The Neuroscience of Trauma and the 6R’s of Effective Therapeutic Interventions

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Meet the Presenters

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Special thanks to the work of Dr. Bruce D Perry, MD, PhD and the Neurosequential Network, who have granted their permission for the use of their slides.
**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 6R’s of effective therapeutic interventions.

**The Impact of Early Childhood Trauma and Neglect**

- Cognitive
- Abstract Thought
- Concrete Thought
- Affiliation/Reward
- Relational
- Attachment
- Sexual Behavior
- Emotional Reactivity
- Regulation
- “Arousal”
- Appetite/Satiety
- Sleep
- Survival
- Blood pressure
- Heart Rate
- Temperature
The Stress Response System

- Unpredictable
  - Severe
  - Uncontrolled
  - Vulnerability

- Predictable
  - Moderate
  - Controlled
  - Resiliency

The Adaptive Response

- Threat (Real or Perceived)
  - Adrenal Continuum
  - Dissociative Continuum

Calm
Alert
Alarm
Fear
Terror

Thinking
Feeling
Survival

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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.
**PRINCIPLE 2**

The brain develops in a sequential pattern.

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**PRINCIPLE 3**

The brain develops most rapidly early in life.
Principle 4

Neurons and neural systems are designed to change in a “use dependent” fashion.
Patterned, Repetitive Activity Changes the Brain...

Principle 5

Neural systems can be changed but some systems are easier to change than others.
The human brain is designed for a different world.
Positive Education and Therapeutic Experiences

Relational
Relevant
Repetitive
Rewarding
Rhythmic
Respectful

The Case of J
- 8 y/o, grade female
- Kinship placement
- Severe abuse and neglect
- Limited contact with biological mom
- School disruption / therapeutic school
- Temper tantrums / screaming
- Running out of classroom
- Colored at desk
- Put puzzles together
- Hide under desk
- Napped often

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
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.

REPETITIVE

- Neural connections are created, “sculpted,” and strengthened.
- New “templates” take time to form.
- Learning requires repetition.
- Learning must be more repetitive when learning skills for which the developmental window has passed.

REWARDING

- Learning must be in some way rewarding for a child to want to do it.
- Relational rewards are the most powerful.
Rhythmic

- Rhythm is regulating
- 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

Respectful

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

The Case of J

- Coloring = repetitive, relevant, respectful
- Puzzles = rewarding, relevant, respectful
- Naps = relevant, respectful
- Walks = relational, rhythmic
- Classroom breaks = relational, respectful

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Scenario #1

Justin is a five-year-old boy that was recently placed in a new foster home. His first week there he slept through the night, sleeping 10 hour blocks and taking naps in the afternoon. Shortly thereafter, he started waking in the middle of the night having temper tantrums. He would cry in a full rage and sweat profusely. His foster mom would enter his bedroom saying, “everything is okay I’m right here, everything is okay I’m right here, everything is okay I’m right here”, turn on the light and ask him to stand up out of bed. From there she would pick him up and rock him back to sleep. Before she left the room, she would tuck him into bed and pat his back to make sure that he was fully asleep.

Scenario #2

Megan is an eight-year-old who has just entered foster care. She is below average weight. Her first two days in her foster home she refused dinner and both nights complained of hunger when it was time for bed. In the middle of the night she would sneak out of her room into the kitchen and take granola bars. On the third day, her foster parent offered her a plea and allowed her to eat dinner away from the rest of the family.

Check Your Approach!

Relational = I must do whatever I can to improve the number and quality of human relationships.

Relevant = I must be aware of developmental levels and offer appropriate content.

Rewarding = I must be cognizant of everyone’s need for success and joy.

Rhythmic = I must use rhythm to teach and regulate.

Repetition = I must recognize the brain changes through repetitive processes.

Respectful = I must respect cultural backgrounds of everyone.
Questions / Comments

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Questions and Comments

Conference Announcements

- For all conference related information, download the Conference App. See TV screens in registration area for additional information.
- Please complete the Workshop Evaluation: http://bit.ly/2IlxOVh
- Please complete the Full Conference Evaluation: http://bit.ly/2LM0rgF
- Support this year’s Annual Project through raffles, bingo, Monday power hour, and service project. Visit the activities desk for additional information.
- Make plans to participate in evening activities:
  - Hospitality from 5:00 to 7:00 p.m.
  - Bowling from 6:00 to 8:00 p.m.
  - Trivia Night beginning at 7:00 p.m.
  - Dance beginning at 10:00 p.m.
- For more information on MSCA, like us on Facebook (mymsca) and follow us on Twitter (@myMSCA).