





The 6R's of Effective Therapeutic Interventions



Objectives

- Participants will gain knowledge on the principles of brain development.
- Participants will understand the impact of childhood trauma and neglect on brain development.
- Participants will be introduced to the 6 R's of effective therapeutic interventions.



Special thanks to the work of Dr. Bruce D Perry, MD, PhD and The ChildTrauma Academy, who have granted their permission for the use of their slides.

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PRINCIPLES OF BRAIN DEVELOPMENT

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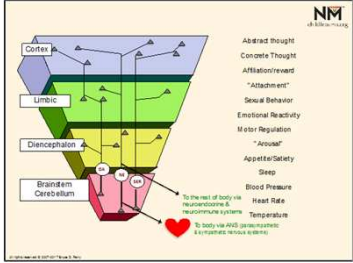
Principle 1

The brain is organized in a hierarchical fashion such that all incoming sensory input first enters the lower part of the brain.



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Principle 2

Neurons and neural systems are designed to change in a “use dependent” fashion.



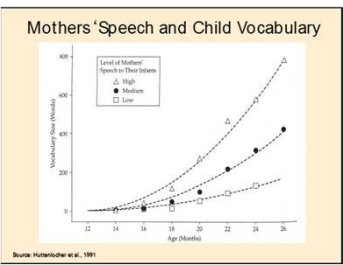
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Mothers' Speech and Child Vocabulary



Source: Huttenlocher et al., 1991

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Windows of Opportunity



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Patterned, Repetitive Activity Changes the Brain.....
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 Patterned, Repetitive Activity Changes the Brain.....

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Principle 3

The brain develops in a sequential pattern.

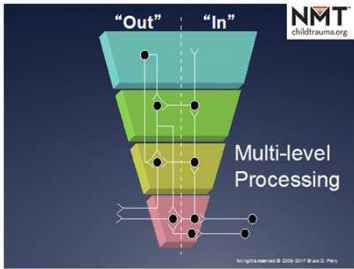


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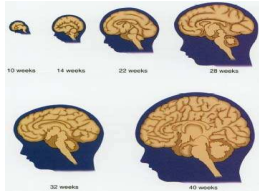
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Principle 4

The brain develops most rapidly early in life.

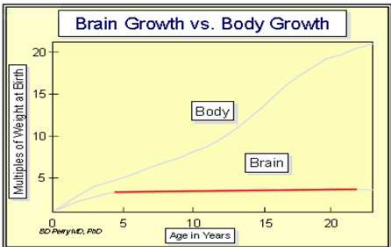


10 weeks 14 weeks 20 weeks 28 weeks
32 weeks 40 weeks

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Brain Growth vs. Body Growth




Age in Years	Brain (Multiples of Weight at Birth)	Body (Multiples of Weight at Birth)
0	1	1
5	~3	~3
10	~5	~10
15	~7	~15
20	~8	~20

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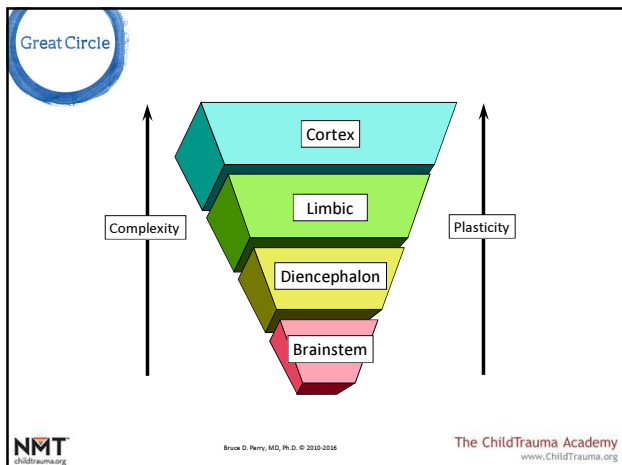
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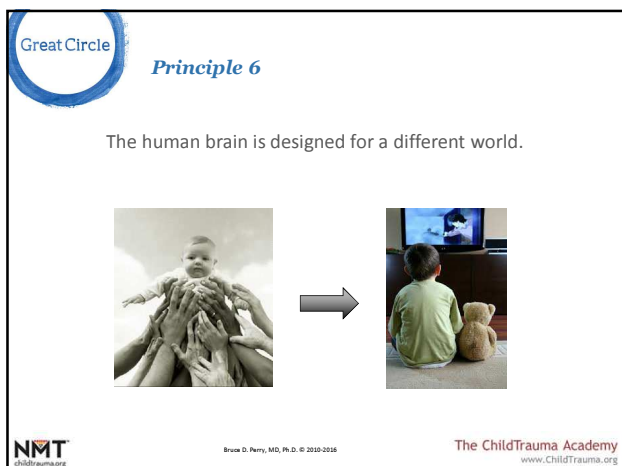
Principle 5

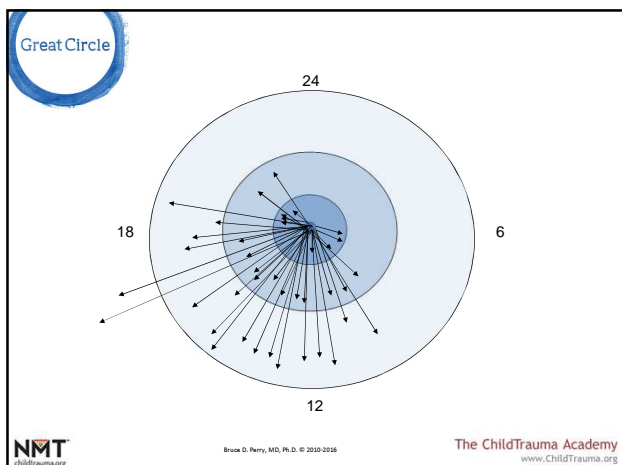
Neural systems can be changed but some systems are easier to change than others.

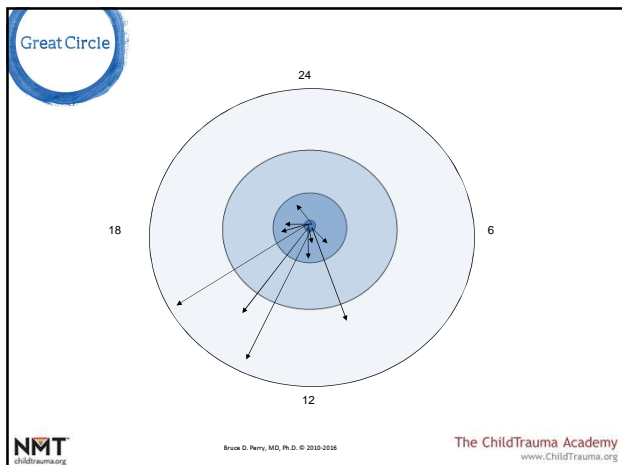


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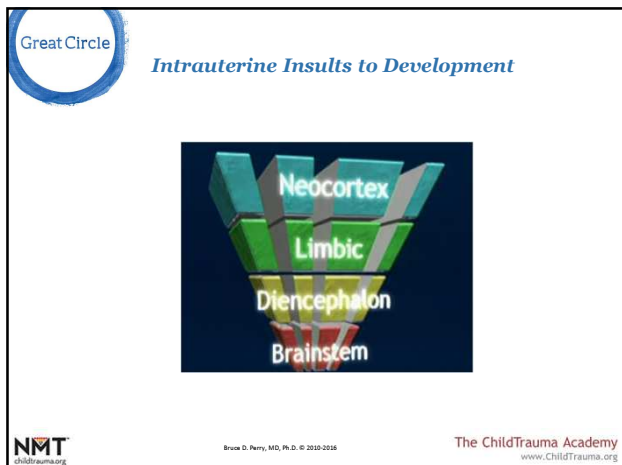




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THE IMPACT OF EARLY CHILDHOOD TRAUMA AND NEGLECT

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The Adaptive Response

The diagram illustrates the adaptive response to a threat. At the top, a pink starburst labeled "Threat (real or perceived)" has two arrows pointing down to two boxes: "Arousal Continuum" on the left and "Dissociative Continuum" on the right. A double-headed arrow connects these two boxes, indicating a spectrum of responses.

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Differential "State" Reactivity

The graph plots emotional states on the y-axis (Calm, Alert, Alarm, Fear, Terror) against stress levels on the x-axis (Baseline, Stress, Extreme Stress). A red curve labeled "Sensitized" rises from the baseline to the top of the graph. A blue curve labeled "Neurotypical" rises from the baseline to the middle. A green curve labeled "Resilient" rises from the baseline to the bottom. The area between the red and blue curves is shaded pink, and the area between the blue and green curves is shaded green.

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State Dependent Functioning

Functional IQ	110-100	100-90	90-80	80-70	70-60
Sense of Time	Extended Future	Days	Hours	Minutes	Loss of Sense of Time
Heart Rate	70-90	90-100	101-110	111-135	135-160
Hyperarousal Continuum	Rest	Vigilance	Resistance	Defiance	Aggression
Dissociative Continuum	Rest	Avoidance	Compliance	Disassociation	Fainting
Primary Secondary Brain Areas	NEOCORTEX Subcortex	SUBCORTEX Limbic	LIMBIC Midbrain	MIDBRAIN Brainstem	BRAINSTEM Autonomic
Cognition	Abstract	Concrete	Emotional	Reactive	Reflexive
Mental State	Calm	Alert	Alarm	Fear	Terror

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THE NEUROSEQUENTIAL MODEL OF THERAPEUTICS

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Developmental History

The section illustrates elements of the degree and timing of risk (R), resilience (R), and maltreatment (M) related experiences. The balance between risk and resilience factors provides the developmental risk (or the blue line in bottom graph).

Developmental History Values

Age Group	Resilience	Risk	Maltreatment
Infancy	10	10	10
Toddler	10	10	10
Preschool	10	10	10
School	10	10	10
Adulthood	10	10	10

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Metrics

Current CNS Functionality

Category	Item	Score	Total
Cognition	1. Attention	10	10
	2. Memory	10	20
	3. Executive Function	10	30
	4. Language	10	40
	5. Social Interaction	10	50
	6. Emotional Regulation	10	60
	7. Self-Concept	10	70
	8. Problem Solving	10	80
	9. Decision Making	10	90
	10. Overall Functionality	10	100
Emotion	1. Self-Regulation	10	10
	2. Empathy	10	20
	3. Social Skills	10	30
	4. Relationship Building	10	40
	5. Conflict Resolution	10	50
	6. Emotional Stability	10	60
	7. Resilience	10	70
	8. Coping Mechanisms	10	80
	9. Stress Management	10	90
	10. Overall Emotion	10	100
Behavior	1. Rule Following	10	10
	2. Impulse Control	10	20
	3. Peer Relationships	10	30
	4. Academic Performance	10	40
	5. Social Interaction	10	50
	6. Emotional Regulation	10	60
	7. Self-Concept	10	70
	8. Problem Solving	10	80
	9. Decision Making	10	90
	10. Overall Behavior	10	100

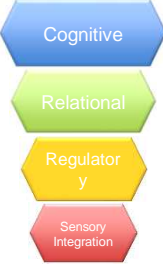
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Stage-Focused Interventions



- Four Functional Domains
- Because the brain develops sequentially, early trauma can affect subsequent stages of neurodevelopment.
- Dysregulation “shuts down” the upper part of the brain making cognitive (“top-down”) strategies ineffective.

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THE 6R'S

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Positive Education and Therapeutic Experiences

- Relational
- Relevant
- Repetitive
- Rewarding
- Rhythmic
- Respectful




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Relational

- Human beings are relational creatures
- Most information we learn is the result of human interactions, in traditionally relationally-rich environments
- Early childhood interaction with adults plays a significant part as children grow in their opinions, or “template,” of people in general



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Relevant

- Learning must be developmentally relevant
- Adults must meet children at their developmental level
- This can be difficult to remember when a child is chronologically older and may possess some age-appropriate skills but have “gaps” in other areas
- Know the stage

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Repetitive

- Learning requires repetition
- Neural connections are created, “sculpted,” and strengthened
- New “templates” take time to form
- Learning must be even more repetitive when learning skills for which the developmental window has passed. (e.g. learning to self-regulate or to trust adults as an adolescent)




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Great Circle **Rewarding**


- Learning must be in some way rewarding for a child to want to do it
- For the typical student, relational rewards are the most powerful (i.e. positive verbal or non-verbal affirmations from teacher or parent)



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Great Circle **Rhythmic**

- Rhythm is regulating (down-up regulation)
- First exposure in-utero, guided by a mother's heartbeat
- Rhythm becomes associated with the feelings of being calm and cared for
- Can help move children to a state in which learning can take place
- Information is more easily absorbed in rhythmic form



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Great Circle **Respectful**

- Educational and therapeutic success requires that an adult be respectful of the child, her family, her culture, and her background
- Respectful care-givers acknowledge and celebrate differences in backgrounds and are conscious of these differences in their instruction



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Present, parallel, patient... allow multisensory, repetitive activity
Present, overwhelmed, frustrated, angry... escalates incidents/restraint

Legend: **Threat** (Red), **Fear** (Pink), **Alarm** (Orange), **Alert** (Yellow), **Calm** (Green)

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Reason
Relate
Regulate

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Check Your Approach!

Trauma Informed Care: A Recipe for Educational and Therapeutic Experiences

Practice	Yes	No
Practice 1: Meet the individual, not the stereotype. Assume the best of all people.		
Practice 2: Meet the needs of each person's developmental level of their skills and experiences, not the average.		
Practice 3: Meet the individual's unique needs for safety, stability, and predictability. Avoid and minimize trauma triggers.		
Practice 4: Meet people in a trauma-informed way, with the same respect and dignity as everyone else.		
Practice 5: Meet the individual's needs, not the system's needs. Meet the individual's needs, not the system's needs.		
Practice 6: Meet the individual's needs, not the system's needs. Meet the individual's needs, not the system's needs.		
Practice 7: Meet the individual's needs, not the system's needs. Meet the individual's needs, not the system's needs.		
Practice 8: Meet the individual's needs, not the system's needs. Meet the individual's needs, not the system's needs.		
Practice 9: Meet the individual's needs, not the system's needs. Meet the individual's needs, not the system's needs.		
Practice 10: Meet the individual's needs, not the system's needs. Meet the individual's needs, not the system's needs.		

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