



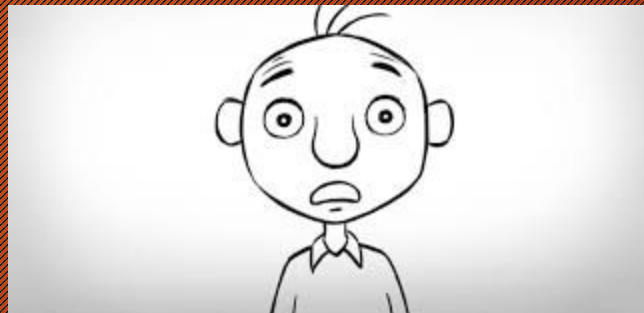
Effects of Trauma on Children

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BDMC/CCMC ACPE Class Day
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Objectives

- Understand the emotional, psychological and physical toll of trauma on patients and their families
- Be able to recognize the behavioral signs of trauma
- Be able to identify and utilize trauma-informed care
- Know how to effectively assist traumatized patients and their families

What is a traumatic event?



Common Traumatic Experiences

- Natural disasters
- Physical or sexual assault
- Serious accident
- Witnessing or experiencing a horrific injury or carnage



Possible traumatic experiences

- Falls, injuries
- Emergency surgery
- Serious illness
- Hearing about someone close dying or violent act
- Discovery of a life threatening illness
- Forced separation from parent
- A humiliating event



Trauma happens when

- The unexpected occurs
- The person was unprepared
- There was nothing that the patient could have done to prevent it



Statistics

- Millions of children in the US are exposed to a potential traumatic event every year
- 26.4% of children in AZ 0-17 have experienced one adverse event
- 31.1% have experienced >2 in ages 0-17
- 44.4% have experienced >2 in ages 12-17
- Exposure to childhood adversity can result in an immediate aftermath of symptoms, 1/3 of these children developing enduring symptoms

Trauma is too much
of a good thing

Normal stress response

- Fight or Flight response

- Perceived threat

Gas Pedal (Sympathetic Nervous System)

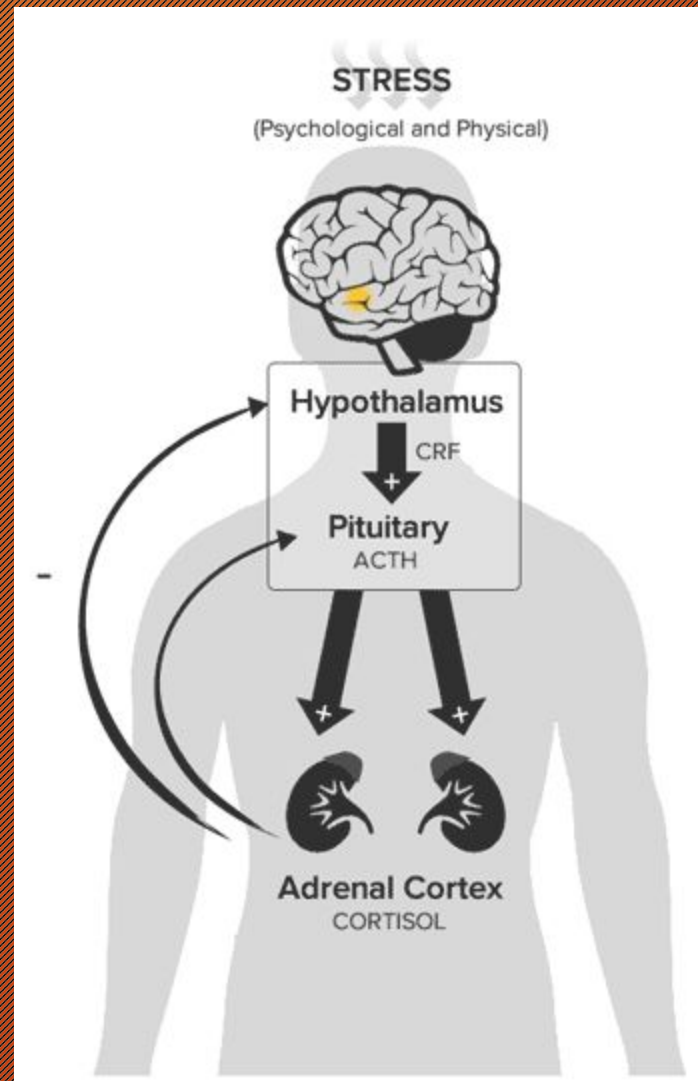
- Surge of Adrenaline and NorE are released
 - Accelerated heart rate, breathing, muscles tense, gut temporarily shuts down

Soft Brake (Parasympathetic nervous system)

- HPA axis monitors the threat level
 - As threat subsides, cortisol level falls



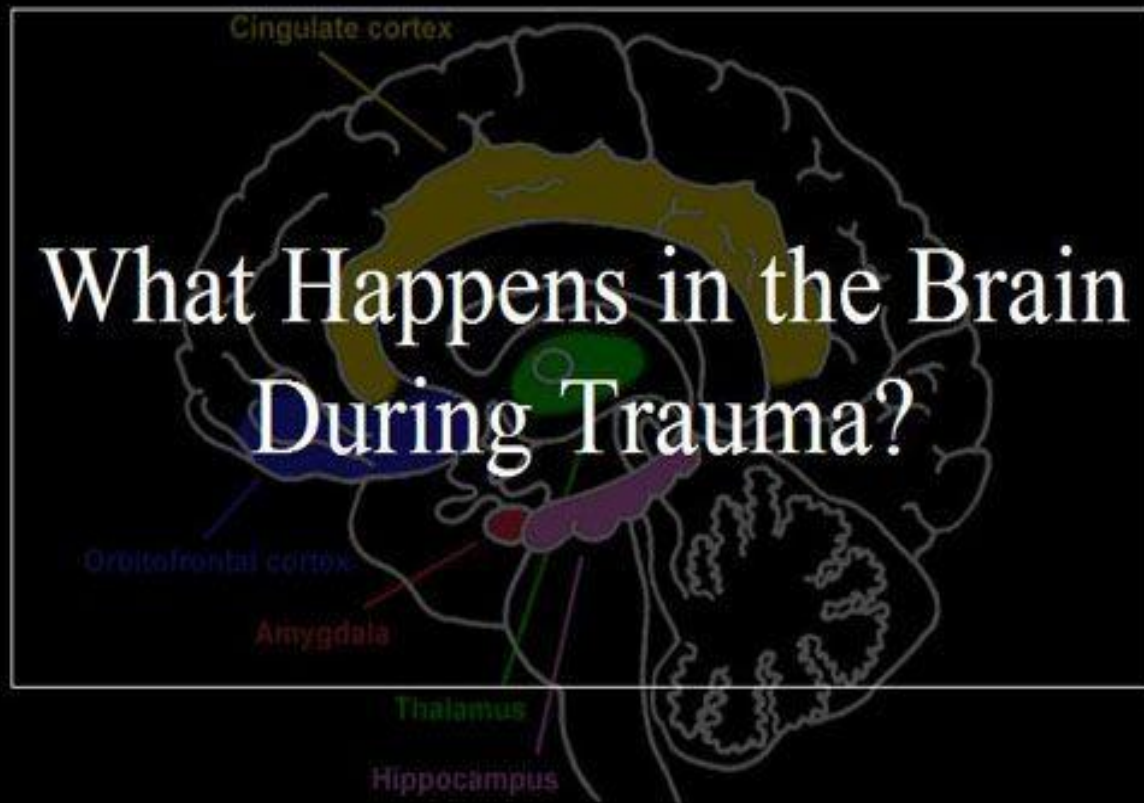
Equilibrium returns





Trauma is stress frozen in place.
As a result there is no return to normal equilibrium.

What Happens in the Brain During Trauma?



Neurotoxicity model

Glucocorticoids



Reduced synaptic plasticity



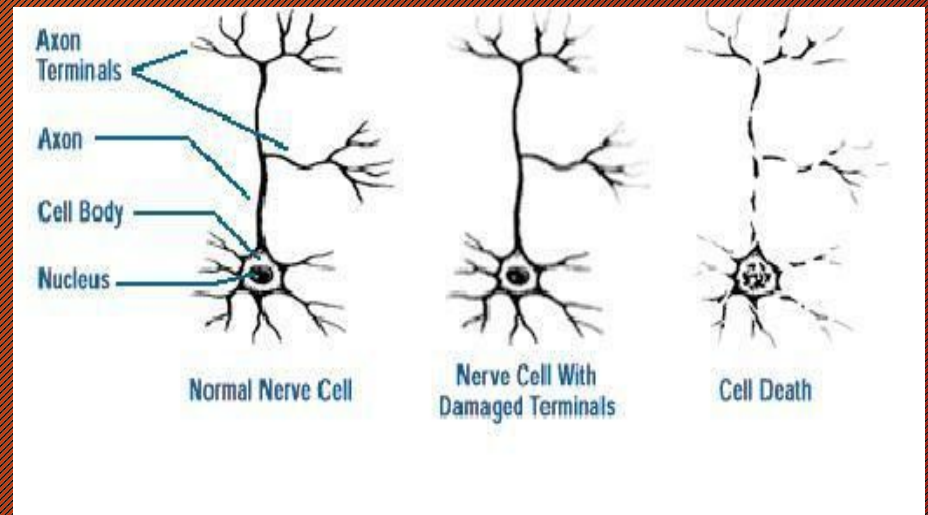
Reduced neurogenesis



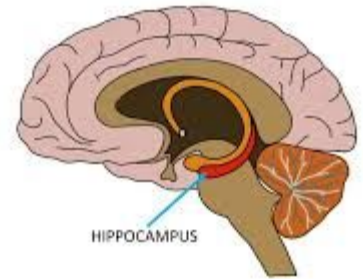
Neuronal atrophy



Cell death



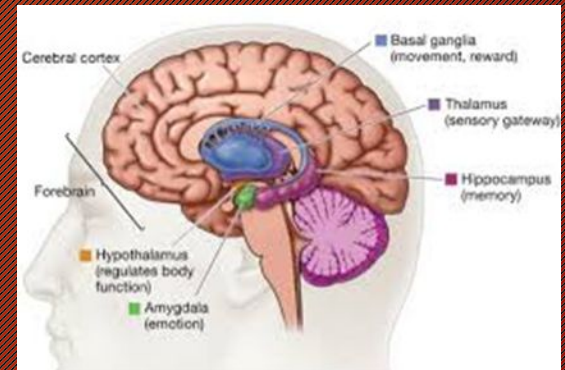
Prolonged Trauma



- Combat veterans = 8% smaller right hippocampal volume and 4% left hippocampal volume
- Childhood abuse victims had 12% smaller left hippocampal volume and 5% smaller right hippocampal volume
- Permanent amygdala, prefrontal cortex, corpus callosum, anterior cingulate and frontostriatal changes

Unresolved Trauma

- Shapes the brain structure
- Reorganizes the neurons
- Results in abnormal patterns of neurotransmitter activity - amygdala, PFC
- Deregulates the HPA axis, resulting in abnormal hormonal levels
- Weakens the immune system



Acute Signs or Symptoms

- Need, clingy, regressive behavior
- Impulsive, dysregulated, poor self-control
- Incessant chatter, “manic” behavior, demands for attention
- Moody, irritable, aggressive, tantrums, oppositional, difficult to soothe
- Apathetic, lethargic, emergent self-soothing behaviors
- Anxiety, depression
- Poor attention, inattention, “phasing out”
- Can be mistaken for ADHD

Long-term Effects of Trauma

- Emotional - depression
- Behavioral - substance use
- Cognitive - volume loss, deficits in attention and executive functioning, 10x higher risk of learning problems
- Social - low self esteem, perceived threat
- Physical - greater susceptibility to cardiac, metabolic, immunological and gastrointestinal illnesses in adulthood and longer recovery times in general

Childhood Trauma



So how can you help?



Provide Trauma-Informed Care

- Recognize the potential for trauma
 - Its subjective
 - Implicit, not necessarily explicit
- Appreciate trauma may impact how they react/behave during their hospital stay)



Trauma-Informed Care

Screen, then

D-E-F

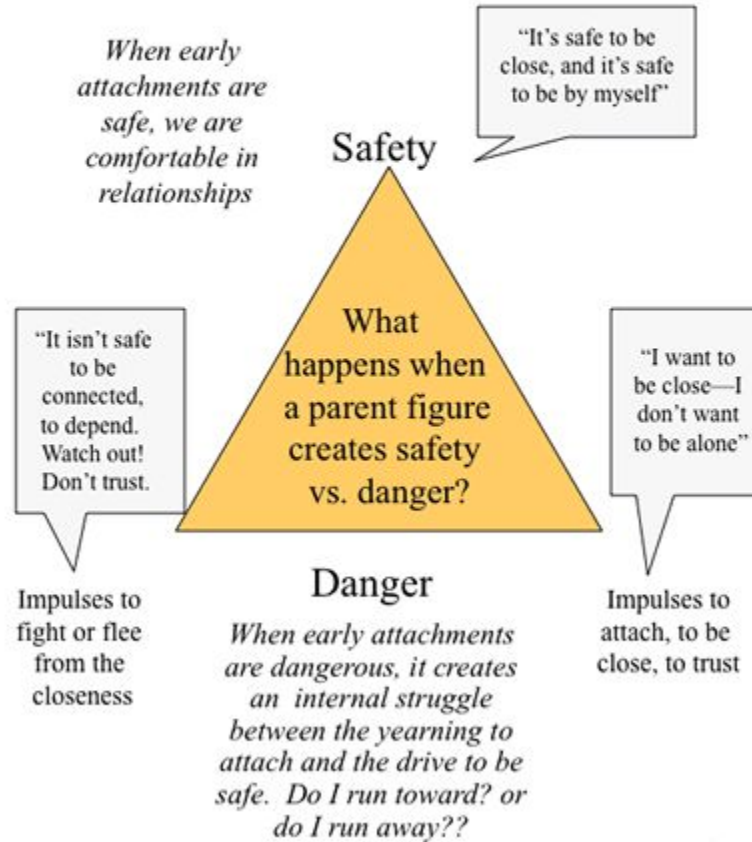
D- istress reduction

E -motional support

F -amily support - assist/equip the parents

Lastly, be aware of your own reactions and needs

Trauma Causes “Disorganized Attachment.” is it safe to be attached?



Its helpful to:

Communicate safety in the relationship/interaction

Make the play reciprocal play - soothes, calms

Allow the child to lead - listen if they want to talk, watch for nonverbal communication signs

Be playful and upbeat, not flippant

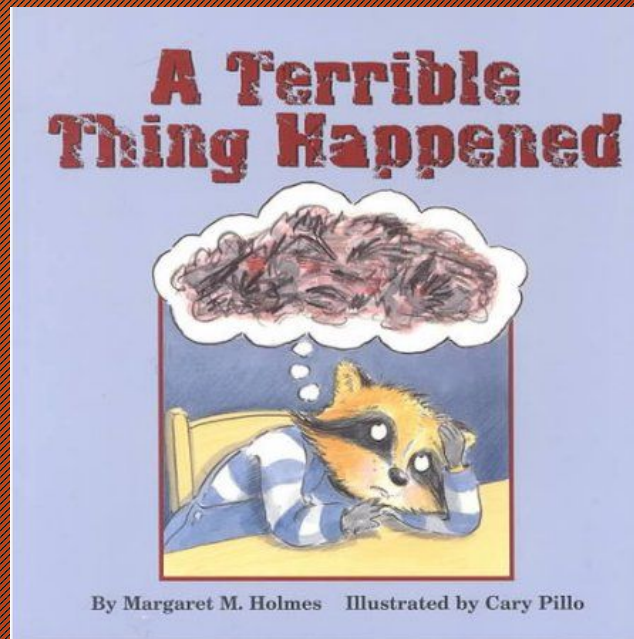
Have visuospatial/visuomotor activities on hand

Normalize the experience and the process



Resources

- www.Aftertheinjury.org (CHOP)
- A Terrible Thing Happened: A story for children who have witnessed violence or trauma, M. Holmes



My Brave Book

Helping Kids in Crisis

- Coloring book
- Therapeutically solid - supported by trauma research
- Practical, upbeat
- Free
- Available through CCMC

Can be used:

- Emergency room
- Hospital bed
- Waiting room
- At home following discharge
- With young family members who have witnessed a major event, unexpected medical news or sudden illness in the family

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Q & A