Trauma informed care for pediatric patients

UNIVERSITY OF ARIZONA

Presented by:
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Disclosure

I have no financial disclosures.

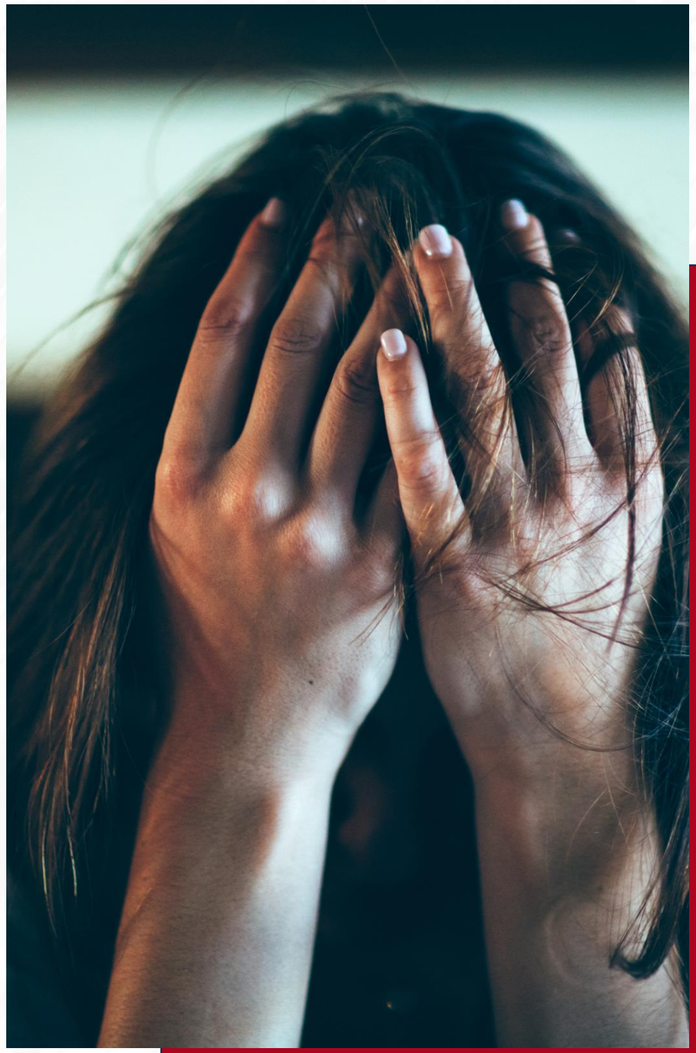
Learning Objectives

- Identify how trauma presents in children and teenagers
- Recognize how trauma may impact caring for pediatric patients and working with families
- Describe how to screen for trauma in pediatric patients and strategies for treatment

Defining Trauma in Childhood

The National Child Traumatic Stress Network:

"Children who suffer from child traumatic stress are those who have been exposed to one or more traumas over the course of their lives and develop reactions that persist and affect their daily lives after the events have ended....**Although many of us may experience reactions to stress from time to time, when a child is experiencing traumatic stress, these reactions interfere with the child's daily life and ability to function and interact with others. At no age are children immune to the effects of traumatic experiences. Even infants and toddlers can experience traumatic stress. The way that traumatic stress manifests will vary from child to child and will depend on the child's age and developmental level...Without treatment, repeated childhood exposure to traumatic events can affect the brain and nervous system and increase health-risk behaviors** (e.g., smoking, eating disorders, substance use, and high-risk activities)."



DSM-5 Criteria for Post-Traumatic Stress Disorder (PTSD)

A. Exposure to actual or threatened death, serious injury, or actual or threatened sexual violence

B. Traumatic event is persistently re-experienced (1 required): unwanted, upsetting memories; nightmares; flashbacks; emotional distress after exposure to reminders; physical reactivity after exposure to reminders

C. Avoidance of trauma-related stimuli after the trauma (1 required): trauma-related thoughts/feelings; trauma related reminders

D. Negative thoughts or feelings that began or worsened after the trauma (2 required): inability to recall key features of the trauma, overly negative thoughts about oneself or the world; exaggerated blame of self or others for trauma, negative affect, decreased interest in activities, feeling isolated, difficulty experiencing positive affect

E. Trauma-related arousal and reactivity (2 required): Irritability or aggression; risky or destructive behavior, hypervigilance, heightened startle reaction; difficulty concentrating; difficulty sleeping

F. Symptoms persist > 1 month

G. Symptoms cause functional impairment

H. Not due to medication, substance use, or other illness

Differences in Diagnosis in Children and Adolescents

DSM 5 diagnosis applies to anyone older than age 6:

- In children older than 6 years, repetitive play may occur in which themes or aspects of the traumatic event(s) are expressed.
- There may be frightening dreams without recognizable trauma content.
- Trauma-specific reenactment may occur in play.

Preschool subtype – 6 and younger:

- 3 symptom clusters instead of 4 – persistent avoidance of stimuli and negative alterations in cognition combined into one cluster, only need one of these symptoms
- Under arousal symptoms – irritable behavior/angry outbursts can look like extreme temper tantrums

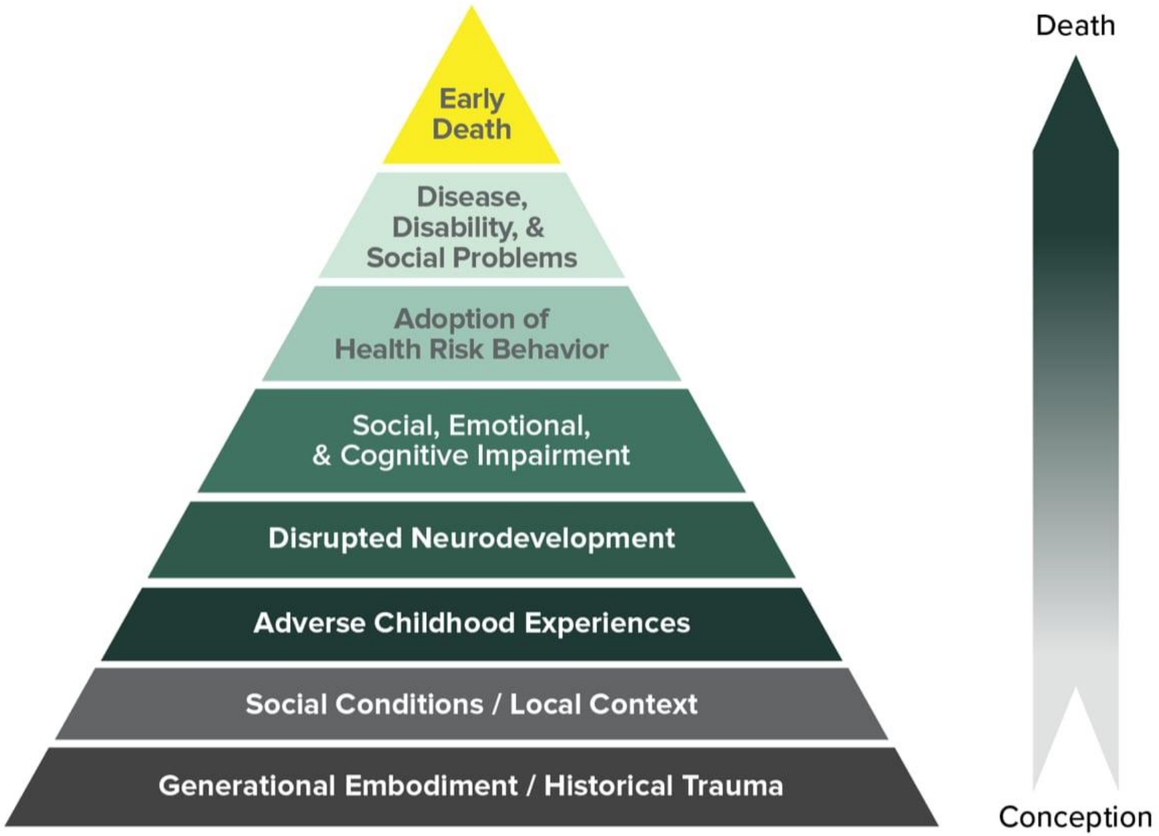
Adverse Childhood Experiences (ACEs)

Potentially traumatic events that occur in childhood

ACEs are linked to chronic health problems, mental illness, substance use problems

64% of US adults reported experiencing at least one type of ACE before age 18, almost 1 in 6 had experienced 4+ types of ACEs

Studies have shown inequities in experiencing ACEs – highest among females, non-Hispanic American Indian or Alaska native adults and adults who are unemployed or unable to work



Mechanism by which Adverse Childhood Experiences Influence Health and Well-being Throughout the Lifespan

Burden of Trauma

Approximately ½ of children and teens in the US experience at least one potentially traumatic experience

Of children and teens who have had a trauma, 3-15% of girls and 1-6% of boys develop PTSD

Risk factors for PTSD development after traumatic event:

- How severe the trauma is
- How the parent reacts to the trauma
- How close or far away the child is from the event

Other risk factors:

- Female gender
- Previous trauma exposure
- Pre-existing psychiatric disorder
- Parental psychopathology
- Low social support

Trauma Informed Care

Defined by the National Child Traumatic Stress Network as medical care in which ***all parties involved assess, recognize, and respond to the effects of traumatic stress on children, caregivers, and health care providers.*** *This includes attention to secondary traumatic stress (STS), the emotional strain that results when an individual hears about the first-hand trauma experiences of another.*

Trauma informed care includes:

- Awareness
- Readiness
- Detection and Assessment
- Management

Awareness: Toxic Stress

- Longstanding relationship with secure, nurturing adult is key for development of stress management skills and resilience building
- Frequent stress + absence of protective, secure relationships = **Toxic Stress**
- Toxic stress can cause developmental, neurologic, epigenetic, and immunological changes ---> lifelong physical and mental health concerns

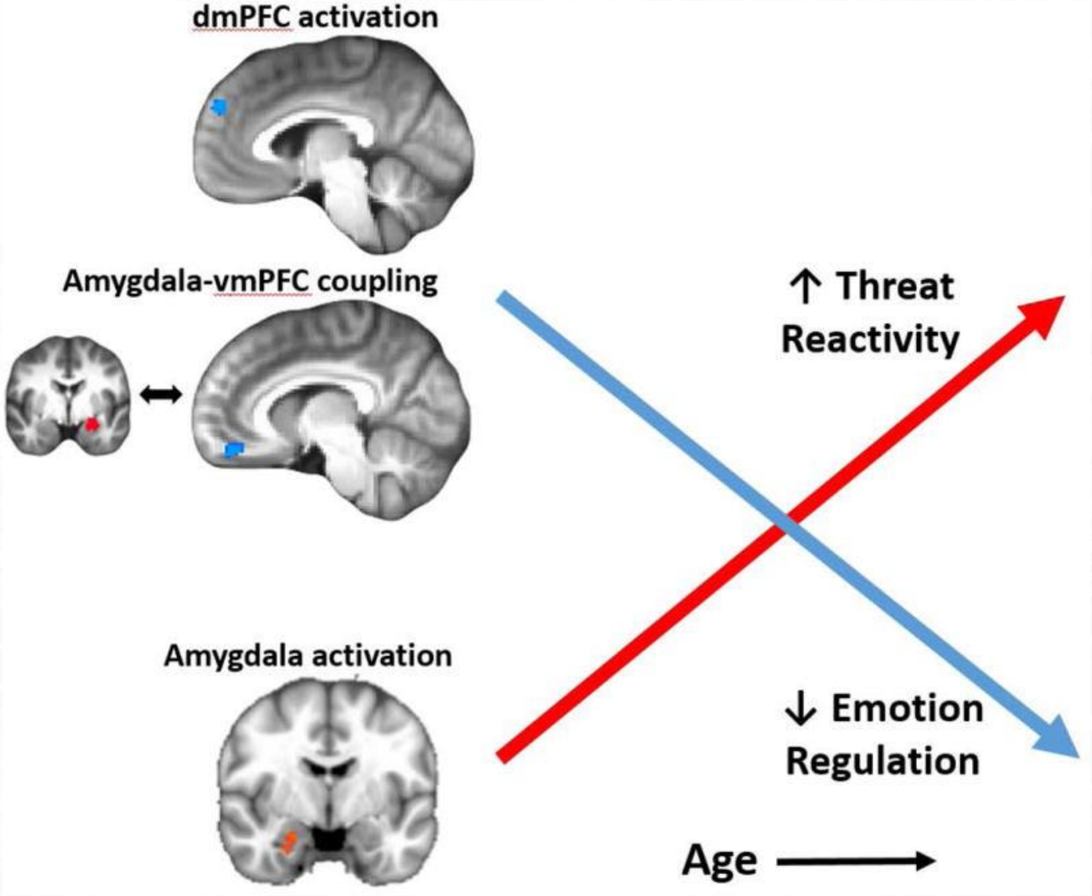
Awareness: Neurobiological Impact of Trauma

- Cortisol impacts developing brain structures leading to an overactive amygdala and underactive hippocampus and prefrontal cortex
- Methylation patterns impacted by threat and mediated by cortisol which impact stress and reactivity behavior
- Immune system altered in response to constant threat -> inflammatory system unregulated, humoral immunity diminished
- Inconsistent findings in terms of childhood trauma exposure and neuroendocrine functioning but have seen clear HPA abnormalities that increase reactivity and cause delayed recovery

Brain Changes

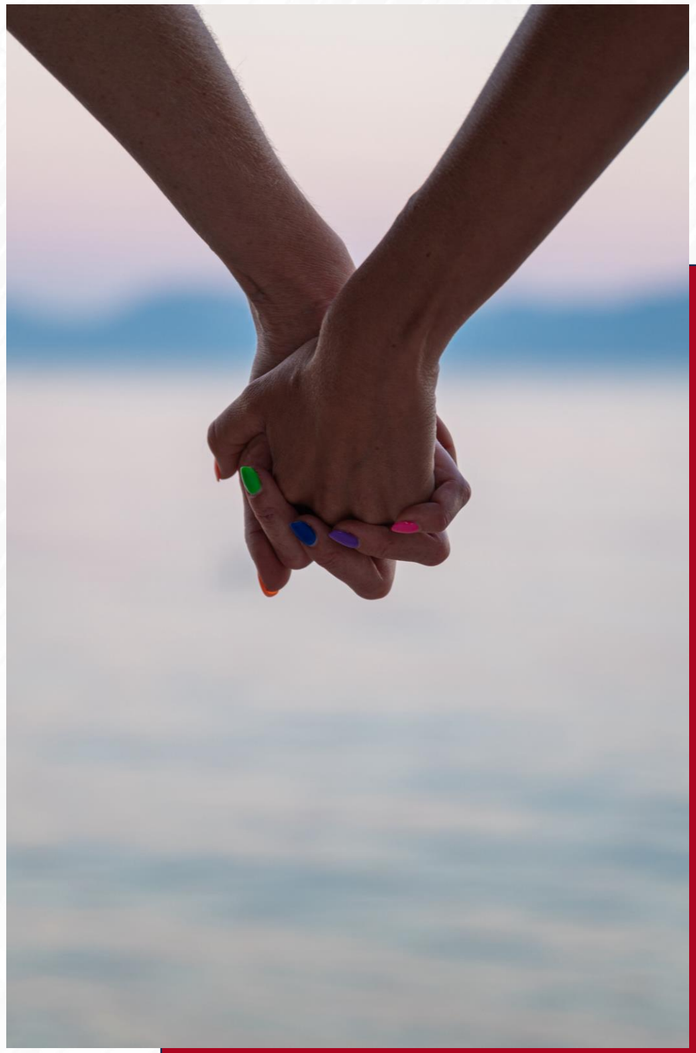
- Reduced gray matter in the hippocampus and dorsolateral (dl)PFC regions
- These regions are implicated in regulation of threat and emotion regulation respectively
- Increased amygdala reactivity particularly to negative stimuli
- Decreased coupling between amygdala and vmPFC -> such change may allow for enhanced automatic detection of potential threats in the environment

Trauma leads to increased threat reactivity and weaker emotional regulation ability

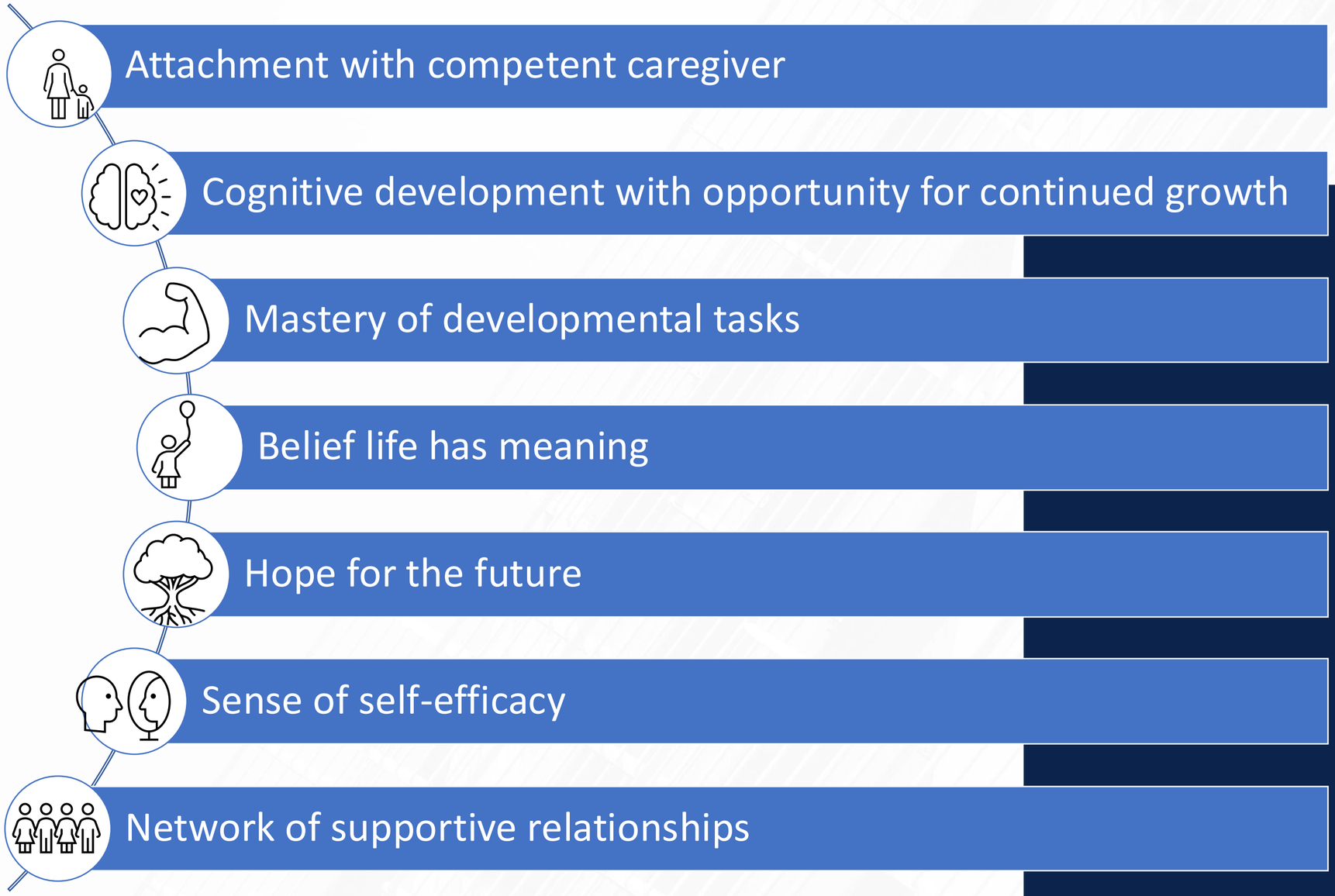


Readiness

- Trauma informed care includes understanding of what provides resilience and how to promote it
- Approach with families is compassionate, strength-based and focused on understanding vs fixing
- Supporting caregiver-child relationship by understanding attachment



Readiness: Resilience



Detection and Assessment

- Triage
- Engagement
- History-taking
- Surveillance and screening
- Exam
- Differential diagnosis
- Sharing of diagnosis

Traumatic Stress in Ill or Injured Children

AFTER THE ABC'S CONSIDER THE DEF'S

D	Distress	• Assess and manage pain. • Ask about fears and worries. • Consider grief and loss.
E	Emotional Support	• Who and what does the patient need now? • Barriers to mobilizing existing supports?
F	Family	• Assess parents' or siblings' and others' distress. • Gauge family stressors and resources. • Address other needs (beyond medical.)

Detection and Assessment: Triage

SAFETY FIRST

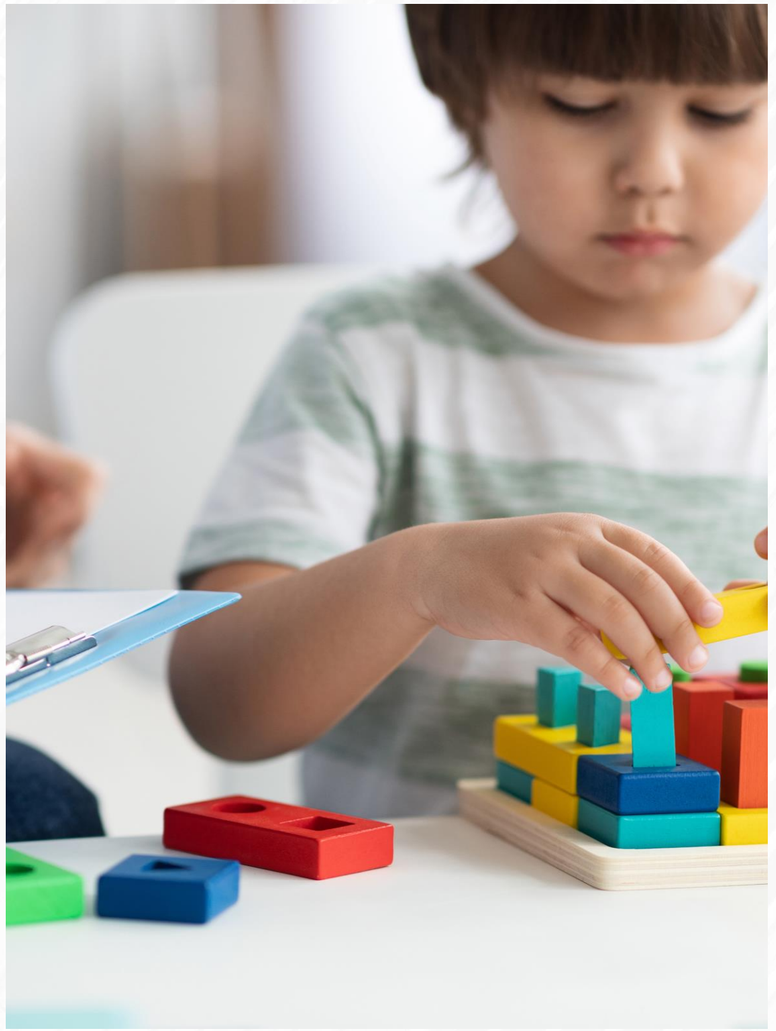
- Need to determine if child emergently at risk
- Referral to department of child services when necessary and mandated
- Explore other safety issues that can arise from trauma – suicidality, self-harm, intent or harm others

Detection and Assessment: Engagement

- Respectful and emotionally safe space
- Open ended questions
- Cultural awareness
- Active, nonjudgemental listening
- Body language, tone, and affect

Detection and Assessment: History

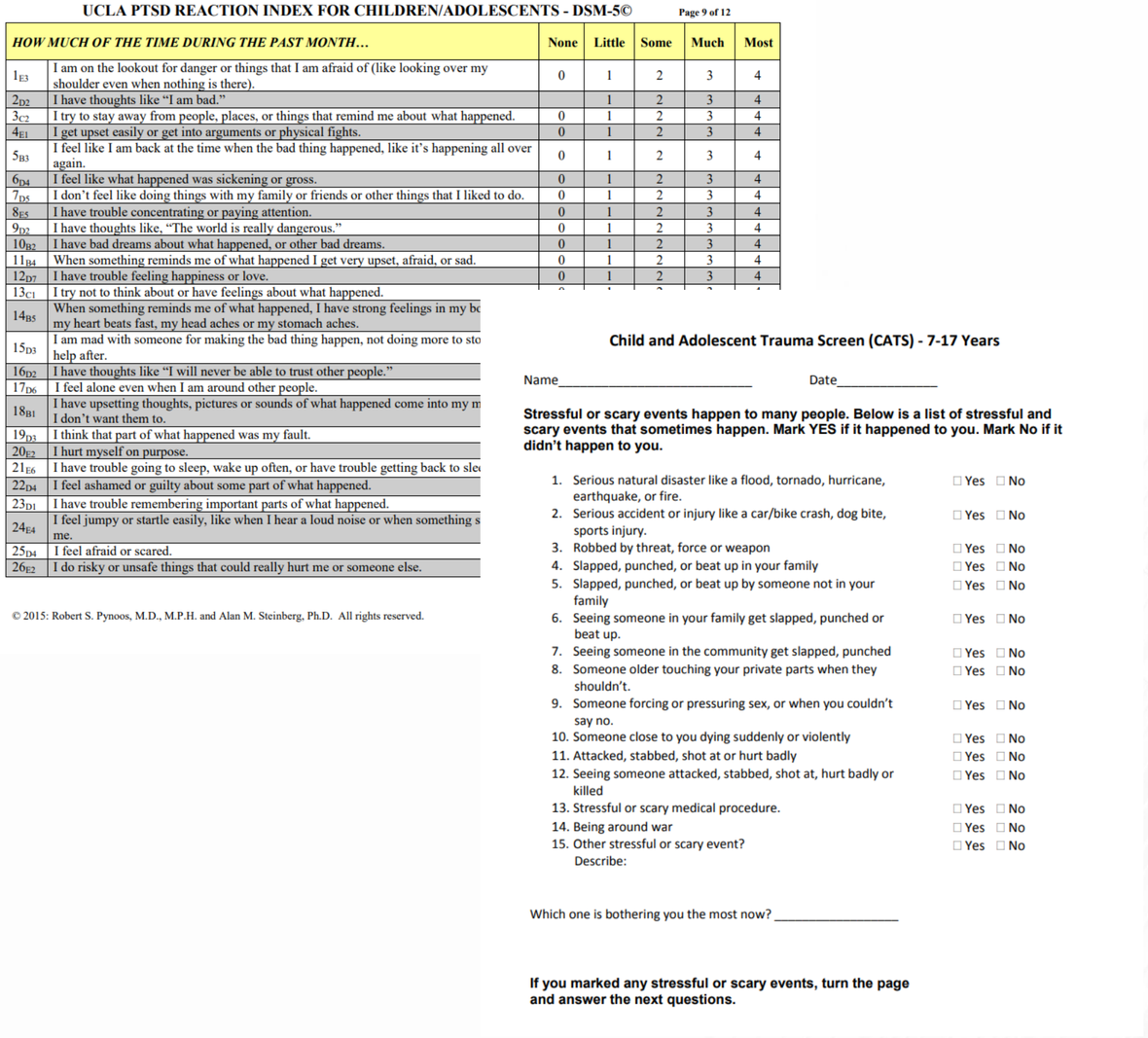
- Thorough history – social, developmental and medical history
- Listen for functional symptoms:
  - Sleep changes
  - Appetite changes
  - Toileting concerns
  - Decline in school performance
- Symptoms can overlap with other psychiatric disorders
  - ADHD, panic disorder, ODD, depression, substance use disorder, psychosis, bipolar disorder
- Decline in developmental skills acquisition



Detection and Assessment: Surveillance

- Less formal than screening, can be monitored at every visit
- Attention to relationship and engagement with caregiver
- “Has anything scary or concerning happened to you or your child since the last visit?”
- Can be part of HEADSSS exam for adolescents
- Ask about strengths too: what does the child/teen do well, how does family cope with stress

Detection and Assessment: Screening Tools



UCLA PTSD REACTION INDEX FOR CHILDREN/ADOLESCENTS - DSM-5© Page 9 of 12

HOW MUCH OF THE TIME DURING THE PAST MONTH…		None	Little	Some	Much	Most
1 E3	I am on the lookout for danger or things that I am afraid of (like looking over my shoulder even when nothing is there).	0	1	2	3	4
2 D2	I have thoughts like "I am bad."		1	2	3	4
3 C2	I try to stay away from people, places, or things that remind me about what happened.	0	1	2	3	4
4 E1	I get upset easily or get into arguments or physical fights.	0	1	2	3	4
5 B3	I feel like I am back at the time when the bad thing happened, like it's happening all over again.	0	1	2	3	4
6 D4	I feel like what happened was sickening or gross.	0	1	2	3	4
7 D5	I don't feel like doing things with my family or friends or other things that I liked to do.	0	1	2	3	4
8 E5	I have trouble concentrating or paying attention.	0	1	2	3	4
9 D2	I have thoughts like, "The world is really dangerous."	0	1	2	3	4
10 B2	I have bad dreams about what happened, or other bad dreams.	0	1	2	3	4
11 B4	When something reminds me of what happened I get very upset, afraid, or sad.	0	1	2	3	4
12 D7	I have trouble feeling happiness or love.	0	1	2	3	4
13 C1	I try not to think about or have feelings about what happened.					
14 B5	When something reminds me of what happened, I have strong feelings in my bo my heart beats fast, my head aches or my stomach aches.					
15 D3	I am mad with someone for making the bad thing happen, not doing more to sto help after.					
16 D2	I have thoughts like "I will never be able to trust other people."					
17 D6	I feel alone even when I am around other people.					
18 B1	I have upsetting thoughts, pictures or sounds of what happened come into my m I don't want them to.					
19 D3	I think that part of what happened was my fault.					
20 E2	I hurt myself on purpose.					
21 E6	I have trouble going to sleep, wake up often, or have trouble getting back to sle					
22 D4	I feel ashamed or guilty about some part of what happened.					
23 D1	I have trouble remembering important parts of what happened.					
24 E4	I feel jumpy or startle easily, like when I hear a loud noise or when something s me.					
25 D4	I feel afraid or scared.					
26 E2	I do risky or unsafe things that could really hurt me or someone else.					

Child and Adolescent Trauma Screen (CATS) - 7-17 Years

Name_____ Date_____

Stressful or scary events happen to many people. Below is a list of stressful and scary events that sometimes happen. Mark YES if it happened to you. Mark No if it didn't happen to you.

1. Serious natural disaster like a flood, tornado, hurricane, earthquake, or fire. ☐ Yes ☐ No
2. Serious accident or injury like a car/bike crash, dog bite, sports injury. ☐ Yes ☐ No
3. Robbed by threat, force or weapon ☐ Yes ☐ No
4. Slapped, punched, or beat up in your family ☐ Yes ☐ No
5. Slapped, punched, or beat up by someone not in your family ☐ Yes ☐ No
6. Seeing someone in your family get slapped, punched or beat up. ☐ Yes ☐ No
7. Seeing someone in the community get slapped, punched ☐ Yes ☐ No
8. Someone older touching your private parts when they shouldn't. ☐ Yes ☐ No
9. Someone forcing or pressuring sex, or when you couldn't say no. ☐ Yes ☐ No
10. Someone close to you dying suddenly or violently ☐ Yes ☐ No
11. Attacked, stabbed, shot at or hurt badly ☐ Yes ☐ No
12. Seeing someone attacked, stabbed, shot at, hurt badly or killed ☐ Yes ☐ No
13. Stressful or scary medical procedure. ☐ Yes ☐ No
14. Being around war ☐ Yes ☐ No
15. Other stressful or scary event? Describe: ☐ Yes ☐ No

Which one is bothering you the most now? _____

If you marked any stressful or scary events, turn the page and answer the next questions.

- General screens:
  - Pediatric symptom checklist
  - Strengths and Difficulties Questionnaire
  - PHQ-9
  - Ages and Stages questionnaire

- Trauma Focused Tools:
  - UCLA PTSD Reaction Index Brief Form
  - Child and Adolescent Trauma Screen (CATS)
  - Child PTSD Symptom Scale for DSM-5
  - Acute Stress Checklist for Children
  - Childhood Attachment and Relational Trauma Screen (CARTS)
  - Child Trauma Screen (CTS)

Detection and Assessment: Exam

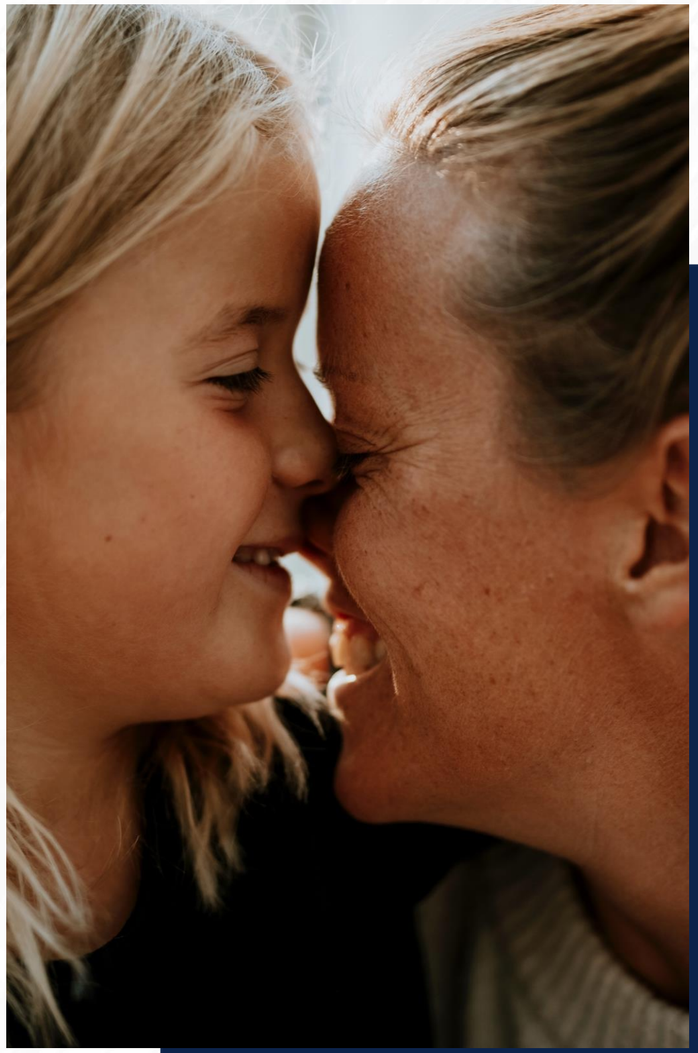
- Blood pressure elevation can be first symptom of childhood stress particularly when seen at young age
- Abnormalities in hearing, vision, growth
- Obesity has been associated with ACES
- Signs of neglect and abuse on exam

Detection and Assessment: Differential Diagnosis

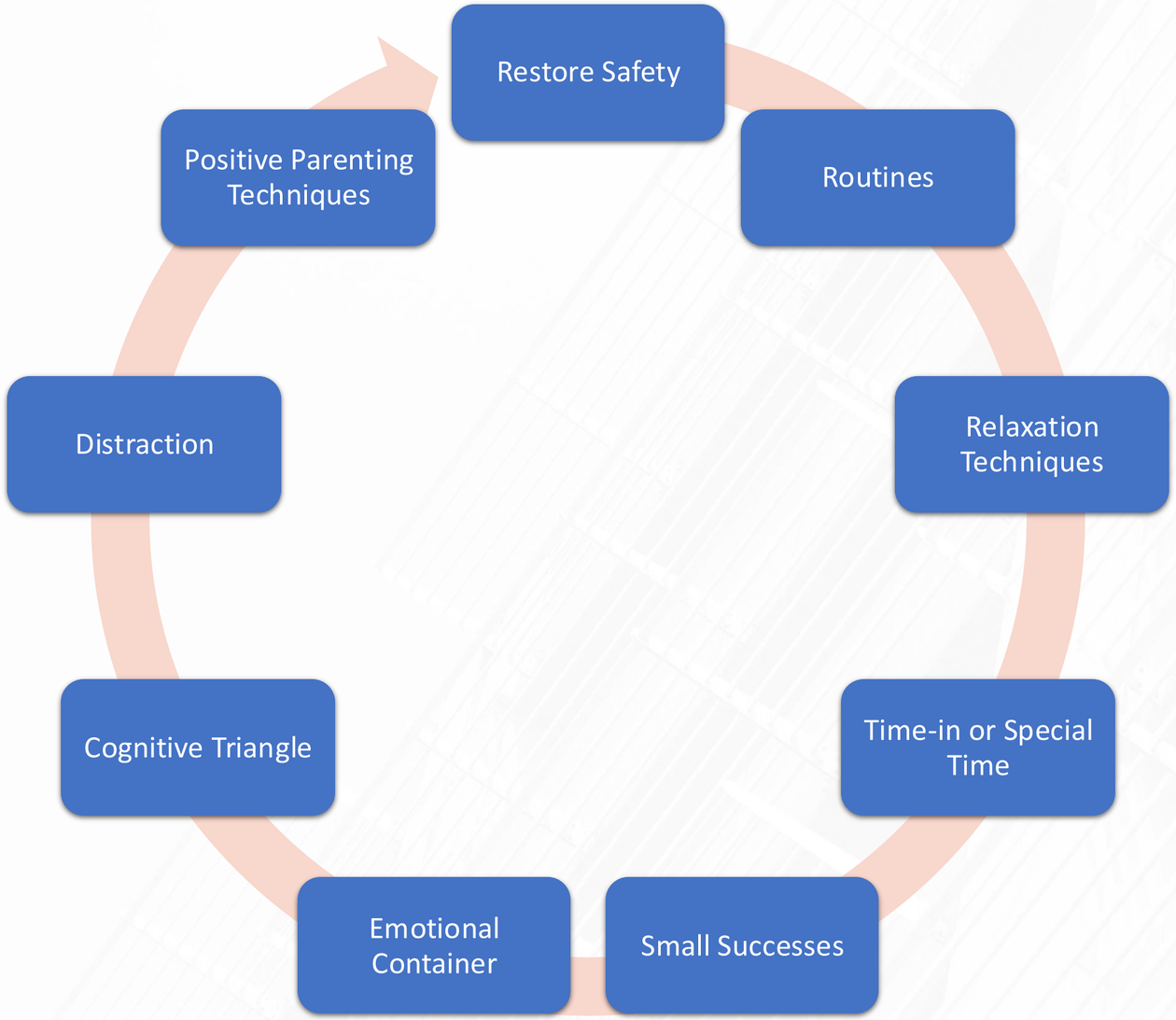
- **Always consider trauma**
- Significant overlap with symptoms of other common pediatric conditions
- Can also have comorbid conditions – ADHD, anxiety, depression, developmental and learning issues because they frequently accompany childhood trauma
- Consider physical conditions that may present with
- PTSD-like symptoms, as well as potential medication/substance side effects
- Often first presentation can be somatic symptoms, particularly headache and abdominal complaints

Management

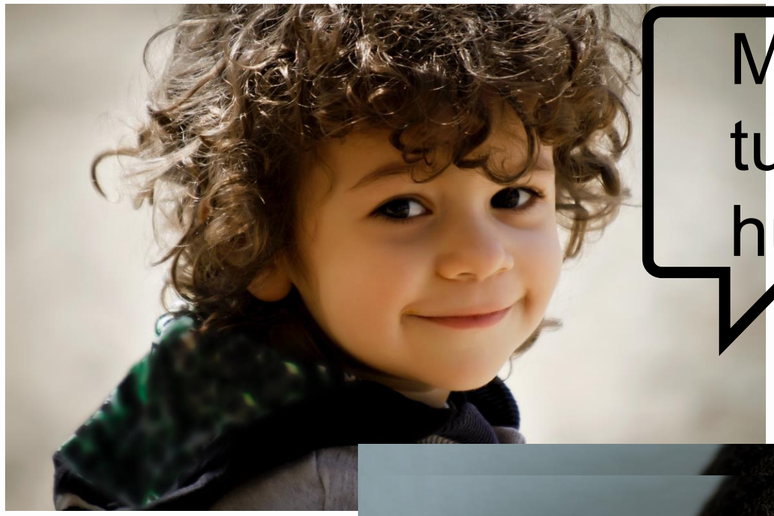
- Psychoeducation
- Acknowledge trauma history can impact behavior and thoughts
- Strengthen attachment between parent and child
- Referral to mental health providers for evidence-based treatments



Management: Office Based Guidance

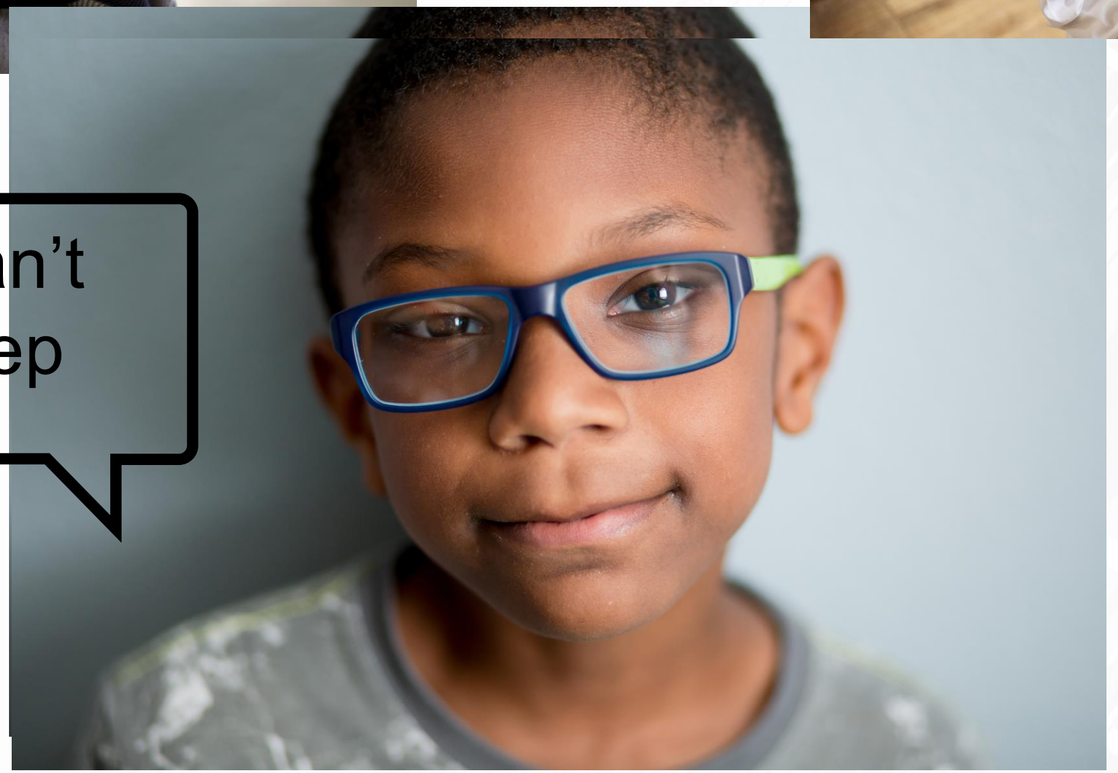


Management: Anticipatory Guidance for families

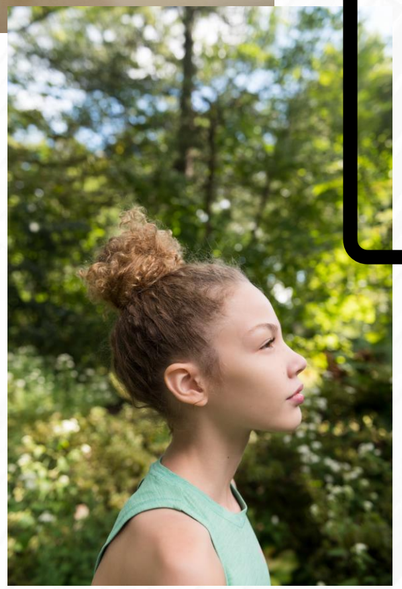


My tummy hurts

I hate you



I can’t sleep



I don’t want to go to school

The Three Rs

Ways to support your child's resilience

Reassure

Let children know they are safe

Remind child that they are safe

Reflect for the child, consider the world through a child's eyes

Touch for reassurance:
- hand on shoulder/back
- hugs (if appropriate)
- rubbing back
- high fives

Create safe places within home:
- a tent in bedroom
- canopy over bed
- own safe chair
- weighted blankets

Return to Routine

Let children know what to expect

Create routine charts or prompts, depending on age:
- bedtime
- mealtime
- homework
- chores

Explain changes in the schedule ahead of time

Set up routines for before & after schedule changes:
- read the same story
- play the same game
- eat the same meal

Regulate

Teach children to manage their emotions and behaviors

Teach relaxation techniques:
- tense and release of muscles
- guided relaxation
- belly breathing
- yoga poses
- stretching

In times of calm:
- play feelings charades — act out hungry, proud, disappointed, etc.
- talk about where in the body child feels emotion — chest, stomach, head, etc.

Practice skills to use when child gets upset or angry:
- deep breathing
- seek an adult
- engage in active play

View more resources at aap.org/TIC

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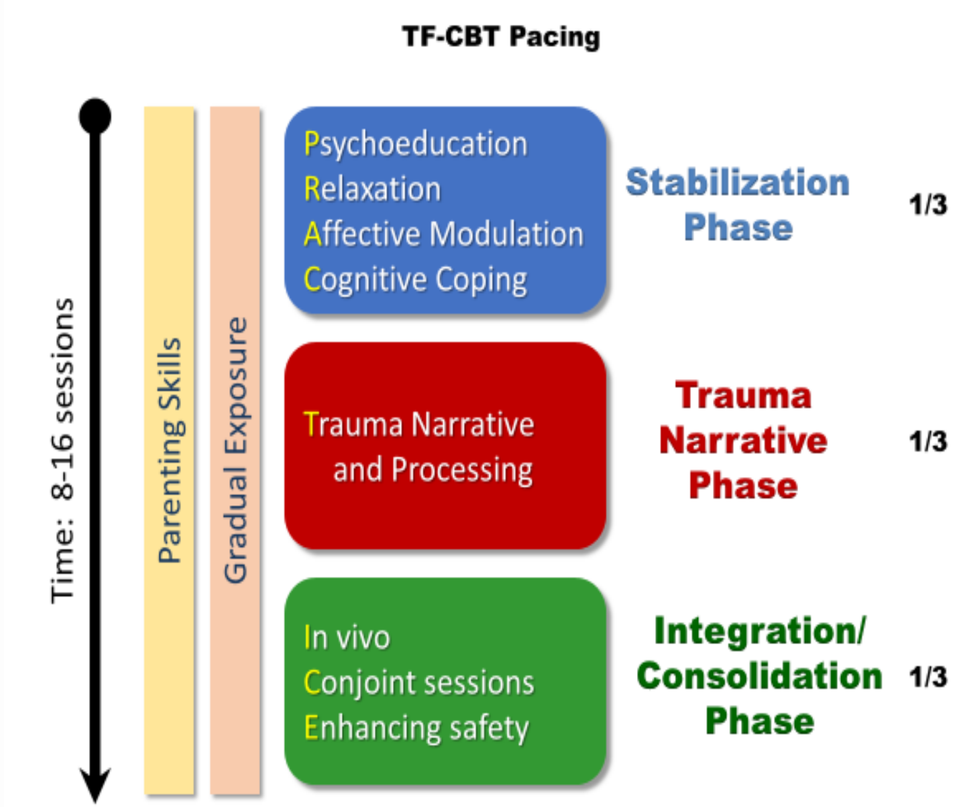
PATTeRx
Pediatric Approach to Trauma, Treatment and Resilience

Management: Next Steps

- Train all staff in trauma informed care
- Integrated health care
- Recognize effect of indirect trauma exposure on the workforce

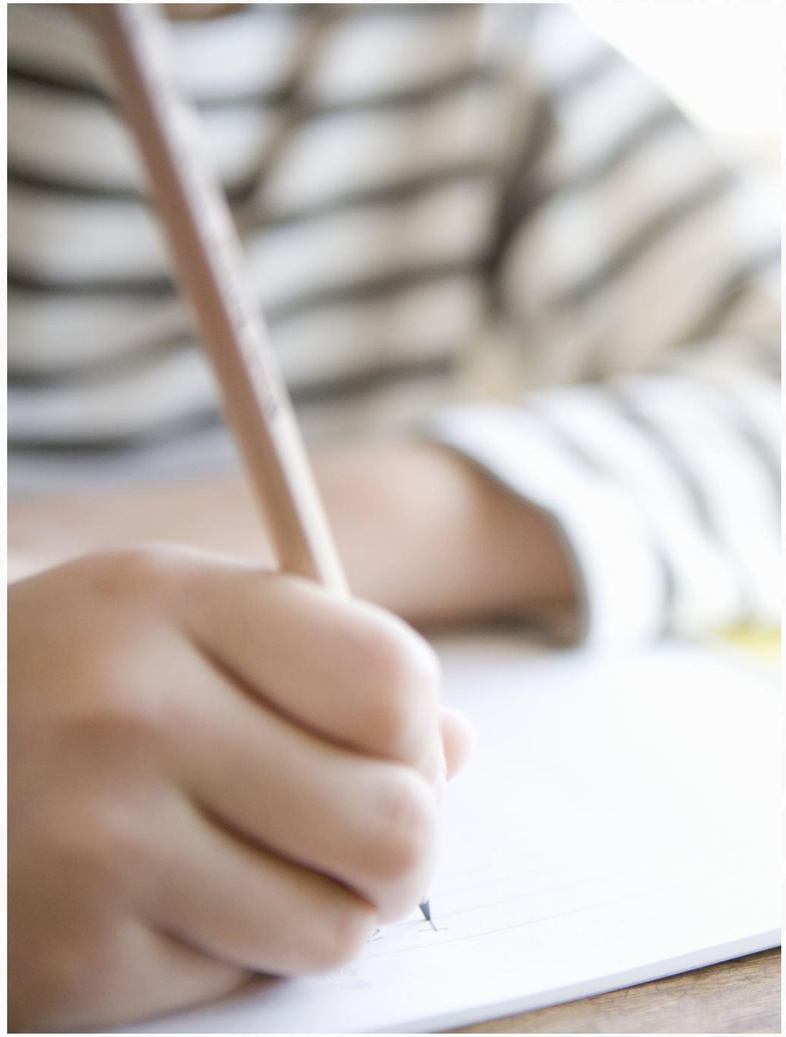
Evidence Based Treatment Options: Trauma-Focused Cognitive Behavioral Therapy



- Strongest evidence base
- Many RCTs showing superiority over comparison treatments or wait list
- Improves symptoms of PTSD as well as depression, anxiety, behavioral and cognitive problems

TF-CBT: The Trauma Narrative

- Relaxation techniques and distress management first!
- Narrative can be done in many ways: drawing, comic, written, recorded, play
    - Informed by child's capacity and developmental stage
- Exposure hierarchy:
    - Start with facts
    - Add thoughts and feelings
    - Add details to more uncomfortable parts
    - Final review and how they feel now (growth, strengths)
- Monitor anxiety level throughout and observe for decreases over time



Treatment Options: Family Therapy

Parent-child interaction therapy (PCIT) – ages 2-7

- One of the strongest evidence-based treatment models for young children with behavioral challenges due to a wide variety of reasons (Trauma, ADHD, ODD)

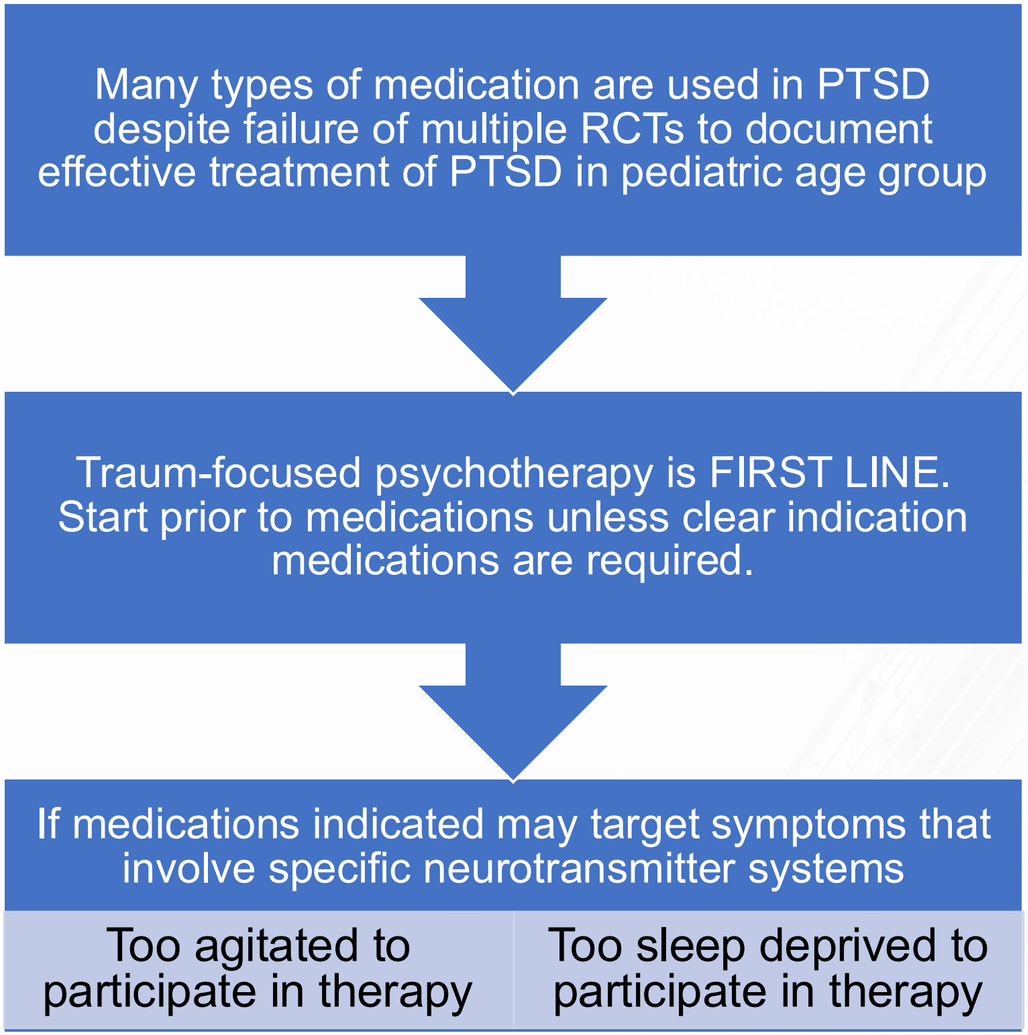
Child-Parent Psychotherapy (CPP) - ages 0-6

- One of the few options for children under age 5, one of few empirically validated treatments that is routinely conducted with ethnic minorities, treatment flexible and allows discussion of cultural-related experiences and cultural values

Treatment options: other therapy types

- CBITS (cognitive behavioral intervention for trauma in schools)
- KidNET: Narrative exposure therapy for children exposed to war/refugee experiences
- Trauma Grief Component Therapy for Adolescents (school)
- Trauma systems therapy (TST): TF-CBT with more systemic approach
- Trauma affect regulation: guideline for education and therapy (TARGET)
- Seeking Safety
- Psychological First Aid

Treatment Options: Medication



- Treat co-morbid disorders
- If symptoms recur consider decreasing/discontinuing rather than upping dose as possible initial response not due to the medication

Table 2. Current Psychopharmacologic Treatments for Posttraumatic Stress Disorder in Children and Adolescents

Medication	Level of Evidence[a]	Notes
Antiadrenergics		
Prazosin	IV	↓ Intrusive/ hyperarousal symptoms
Clonidine	IV	↓ Reenactment symptoms
Guanfacine	IV	↓ Intrusive symptoms
Propranolol	IV, 1 Negative RCT for secondary prevention	↓ Hyperarousal symptoms
Second-generation antipsychotics		
Quetiapine	IV	↓ TSCC scores and anxiety, depression and anger
Risperidone	IV	↓ Intrusive/ hyperarousal
Antiepileptic drugs		
Carbamazepine	IV	
Divalproex	IV	
SSRIs		
Sertraline	2 Negative RCTs	
Citalopram	IV	
Other agents/classes		
Cyproheptadine	IV	↓ Intrusive symptoms
Benzodiazepines	No evidence to support use	

[a]Levels of evidence: level I, systematic review or multiple randomized controlled trials; level II, randomized trial; level III, individual case-control studies; level IV, case-series; level V, expert opinion or based on physiology.

Symbol: ↓ = decrease.

Abbreviations: RCT = randomized controlled trial, SSRI = selective serotonin reuptake inhibitor, TSCC = Trauma Symptom Checklist for Children.

Strawn JR, Keeshin BR, DelBello MP, Geracioti TD Jr, & Putnam FW.
(2010). Psychopharmacologic treatment of posttrau matic stress disorder in children and adolescents: A review. *Journal of Clinical Psychiatry, 71*(7), 932-941.

Medication	Mechanism	Evidence	Dose Range
Clonidine	Alpha 2 adrenergic receptor agonist	Small studies: -Decreased hyperarousal, anxiety, impulsivity -Decreased PTSD symptoms in 7 children ages 3-6	0.05-0.2mg
Guanfacine	Selective alpha 2a adrenergic receptor agonist	Open label study found improvement in all symptom severity measures Most did not have improvement in nightmares	1-4mg ER (mean 1.9mg)
Prazosin	Central alpha 1 adrenergic antagonist	No large double-blind placebo controlled trials demonstrating safety or efficacy of prazosin in children Retrospective chart review showed improvement in sleep and nightmares over time 4 case studies with improvement in nightmares and sleep	1-15mg
Propranolol	Beta adrenergic antagonist	Small study where decreased reexperiencing and hyperarousal symptoms but no control group Several negative studies (3)	Max 2.5mg/kg/day

Selective Serotonin Reuptake Inhibitors (SSRIs)

- Decrease symptom clusters in adults with PTSD
- Child studies indicate efficacy in anxiety and depression, mixed findings for PTSD
- Open study with citalopram, reduced PTSD symptoms
- 2 negative RCTs did not support efficacy in children with PTSD

Other Medications

Anticonvulsants

•Hypersensitization of limbic system may be associated with increased calcium channel activity

- •Carbamazepine
- •Divalproex
- •Need to consider risk vs benefits

Antipsychotics

- Blocking dopamine may treat dopamine related symptoms (anxiety, hypervigilance, paranoia, psychosis)
  - Risperidone
  - Quetiapine:
  - Need to consider significant risks

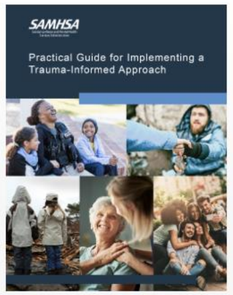
Opioids

- May block signaling to oversensitive amygdala, disrupt fear conditioning in peri-traumatic period
  - Naltrexone (opioid antagonist)
- Morphine reduced PTSD symptoms in acutely burned children after controlling for subjective pain
  - Acutely injured or hospital settings

Helpful Resources

NCTSN The National Child Traumatic Stress Network

https://www.nctsn.org/



samhsa practical guide to trauma informed approach

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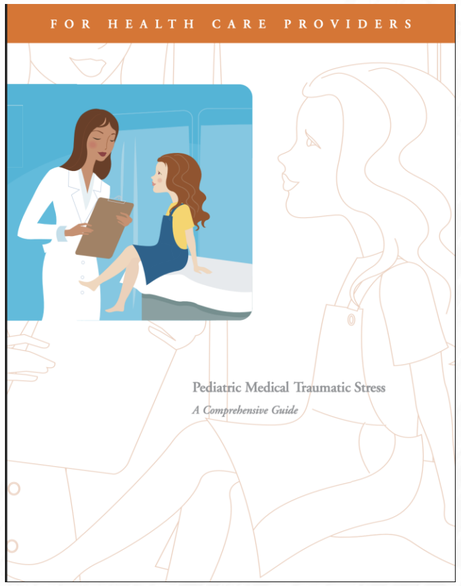
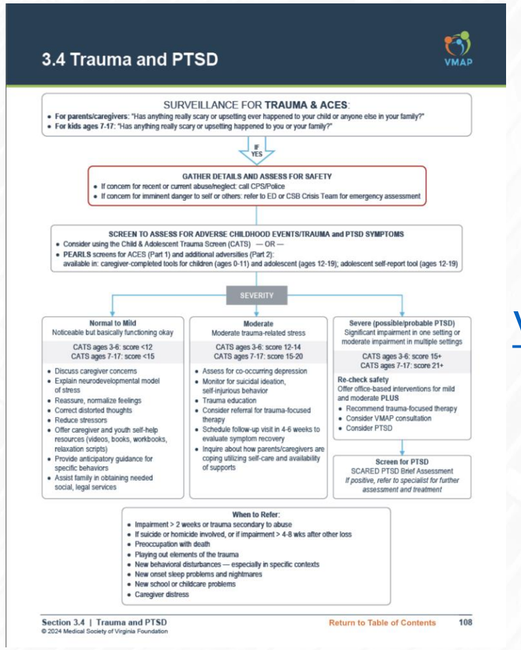
https://www.aap.org/traumaguide



NCTSN Toolkit



VMAP Guide - Trauma and PTSD

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