

Trauma and its Impact on the Developing Child

Melissa L. Hoffmann, Ph.D
UT Center of Excellence for Children in State Custody
Boling Center for Developmental Disabilities
University of Tennessee Health Sciences Center
Memphis, TN

Goals

- Gain a clear understanding of Child Traumatic Stress
- Learn common stress reactions in youth of different ages
- Understand how trauma impacts the brain
- Much of the information presented here is drawn from the National Child Traumatic Stress Network (NCTSN). Go to www.NCTSN.org for a wealth of information.

What is Child Trauma?

- Witnessing or experiencing an event that poses a real or perceived threat
- The event overwhelms the child's ability to cope and causes feelings of fear, helplessness or horror, which may be expressed by disorganized or agitated behavior

Examples?

Acute Trauma

- Events that occur at a particular time and place and are short-lived
- During an acute event, children go through a variety of feelings, thoughts, and physical reactions that are frightening in and of themselves and contribute to a sense of being overwhelmed.

Chronic Trauma

- Chronic trauma refers to the experience of multiple traumatic events
- May be multiple and varied events (car accident and domestic violence), or longstanding, repeated events (ongoing sexual abuse)
- The effects of chronic trauma are often cumulative

Complex Trauma

- Complex trauma describes both exposure to chronic trauma and the impact of such exposure on the child.
- The chronic trauma is usually caused by adults entrusted with the child's care
- Children who have experienced complex trauma have endured multiple interpersonal traumatic events from a very young age
- Complex trauma has profound effects on nearly every aspect of a child's development and functioning

What is Child Traumatic Stress?

- Child traumatic stress refers to the physical and emotional responses of a child to threatening or traumatic situations
- Traumatic events overwhelm a child's capacity to cope and elicit feelings of terror, powerlessness, and out-of-control physiological arousal
- Post-traumatic stress reactions include re-experiencing the event, avoidance, hyper-arousal, and persistent difficult thoughts and emotions
- A child's response to a traumatic event may have a profound effect on his or her perception of self, others, the world, and the future

- Children who have experienced trauma often find it difficult to:
 - Trust other people
 - Feel safe
 - Understand and manage their emotions
 - Adjust and respond to life's changes
 - Physically and emotionally adapt to stress

- One in four children and adolescents experience at least one potentially traumatic event before the age of 16.

- Costello et al., 2002

- Individual responses will depend on:
 - Child's age and developmental stage
 - Child's temperament
 - How the child perceived or understood the danger
 - Child's past experience with trauma
 - What happened afterward

Effects of Trauma Exposure

- Attachment
- Biology
- Mood regulation
- Dissociation
- Behavioral control
- Cognition
- Self-concept
- Development

What a Traumatic Situation is like for a Young Child

- Feel helpless and passive.
- Cry for help or desperately wish for someone to intervene
- Feel deeply threatened by separation from parents or caretakers.
- Have the most difficulty with intense physical and emotional reactions.

Posttraumatic Stress Reactions: Young Children

- Become passive and quiet
- Easily alarmed, heightened startle response
- Less secure about being provided with protection
- Become generally more fearful, especially in regard to separations and new situations
- Be confused about what's dangerous and whom to go to for protection

Posttraumatic Stress Reactions: Young Children

- Express their distress through strong physiological and sensory reactions (changes in eating, sleeping, activity level, responding to touch and transitions)
- Because a child's brain does not yet have the ability to quiet down fears, the preschool child may have very strong startle reactions, night terrors, and aggressive outbursts.

What a Traumatic Situation is like for a School-age Child

- Have more ability to judge the seriousness of a threat and to think about protective actions and thus may feel like a failure for not helping in situations (such as violence against a loved one).
- May also feel very ashamed or guilty.
- Frightened by the speeding up of their own emotions and physical reactions, adding new fears to the danger from outside.

Posttraumatic Stress Reactions: School-age Children

- A wider range of intrusive images and thoughts, including what could have stopped the event from happening and what could have made it turn out differently. These thoughts can show up in "traumatic play"
- Respond to very concrete trauma reminders: someone with the same hairstyle as an abuser; the monkey bars on a playground where a child got shot.
- May demand attention
- Regression – baby talk, wanting adults to feed or dress them

Posttraumatic Stress Reactions: School-age Children

- May go back and forth between shy or withdrawn behavior and unusually aggressive behavior.
- May develop intense specific new fears associated with the traumatic event and "fears of recurrence" that result in the child avoiding doing things they would usually like to do.
- Normal sleep patterns may be disturbed, with restless movements and vocalizations.
- The lack of restful sleep can interfere with daytime concentration and attention, making studying more difficult due to remaining on alert for things happening around them.

What a Traumatic Situation is like for an Adolescent

- Have shifted toward more actively judging and addressing dangers on their own, so during traumatic situations they make decisions about whether and how to intervene and about using violence to counter violence.
- Can feel guilty, sometimes thinking their actions made matters worse.
- Adolescents are learning more about human motivation and intent and struggle over issues of irresponsibility, malevolence, and human accountability.

Posttraumatic Stress Reactions: Adolescents

- May interpret their own reactions as regressive or childlike, or feel they are "going crazy," weak, or different from everyone else.
- May be embarrassed by bouts of fear and exaggerated physiological responses.
- May believe that they are unique in their pain and suffering, resulting in a sense of isolation.
- May be very sensitive to the failure of family, school, or community to protect or carry out justice.
- May engage in aggressive or disruptive behaviors

Posttraumatic Stress Reactions: Adolescents

- Response to reminders may involve reckless, dangerous behavior or extreme avoidant behavior
- May try to get rid of emotions and physical responses through the use of alcohol and drugs.
- May experience anxiety and depression and/or intense anger; low self-esteem and helplessness
- Have difficulty imagining or planning for any kind of future, instead “living for the moment” without regard to consequences
- Have trouble accurately assessing risk – either over- or underestimating the danger of a situation or activity

- Many children who have been maltreated do not exhibit any symptoms

MALTREATMENT AND THE DEVELOPING BRAIN

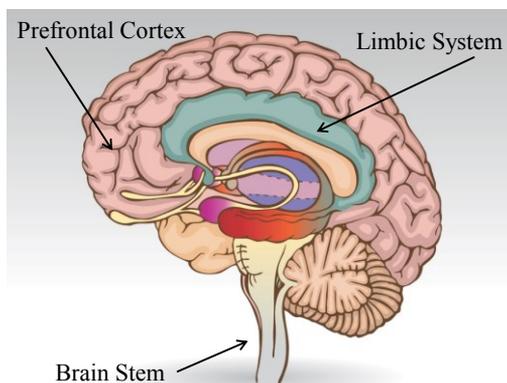
- Experience in Adulthood....
 - Alters the Organized Brain
- Experience in Childhood....
 - Organizes the Developing Brain

Traumatic experiences can have profound influences on brain development. The more prolonged or chronic the trauma, the more likely it is that significant brain changes will occur.

The Developing Brain

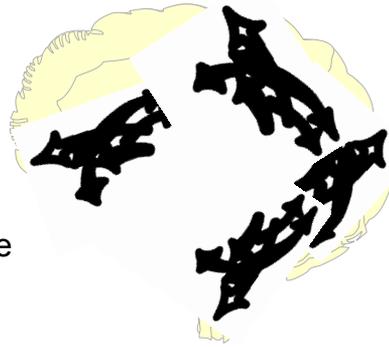
Brain development happens from the bottom up:

- From primitive (basic survival: brainstem)
- To more complex (rational thought, planning, abstract thinking; prefrontal cortex)



Experience Grows the Brain

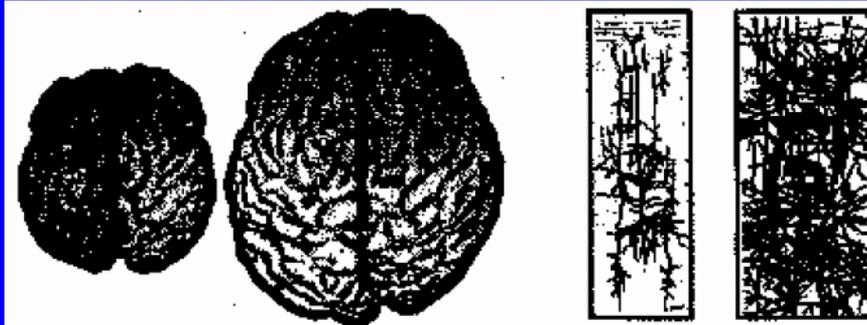
- The brain develops by forming synaptic connections.
- The more an experience is repeated, the stronger the connections become.
- Growth is dependent on stimulation and experience
- The brain adapts to the environment – positive or negative



Neural Imprinting

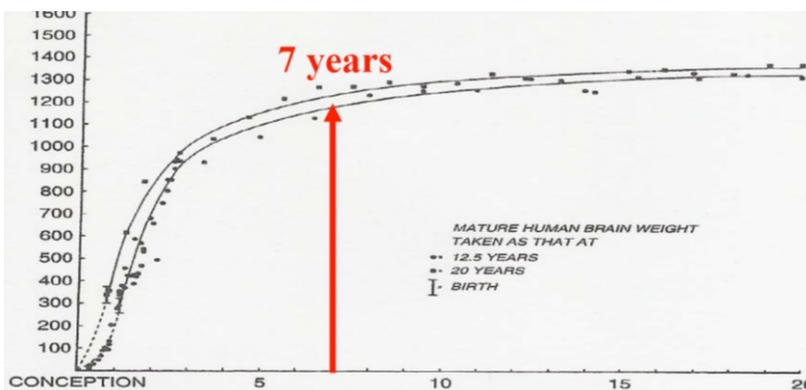
- What Fires Together Wires Together
 - The brain develops and modifies itself in response to experience. Neurons and neuronal connections (i.e., synapses) change in an activity-dependent fashion.
 - The more an event occurs, the more a neural path is fired and traveled, the more permanent the message or new learning becomes
 - So, when you activate and repeatedly practice specific brain activity you are wiring or rewiring the brain.

Brain Growth



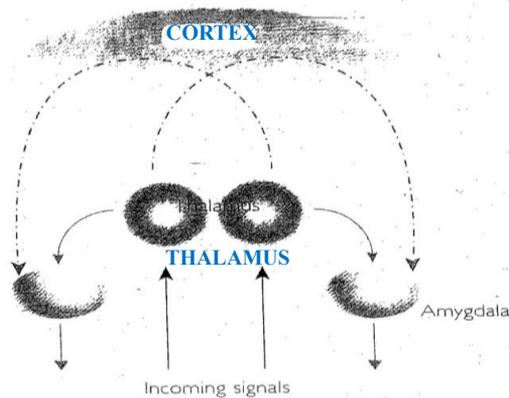
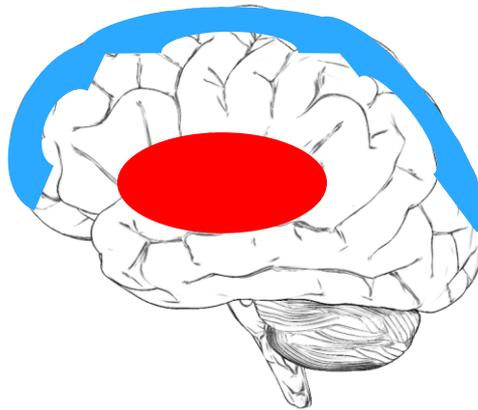
Newborn 6 Year old Newborn 6 Year old

Growth of Human Brain from birth to 20 years



Normal Stress Response

- All affective energy mobilized in the limbic system (red).
- Higher Cortical areas less active (blue).



Survival Mode vs. Consultation Mode

- The path to thinking is longer than the path to action
- In times of danger/stress, chemicals are released that block the signal from going to the cortex – adaptive, makes reactions automatic
- With enduring danger/stress/trauma, the brain becomes hard-wired from the thalamus to the amygdala so the child is vigilant, over-reacts, or freezes

- Chronic activation of this adaptive fear response can cause the brain to develop in a way that will help the child survive in a dangerous world, resulting in the persistence of a fear state:
 - Hypervigilance
 - Increased muscle tone
 - Focus on threat-related cues
 - Anxiety
 - Behavioral Impulsivity
- The stress hormones produced during trauma also interfere with the development of higher brain functions

- The neurohormones released during times of stress are good for short periods – but can become harmful when in the system for long periods of time.
- Trauma exposed children and adolescents display changes in levels of stress hormones similar to those seen in combat veterans.
- Young children who are neglected or maltreated have abnormal patterns of cortisol production that can last even after the child has been moved to a safe and loving home.



Brain Development in Early Childhood

- In toddlerhood and early childhood the brain actively develops areas responsible for
 - 1. Filtering sensory input to identify useful information
 - 2. Learning to detect and respond defensively to potential threats
 - 3. Recognizing information or environmental stimuli that comprise meaningful contexts
 - 4. Coordinating rapid, goal-directed responses
- In early childhood, trauma can be associated with reduced size of the cortex
 - The cortex is responsible for many complex functions, including memory, attention, perceptual awareness, thinking, language, and consciousness

Early Childhood

- During this time there is a gradual shift from right (feeling and sensing) to left (language, abstract reasoning, planning) hemisphere dominance
 - The young child learns to attend to both the external and internal environment, rather than responding reflexively to stimuli
- Trauma interferes with the integration of left and right hemisphere brain functioning
 - Under stress, traumatized children's analytic capacities (left brain) disintegrate, and their emotional reactions (right brain) take over, resulting in uncontrolled emotions
 - Proper categorizing of experiences is inhibited, resulting in fight-or-flight reactions to non-threatening stimuli
 - These changes may affect IQ and can lead to increased fearfulness and a reduced sense of safety and protection

Trauma and the Brain: School-Age Children

- In school-age children, trauma undermines the development of brain regions that would normally help children:
 - Manage fears, anxieties, and aggression
 - Sustain attention for learning and problem solving
 - Control impulses and manage physical responses to danger, enabling the child to consider and take protective actions
- As a result, children may exhibit:
 - Sleep disturbances
 - New difficulties with learning
 - Difficulties in controlling startle reactions
 - Behavior that shifts between overly fearful and overly aggressive

Trauma and the Brain: Adolescents

- In adolescents, trauma can interfere with development of the prefrontal cortex, the region responsible for:
 - Consideration of the consequences of behavior
 - Realistic appraisal of danger and safety
 - Ability to govern behavior and meet longer-term goals
- As a result, adolescents who have experienced trauma are at higher risk for:
 - Reckless and risk-taking behaviors
 - Underachievement and school failure
 - Poor choices
 - Aggressive or delinquent activity

The Good News

- The brain is very plastic and therefore capable of changing in response to experiences, especially repetitive and patterned experiences.
- Early identification and intervention with abused and neglected children has the capacity to modify and influence development

TRAUMA-INFORMED TREATMENT

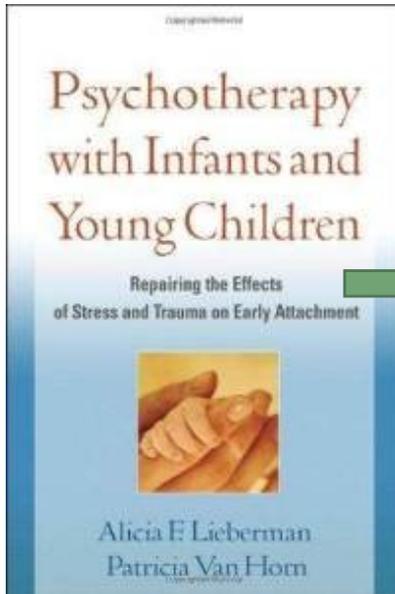
Treating Traumatic Stress in Children and Adolescents

How to Foster Resilience through
Attachment, Self-Regulation, and Competency



ARC Model:
Attachment, Self-
Regulation, and
Competency

Read more on
nctsn.org



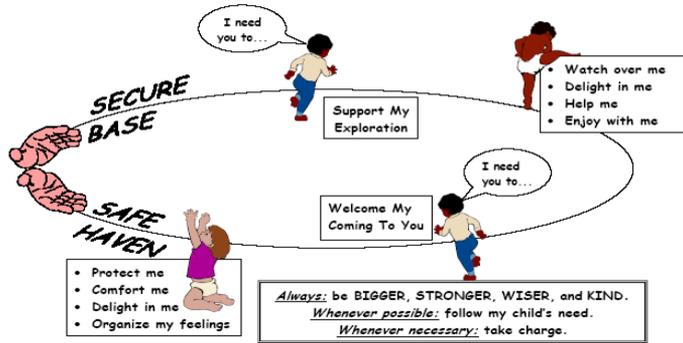
Evidence Supported Treatment for Attachment Problems

“Child-Parent Psychotherapy”

Read more on nctsn.org

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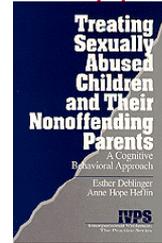
www.circleofsecurity.org

Evidence Supported Attachment Therapy

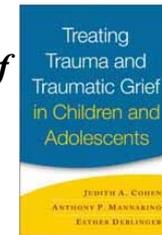
Evidence based PTSD Treatment for Children: Trauma-Focused – Cognitive Behavioral Therapy

Recommended Treatment Manuals:

Deblinger, E. & Heflin, A.H. (1996). *Treating sexually abused children and their nonoffending parents*. Sage Publications: Thousand Oaks, CA.



Cohen, J.A., Mannarino, A.P., & Deblinger, E. (2006). *Treating Trauma and Traumatic Grief in Children and Adolescents*. New York: Guilford Publications, Inc.



Learning Resource: TF-CBT Web

www.musc.edu/tfcbt

Each module has:

- Concise explanations
- Video demonstrations
- Clinical scripts
- Cultural considerations
- Clinical Challenges

