPLICIT MEMORIES, EMOTIONS




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SMART PRACTICE focus: Responsive, Attuned and Connecting

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Growing and regulating the amygdala

Provide activities that support emotional and social connection, understand the implicit memory needs and that calm and connect

- Explicit emotional literacy teaching
- Calm, sensory supportive environments
- Support the child, reassure
- Stay present – provide safety




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Hippocampus

- explicit memory centre
- provides context to memories
- provides consolidation of information from short term memory to long term memory
- memory puzzle sorting centre




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The hippocampus under stress and trauma

- doesn't function properly - it feels as if the trauma hasn't ended.
- reduction of hippocampal volume up to 25% as a result of high levels of cortisol
- working memory, retention and recall (retrieval) capacity is severely impacted

What do you notice?

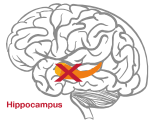
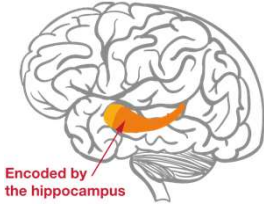


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Implicit and Explicit Memory Systems



Encoded by the hippocampus

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Strategies for transforming – hippocampus – EXPLICIT MEMORIES



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SMART PRACTICE Focus – Responsive and Translating

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Growing and regulating the hippocampus

Provide activities that support memory retention and recall and review and repetition

- Practice activities and learning skills over and over
- Reinforce learning through repetition
- Provide playful opportunities to learn
- Use visuals to assist




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Cerebral cortex – thinking centre

- the largest part of the brain
- associated with higher brain function such as thought and action
- examples of functions:
 - reasoning
 - logic
 - judgement
 - voluntary movement




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Cortical areas under stress and trauma

Unable to:

- use foresight and anticipation, focus or sustain attention
- plan, organise or prioritise or make decisions well
- reflect or have self-awareness
- be enthusiastic, motivated or persist with activities
- use impulse control

What do you notice?

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The Prefrontal Cortex- executive function centre

Final part of the brain to reach maturity in one's mid to late twenties

- self awareness
- reasoning and judgement
- foresight and anticipation
- focusing and sustaining attention
- planning organising and prioritising
- decision making
- reflecting
- enthusiasm, motivation and persistence
- impulse control
- working memory




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Strategies for transforming - cortex



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SMART PRACTICE Focus – Translating and Involving

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Growing and regulating the cortical areas

Provide activities that connect the cortical areas, through choice, problem solving, planning and voluntary movement

- Play thinking and choice games
- Map out and plan activities together
- Break down problems to work through
- Allow choice and options
- Use voluntary movement activities




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Medial Pre-frontal Cortex and the Right Orbito-frontal Cortex

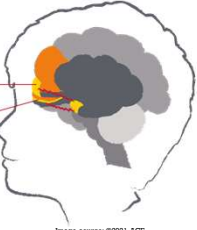


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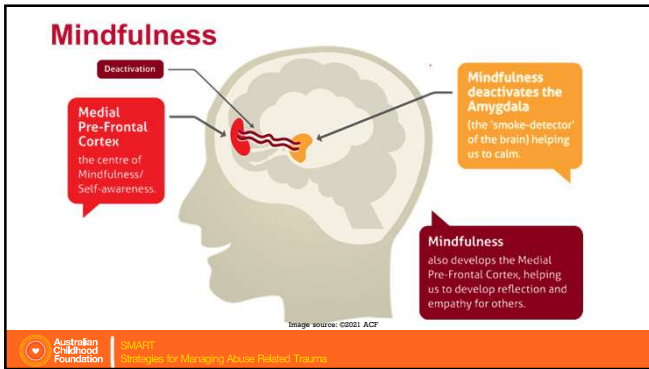
Medial Pre-Frontal Cortex
(the centre of Mindfulness/ Self awareness)

Right Orbitofrontal Cortex
(Regulation of Arousal)

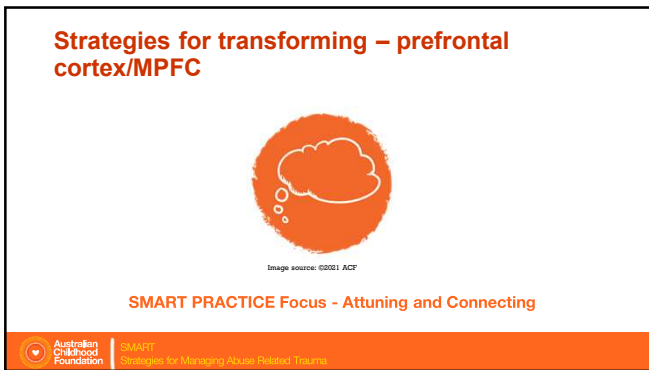
- Mindful awareness/ meditation de-activates the amygdala
- Quality co-regulation de-activates the amygdala

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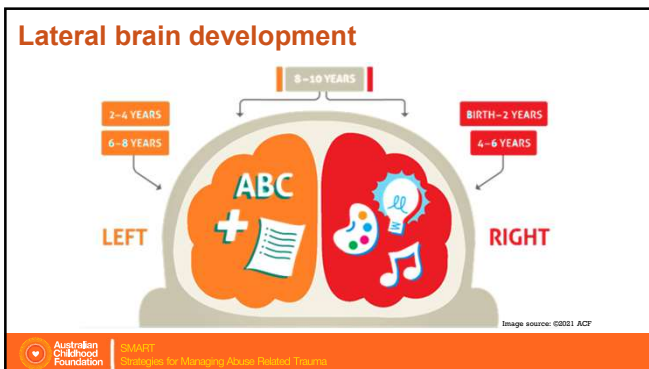
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Hemispheres under stress and trauma

- will struggle to process the content of our words (left hemisphere - Wernicke's area)
- may not be able to speak or articulate (left hemisphere - Broca's area)
- will be tuned into the tone of voice, not the content (right hemisphere)
- difficulties with understanding and knowing feelings and articulating them
- difficulties with tuning into, understanding and responding to social cues in communication
- will be acutely aware of facial expressions, posture, gestures, intensity of movements and eye contact and searching for signs of disapproval, rejection & danger

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Strategies for transforming – building RH/LH connection and the Corpus Callosum



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SMART PRACTICE Focus – Involving, Connecting, and Engaging

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Attachment and the right brain

- Neuroimaging studies show areas of the right hemisphere lighting up in the brains of parents & infants during non-verbal interactions. (Schore, 2003)
- A secure attachment relationship facilitates right brain development and promotes efficient affect regulation.



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The importance of play

“ Play is a neural exercise and I have never met a child who is able to resist being part of this type of exercise ”
Theresa Kestley

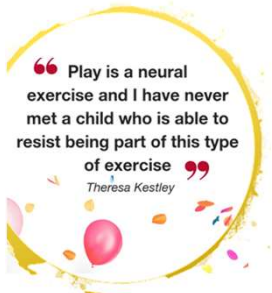


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Neuroplasticity




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Safety and connection

- Children effected by trauma need stable, safe, consistent environments and relationships to help them to be calm and open to learning
- Safety = predictable and consistent routines, relationships and responses




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Neuroception of safety: predictability

Predictability is a metaphor for safety.

“The removal of threat is not the same as the presence of safety” (Porges, 2014)


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Building predictability

Predictability is achieved by:

- Reliable routines e.g. bedtime story/song, start to day
- Using visual cues to help children prepare for the day – sequencing...better to use photos of the actual child, than clipart
- Preparing children for what's coming next
- Talking to baby/child about your intentions
- Same staff & caregiver/s every day





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Transitions

List all the transitions you expect children to traverse in one ordinary day

- **How many are essential?**
- How can you provide safe passage for children through the transition?
 - Safe Person
 - Safe Activity
 - Safe Place


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Building safety and connection

Managing transitions and change is extremely difficult for traumatised children

- transitions are experienced as a threat
- they feel a lose of their sense of safety
- they may revert to survival mode

How can you help children to feel safe during TRANSITIONS?

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Engagement with safety

- understand & respect the child's need for distance in relationship
- increase your tolerance for 'stuckness' and 'crisis'
- practise mindfulness
- use phrases like: *'I noticed that...'*, *'Isn't that interesting!'*
- practise self-care and seek support
- practise calming techniques

(Lorina Fisher)



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Summary – Be a safe harbour

'Be my anchor when I'm all at sea'
PREDICTABLE PERSON

'Ferry me to calmer waters'

SING-SONG VOICE
RHYTHMIC, REPETITIVE ACTIVITY WITH OTHERS
SENSORY INPUT

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Day 2 Strategies – what’s coming up in our next session...

In Day 2 you will

- Be introduced to the Polyvagal Theory and the concept of the Window of Tolerance.
- Explore the different arousal levels and consider supportive strategies for each.
- Explore further the meaning of the behaviours we see in our students.
- Build a toolkit of strategies, focusing on the SMART Audit Tool

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Holding hope



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What are your hopes for the children you work with?

What are your hopes for your school?

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Thank you for your participation...

We appreciate your feedback!




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