A Grantmaker’s Guide to Understanding and Addressing Trauma

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Defining our Terms

- Trauma
- Toxic Stress
- Adverse Childhood Experiences (ACEs)
- Trauma Informed
- Trauma Healing Practices
Positive/Tolerable/Toxic Stress

**POSITIVE**
Brief increases in heart rate, mild elevations in stress hormone levels.

**TOLERABLE**
Serious, temporary stress responses, buffered by supportive relationships.

**TOXIC**
Prolonged activation of stress response systems in the absence of protective relationships.
Adverse Childhood Experiences

LIFE EXPECTANCY
People with six or more ACEs died nearly 20 years earlier on average than those without ACEs.

ECONOMIC TOLL
The Centers for Disease Control and Prevention (CDC) estimates the lifetime costs associated with child maltreatment at $124 billion.
5 or more ACEs in MN

http://www.health.state.mn.us/divs/cfh/program/ace/
Literature Review: Sample findings

- 8 weeks of Mindfulness Based Stress Reduction (MBSR) reduced anxiety, depression and PTSD symptoms in 50 women with interpersonal trauma history. Depression scores dropped by 65%.
- 6 weeks of yoga improved sleep quality and reduced PTSD symptoms in veterans by 29%.
- 8 weeks of daily meditation helped New Orleans mental health workers improve symptoms of depression, anxiety and PTSD post Hurricane Katrina.
THE PHYSIOLOGY OF TRAUMA AND TRANSFORMATION

Lora Matz, M.S., LICSW
PrairieCare, Clinical Education Director and Senior Faculty with The Center for Mind-Body Medicine
Trauma lies in the Nervous System Not the Event Itself
Trauma is in the NERVOUS SYSTEM NOT THE EVENT
Trauma is Physiological

- When there is no time to think when facing a threat, our primary and natural instincts take over as instinctual-regulated by the Autonomic Nervous System (we are wired this way).

- At the root of a traumatic response is our 280 million year heritage-which resides in the deepest structures of the reptilian brain.
Trauma & Brain Development

Typical Development
- Cognition
- Social/Emotional
- Regulation
- Survival

Developmental Trauma
- Cognition
- Social/Emotional
- Regulation
- Survival

Adapted from Holt & Jordan, Ohio Dept. of Education
A perceived threat or stress automatically engages an emergency hot line in the brain (the emergency center-the Amygdala).

Once activated the **Amygdala** sends the equivalent of an all points bulletin that alerts other brain structures. This **RAPID RESPONSE ALARM** sends **SURVIVAL ENERGY TO EVERY SYSTEM IN THE BODY** releasing over 1,400 physical and chemical reactions and over 30 different hormones and neurotransmitters.

Over time if these chemicals are not released as in the case of trauma-they destabilize us and create greater vulnerability.
**Sympathetic nervous system**
- Heart rate, blood pressure, breathing speed up
- Breathing become shallow
- Digestion slows or stops
- Muscles tense
- Digestion slows down or stops
- Racing thoughts, difficulty focusing attention
- Cold hands – sometimes sweaty
- Strong emotional responses, negative thoughts
- Alarm based thinking
- The Fight-Flight Response is activated

**Parasympathetic nervous system**
- Breathing and heartbeat are regular
- Breathing returns to normal
- Muscles are relaxed
- Digestion is activated
- Ability to focus attention, better at solving problems, memory retention and memory retrieval
- Dry hands and normal temperature
- Helps you to feel quiet and peaceful and relaxed
- Positive thoughts and feelings of well being
- The Relaxation Response-Rest and Digest is activated (restores balance)
Threatening stimulus always gets first priority and turns on the neurochemistry of fear.
The Freezing Response

Is a biologically driven reaction of FREEZING in the face of threat.

This immobility response is instinctual and an unconscious/automatic reflex built into humans and animals who can’t escape a situation by fighting or fleeing. **With Freezing-the immobilized body undergoes huge biochemical extremes in a very short time.**

A flood of endogenous opioids—the brain’s natural heroin-like substances—is released, killing pain, producing calm and a sense of psychological distance from what is happening.

The result is that these systems become overactive and sensitized, leading to many emotional, behavioral and cognitive problems long after the event is over.
1. Hyperactivation of the Amygdala
2. Alteration in Hippocampal Functioning and Volume
3. Hypo-activation of key prefrontal cortex areas: hypersensitivity to potential trauma and decreased ability to mobilize judgment, make decisions, feel grounded in body and have empathy for others

Hormonal Changes

The HPA axis has been implicated as playing a fundamental role in the psychobiology of trauma

- The HPA axis provides a feedback loop of hormones to regulate stress
- Extreme stress *sensitizes* the HPA feedback process
- Overall daily cortisol Levels are significantly lower in those diagnosed with PTSD (though they were likely higher in the period immediately after the trauma)

Symptoms of Un-Discharged Traumatic Stress

- An anxiety, panic, hyperactivity
- Exaggerated startle
- Inability to relax, restlessness
- Hyper-vigilance, digestive problems
- Emotional flooding
- Chronic pain, sleeplessness
- Hostility/rage

Cortisol

- Depression, flat affect
- Lethargy, deadness
- Exhaustion, chronic fatigue
- Disorientation
- Disconnection, dissociation
- Complex syndromes, pain
- Low blood pressure
- Poor digestion

Unhealed Trauma

- Can manifest as:
  - A "brokenness" and sense of "shattering" of one’s sense of wholeness, one’s identity, belief system
  - In patterns of behaviors that carry on the pain to others in relationship

“If Trauma is not transformed, it is transmitted.” Richard Rohr