

**Webinar 1:  
Understanding Trauma in  
Practice**

**Gosford CatholicCare**  
*Non-Accredited*

Australian Childhood Foundation  
childhood.org.au

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The Australian Childhood Foundation acknowledges the Aboriginal and Torres Strait Islander peoples as the traditional custodians of this land and waters.

We pay our respects to their elders past and present and to their children who are the leaders of tomorrow.

We acknowledge their history and living culture and the many thousands of years in which they have raised their children to be safe and strong.

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**Learning together online**

- Be patient
- Participation and interaction welcome
- Keep your screen turned on
- Mute on when not talking
- Hand up or type into chat
- Ensure space is child free or you have headphones in
- Remember confidentiality

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**Outline**

- Child development
- Brain development
- Neurobiology of trauma
- Relationships
- Trauma informed practice principles
- Self-care
- Understanding
- Responding
- Trauma informed practice
- Working collaboratively



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**Safety statement**

**reminder:**  
 **take care  
of yourself!**

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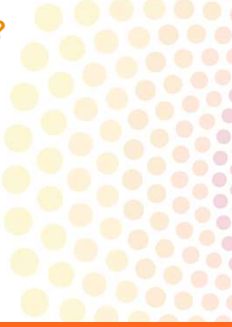

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**Why trauma informed practice?**

- Gives us a knowledge framework for understanding children and young people who have experience abuse, violence and neglect
- Provides information regarding key principles of responding to and supporting traumatised young people that focus on addressing their needs
- Enables specific strategies of responding that are helpful and therapeutic



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## Child development



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## Child development

- Mix of genetics and experience
- Each developmental stage has particular things that we expect to see
- At each stage we face developmental tasks that require the support of our parents and/or carers
- Delays in one area can affect our ability to consolidate skills and progress to the next developmental stage

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## Child development

### *Child development and trauma guide*

- WA government initiative- Every child, every chance
- 7 developmental stages
- Each stage describes key developmental trends and tasks
- Includes emotional, social, physical, cognitive areas from school age onwards

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## Child development

### Using the child development and trauma guide:

- Discuss the allocated developmental stage in your group
- Provide an overview of normal development for the allocated stage
- What might you notice in the allocated stage that you see in the children and young people in youth justice?
- Did you notice any mismatch between the tasks of the allocated stage and the expectations placed on children of that age?



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## Culture is part of development



- Our culture influences our brain development
- Our relationships influence our culture and our culture influences our relationships
- Sensory data is interpreted according to our culture long before our ability to think about and understand our culture



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## Culture in development

'Around the world I have seen that infants not only shape their direct caregiving environment, but ultimately play a role in shaping the larger culture around them, while at the same time the infants are adapting to and shaped by the caregiving they receive and the larger culture that they were born into.'

(Brazelton, 2014)



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## Culture in development

'Aboriginal values, beliefs, identity and language are developed and nurtured within the family. Keeping the family strong and healthy, both physically and spiritually, is vitally important to the continuance of Aboriginal society. Kinship ties dictate a person's behaviour, rights and obligations.'

(Daylight & Johnstone, 1986)



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## Child development



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## Brain development



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## Brain development

- The brain develops through a mix of genetics and environmental factors.
- Key to this development are relationships
- The brain develops sequentially from the bottom up



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1000 grams of the 1100 gram 3 year old brain is attained in the first 12 months of life.



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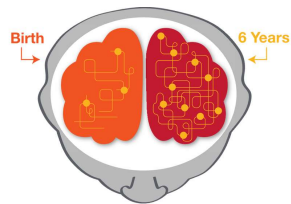
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## Neuronal connections

- The neural system has the ability for one neuron to communicate with up to 10,000 other neurons
- The newborn brain has approximately 100 billion neurons



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### Neuronal development

- Rapid growth occurs from birth to 6 years
- **Critical period** of development
- Healthy neuronal development occurs through **relationships, regulation, repetition**

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### Neuronal development

- Early years – period of **rapid growth**
- Followed by onset of puberty in which **synaptic pruning and formation of new neurons** occurs.

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### Sequential brain development – building blocks

- The Thinking brain**  
3-5 Years
- The Emotions and Memory Brain** - Birth to 4 years
- The Movement Brain**  
Birth – 2 years
- The survival brain**  
Pre birth to 8 months

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### Brainstem - basic life functions

- Basic life functions
- First part of our brain to develop
- This is the most developed brain part at birth
- Responsible for our heart beat, breathing, sucking, temperature control, blood pressure



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### Cerebellum- movement and balance

- Helps us to know where our body is in space
- Helps us with our posture and balance
- Helps us not to fall over and to control our movements
- Has its own connective pathways between the 2 halves- cerebellar vermis



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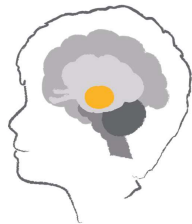
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### Diencephalon - sorting & sending centre

- This area of the brain develops mainly after birth
- It sorts out messages coming into the brain and sends them
- It uses hormones to send signals to body
- Hormonal signals tell your body what it needs, eg. food, water, love



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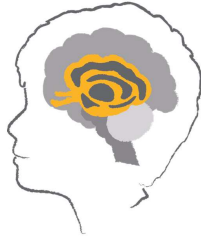
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### Limbic lobe- emotional gateway

- The part of the brain that helps us attach an emotion to an experience or memory
- This part of the brain is particularly involved with the emotions of fear and anger
- Also heavily involved in attachment processes
- This area develops mainly after birth



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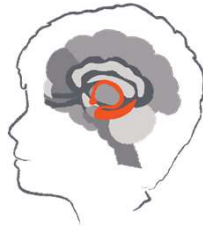
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### Hippocampus – Brain’s historian

- Explicit memory system
- Develops approximately 2-3 years of age
- Provides context to memory and embeds long term memory



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### Amygdala – smoke alarm

- Detects threat
- Develops from birth
- Learns by association
- Involved in implicit memory processes



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### Cerebral cortex- complex thinking

- 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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### The prefrontal cortex- executive function

- Responsible for executive functions, such as judgement, reasoning, and self awareness
- Final part of the brain to reach maturity in one's mid 20s
- Under reconstruction in adolescents from the age of approximately 12 years



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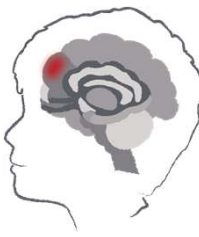
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### Medial prefrontal cortex

- Associated with perceptions of self and similar others
- Known as centre for mindfulness
- Involved in maternal bonding – the parent child dyad and inter-subjectivity



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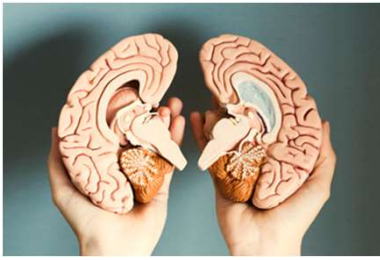
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### Lateral hemispheric development



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### Hemispheric integration

#### Left Hemisphere

- Evaluates language content
- Optimistic hemisphere
- Understands beginning, middle and end
- Learns from the past and experiences
- Looks for patterns



#### Right Hemisphere

- In the present moment
- Eye contact
- Facial expression
- Tone of voice
- Posture
- Gesture
- Intensity
- Is mute
- Grasps the whole

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### Corpus Callosum



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## Brain development



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## Strategies for building healthy brain development

Brainstem & Diencephalon	Basic survival & sensory processing	Pacification or stimulation. Activities in the child's preferred sensory modality
Cerebellum	Coordination of movement	Using music, rhyme and movement activities
Limbic	Emotional processing	Building relational connection through plays, animals, games
Cortex	Thinking processes	Linking experiences and sensations to words and descriptions
Prefrontal cortex	Analytical and abstract thinking	Challenges and safe risk taking activities

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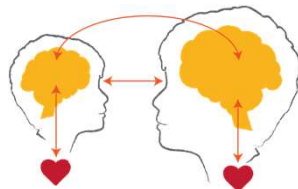
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## The right hemisphere in relationship

### These primary relationships contribute to:

- stored internal working models of primary relationships recorded in the right hemisphere
- the perception of emotion in self and others, enabling empathy and humour.



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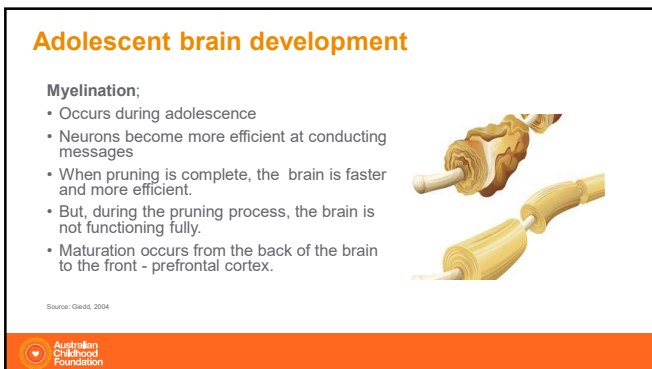
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### The adolescent brain



The adolescent brain is not simply an immature brain or a rough draft, but rather an exquisitely sensitive, highly adaptable creature, wired almost perfectly for the job of moving from the safety of home into the complicated world outside.

*(Jay Giedd)*



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### The adolescent brain

The Pre-frontal cortex is under renovation



- The Pre-frontal cortex isn't fully integrated (developed) until a person's mid 20's. Is changeable throughout life.
- Young people use different areas of the brain to function in lieu of the developing pre-frontal cortex.



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### Adolescent brain development




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### Risk taking behaviours

Heightened sensation seeking + Under-developed self-regulatory control = Increased RISK TAKING

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### Vulnerabilities

- Behaviours associated with an under developed pre-frontal cortex:
  - Short attention span
  - Impulsivity and increased risk taking
  - Procrastination (lack of motivation or internal reward systems)
- Disorganisation (trouble working through long term goals)
- Poor Judgement and problem solving
- Reduction in ability to see things from other's perspective

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### Opportunities

- Synaptic formation and pruning
- A foundation for future behaviours
- Pubescent hormonal influxes
- Ignited passions can result in wonderful things, the creation of literature, art, sport, and a focus toward changing the world

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## Neurobiology of trauma



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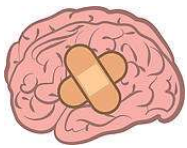
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## Defining trauma



- Any single, ongoing or cumulative experience which:
- is a response to a perceived threat
- overwhelms our capacity to cope
- feels/is outside our control
- can produce physical, psychological, spiritual, emotional and developmental responses

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## Defining trauma

- Simple trauma
- Complex relational trauma
- Developmental trauma
- Transgenerational and intergenerational trauma
- Collective trauma
- Epigenetics

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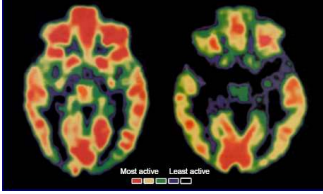
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### Brain development

Brain scan of a healthy infant



Brain scan of a Romanian orphan infant who has been through severe deprivation.



Most active    Least active  
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### Impact of trauma

Using your child development and trauma guide:

1. What are some of the impacts of trauma for your allocated age group?
2. Do any of these impacts remind you of the children you care for?

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### Impact of trauma

Areas impacted;

- Arousal
- Memory
- Attention
- Relationships

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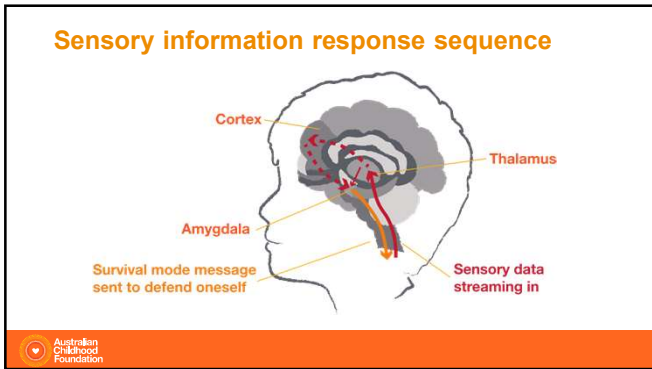
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### Arousal - Affect dysregulation

Extremes of affect state:

- **Terror** replaces fear
- **Despair** replaces sadness
- **Rage** replaces anger

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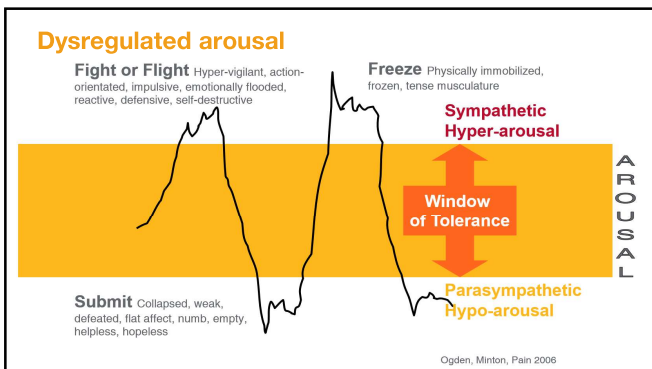
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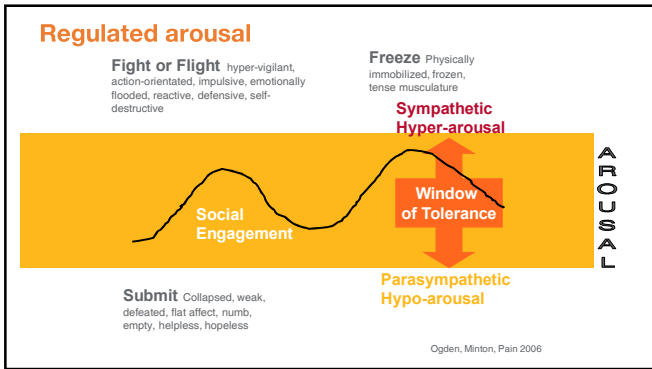
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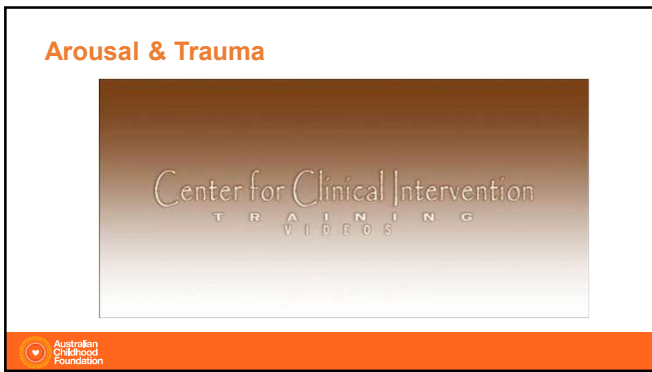
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### Arousal

- Awareness of your own triggers
- Awareness of the young person's triggers

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## Memory and trauma

- Fragments, always tagged with the intensity of the first experience
- Isolated images, bodily sensations, smells and sounds
- Almost impossible to make sense of the present experience ie: why they have been triggered



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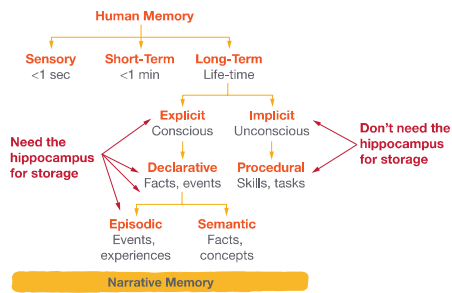
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## Memory



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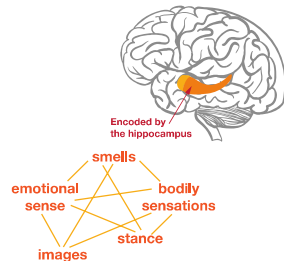
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## Encoding memory

- |   |   |
|---|---|
| <p><b>Implicit Procedural Memory</b></p> <ul style="list-style-type: none"> <li>• Non-verbal</li> <li>• Separate fragments</li> <li>• Emotional/sensational</li> <li>• Outside conscious awareness</li> </ul> | <p><b>Explicit Memory</b></p> <ul style="list-style-type: none"> <li>• Develops at 2-3 years of age</li> <li>• Consciously retrieved</li> <li>• Eg. Autobiographical story</li> </ul> |
|---|---|



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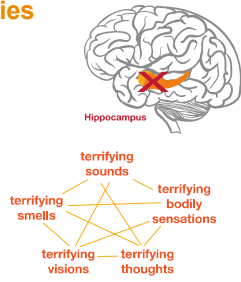
## Encoding traumatic memories

### Implicit Procedural Memory

- Non-verbal
- Separate fragments
- Emotional/sensational
- Outside conscious awareness

### Explicit Memory

- Develops at 2-3 years of age
- Consciously retrieved
- Explicit memory systems can become shut down when trauma is present



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## Attention and trauma



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## Attention and trauma



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## Attention and trauma

- Attention held on the experiences of trauma
- Difficult to focus on anything else.
- Often misdiagnosed with ADHD
- Cortex is often not fully 'online' as their attention is focused on survival.
- Impacts on learning

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## Neuroplasticity



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## Strengths



What are the strengths you identify in the young people you work with?

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