Working with the Neurobiological Legacy of Trauma: “Trauma and the Body"

Level I Webinar Program
Monday, September 21, 2015

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The Legacy of Trauma

“The post-traumatic syndrome is the result of a failure of time to heal all wounds: the memory of the trauma is not integrated and accepted as a part of one’s personal past. Instead, it is dissociated. When this occurs, one particular event, or series of events, can alter people’s psychological, biological, and social equilibrium to such a degree that the memory of the trauma comes to taint all other experiences.”

van der Kolk, 1996

What is “traumatic” depends upon our vulnerability

Because children are so dependent on their caretakers for survival and safety, many experiences are traumatic for them that might not traumatize an adult

• “Frightened and frightening” caregiving (Lyons-Ruth)
• Neglect, separation, abandonment (Perry)
• Exposure to domestic violence, witnessing violence
• Parental fighting
• Threatening words and behavior: “I’ll kill you if you . . .”
• Secondary effects of parental PTSD (Yehuda)
• Accidents, medical crises, surgery, invasive procedures
• Death of a parent or parent figure

Fisher, 2009
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Why does time get misplaced after trauma?

“I used to think that I was misplaced in time, but now I know that time got misplaced in me.”

Jane, an incest survivor

“Trauma” refers not just to the traumatic events but to their ‘living legacy’ of symptoms

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The Triune Brain [McLean, 1967]

- **Mammalian Brain or Limbic System:** emotional and somatosensory memory, attachment
- **Frontal Cortex:** regulatory abilities, cognitive and executive functioning
- **Reptilian Brain:** autonomic arousal, instinctive responses

Reptilian Brain: Speaks the language of emotion

Mammalian Brain: Speaks the language of sensation and impulse

Threat and the Brain

- **Limbic System or Emotional Brain:** perceives and reacts to threat
- **Reptilian Brain:** compels our instinctive responses and functions
- **Amygdala:** Fire Alarm and Emotional Memory Center

The Emergency Stress Response

- **Fight-Flight:** Cortisol release triggers Parasympathetic System
- **Freeze-Submit:** Parasympathetic Nervous System: decreased autonomic activation, shaking and trembling, rebound gastrointestinal activity, exhaustion, depletion, shutting down, numbing, total collapse, “licking the wounds”

Sympathetic Nervous System: noradrenaline release, increased heart rate and respiration, rush of energy to muscle tissue, suppression of non-essential systems, frontal lobe inhibition
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Triggers and Triggering

• The human body is self-protective: it automatically reacts to any cue indicating the possibility of danger.

• The brain is biased to respond to any danger signal it has known before: times of day, days of the week, times of year, gender and age, facial expression, colors, smells or sounds, weather conditions, a tone of voice or body language, touch, even our own emotions and body sensations.

• When we get triggered, we experience sudden and overwhelming feelings, sensations, and impulses that convey, “I AM in danger—right now!” not “I was in danger then.”

Fisher, 2015

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Triggers: Brainstorming

<table>
<thead>
<tr>
<th>Being surprised</th>
<th>Being asked a lot of ?s, especially by authority figures</th>
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<tbody>
<tr>
<td>Having to wait</td>
<td>Being watched</td>
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<td>Being in my own family home</td>
<td>Combat movies</td>
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<td>Being alone</td>
<td>Suicide in the news</td>
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<td>Being in groups</td>
<td>Feeling guilty, shame</td>
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<td>Failure of others to follow through, do their jobs</td>
<td>People leaving</td>
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<td>Seeing ex, seeing or hearing name, seeing look-alikes</td>
<td>Break-ups</td>
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<td>Seeing, saying or hearing anything</td>
<td>Feeling trapped</td>
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<td>Angry and angry expressions</td>
<td>Being told what to do</td>
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<td>Seeing people spank their children</td>
<td>Change (bad or good)</td>
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<td>Disappointing people or being disappointed by them</td>
<td>People who are vulnerable</td>
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<td>Dark rooms</td>
<td>Certain kinds of altered states</td>
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<td>The silent treatment</td>
<td>Witnessing others being traumatized</td>
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<td>Being overloaded, overwhelmed</td>
<td>Heights</td>
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<td>Being happy</td>
<td>Confrontation</td>
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<td>Not being happy</td>
<td>Feeling center of attention</td>
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<tr>
<td>Certain kinds of people</td>
<td>Feeling inferior</td>
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<tr>
<td>Certain kinds of people</td>
<td>Alcohol, drugs</td>
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</tbody>
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Brainstorming: How can you tell when you are triggered?

• Triggered reactions = sudden, intense, and hard to shift
• Anxiety, fear
• Increased heart rate
• Pit, tightness, ditching in stomach
• Shallow breathing, hyperventilation, holding the breath
• Obsessive thinking
• Response disproportional to event, major change in previous state
• 0-to-60 reactions
• “I’m doing something I shouldn’t/didn’t want to do”
• Hypertension
• Muscle tension (either whole body or specific areas)
• Twitches, tics
• Jumping to conclusions
• Jumping to “worst case scenario”
• Feeling that “the sky is falling”
• Sense of not belonging, being on the outside looking in
• Fear of abandonment or aloneness
• Feeling small
Implicit memories take many different forms

- **Intrusive emotions disproportional to the stimulus**: fear, anger, shame, dread
- **Thoughts the predict threat or failure**, as well as intrusive, contradictory, or ruminative thoughts
- **Impulses**: to run, to hurt the body, drink or drug, hide under the bed, avoid going out
- **Somatic sensations**: spinning, dizziness, pain, heaviness, floating, tingling, numbing, "noise" in the head, loss of hearing or vision
- **Attachment symptoms**: yearning for contact, painful loneliness, and a felt sense of abandonment

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Autonomic Nervous System is Shaped by Parental Attachment Behavior

- **High Sympathetic Activation**:
  - Optimal Arousal Zone
  - Window of "Tolerance"
  - Feelings can be tolerated and we feel safe

- **Low Parasympathetic Activation**:

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Optimal Arousal Zone:
Feelings can be tolerated and we feel safe

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Autonomic Adaptation to a Threatening World

- **Hyperarousal-Related Symptoms**: Impulsivity, risk-taking, poor judgment, racing thoughts, Perceptual and muscular hypervigilance, post-traumatic paranoia, states of frozen terror, Intrusive images, sensations, emotions, flashbacks and nightmares, Self-destructive and addictive behavior

- **Hyparousal-Related Symptoms**: Flat affect, numb, feels dead or empty, "not there" Cognitive functioning slowed, "lazy" Preoccupied with shame, despair and self-hating, Disabled defensive responses, victim identity

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Over time, the traumatized individual comes to identify with these symptom-memories: “It’s who I am”

- Pervasive, chronic fear = “I’m not safe anywhere”
- Loss of energy and ability to feel = “I have no motivation,” “I’m a fraud”
- Addictive behavior = “I’m a loser—I’m just a drunk”
- Chronic irritability = “I’m an angry person”
- Mistrust and fear of people = “I don’t like people”
- Shame = “I am a loser—a failure—I’m worthless”
- Wanting to die = “I deserve to die”

OR, other symptoms develop as valiant attempts to cope with the dysregulation

- Self-injury and self-starvation to discharge tension somatically
- Suicidal thoughts and impulses to “control” and overwhelm by combating feelings of helplessness
- High-risk behavior to activate the adrenaline response
- Re-enactment behavior to keep memories “in their place”
- Caretaking of others to combat a sense of worthlessness
- Addictive behavior to alter consciousness and to “treat” specific traumatic symptoms

‘One of the most robust findings of the neuro-imaging studies: under stress, the higher brain areas involved in executive functioning”—planning for the future, anticipating the consequences of one’s actions, and inhibiting inappropriate responses—become less active.”

In order for the amygdala to respond to fear reactions, the prefrontal region has to be shut down. . . . [Treatment] of pathologic fear may require that the patient learn to increase activity in the prefrontal region so that the amygdala is less free to express fear.”

LeDoux, 2003

To Stabilize, Frontal Lobe Inhibition Must Be Reversed

What are therapists trained to do?

- Listen empathically
- Communicate unconditional positive regard
- Adhere to the principle of neutrality
- Be non-directive
- Foster experiences of direct connection with affect
- Encourage the expression of affect, especially in therapy
- Teach how to use affect to interpret personal reality
- Encourage connection to painful past experiences as a way of understanding present conflicts and symptoms
- Discuss and interpret transference phenomena

Fisher, 2009
What should the trauma-wise therapist do?

- Offer unconditional acceptance of the client but not the symptoms: those are ‘red badges of courage’
- Take an active role in the treatment, recognizing that the client’s prefrontal inhibition interferes with self-direction
- Teach the patient how to distance from affect, how to modulate and titrate affects, before connecting to emotion
- Teach the patient that feelings and sensations are the most useful guides for interpreting her past reality, but cognition is a better guide to understanding present reality
- Instead of interpreting the transference, offer education about trauma and its effects on relationships

Transforming Trauma-related Responses Requires Curiosity and Mindfulness

“Where attention goes, neural firing goes. And where neurons fire, new connections can be made.”

Siegel, 2006

Ingredients of Mindfulness

- **Awareness** or recognition of sensation, thought, emotion, movement, external stimulus (medial prefrontal cortex)
- **Detachment**: noticing it but ‘not participating’ in it or getting swept away by it (medial prefrontal cortex)
- **Labeling**: putting neutral language to what is noticed (e.g., “I’m having a thought—some emotion is coming up”)
- **Mindfulness can be directed or directionless**: following the flow of thoughts, feelings and body experience as it unfolds or deliberately focused on an aspect of experience (e.g., the breath)

Fisher, 2009
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**Facilitating Mindful Awareness**

- Mindfulness in therapy depends upon the therapist becoming more mindful: slowing the pace, refraining from interpretation or direction in favor of neutral observation, helping the patient begin to focus on the flow of thoughts, feelings, & body sensations.

- Mindful attention is present moment attention. We use “retrospective mindfulness” to bring the client into present time: ”As you are talking about what happened then, what do you notice happening inside you now?”

- Curiosity is cultivated because of its role as an entrée into mindfulness: “Perhaps by binging and purging, you were trying to help yourself get to the wedding...”

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**Distinguishing Thoughts, Feelings, and Body Sensations**

In traditional talking treatments, we do not always clearly differentiate cognition, emotion, and body responses:

For example, when we say, “I feel unsafe,”

- It could reflect a cognition: “I am never safe,” “The world is not a safe place”
- It could mean an emotion: “I’m feeling frightened”
- It could mean bodily sensation: “My chest is tight; my heart is racing; it’s hard to take a breath”
- It could mean action: “I want to hurt myself”

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**On what do we focus?**

- Trauma patients generally come to treatment because of post-traumatic triggering: trauma-related stimuli have stimulated anxiety symptoms, intrusive memories, overwhelming emotions, depression, and/or suicidality

- The first goal of trauma treatment is to help patients recognize the role of triggering in causing and perpetuating their symptoms in order to empower them

- With greater understanding comes decreased fear and shame when these responses are triggered. With more self-awareness and a language to describe what is happening, the capacity for self-regulation in the face of triggering can potentially increase

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Sensorimotor Psychotherapy Institute

Fisher, 2008

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Connecting Symptoms to Triggers

In the context of client’s having cut herself, therapist tries to evoke curiosity:

| I hear you cut last night—what might have triggered you? |
| What was going on just before? |
| What feelings and thoughts came up when he didn’t call? |
| And you probably couldn’t tell anyone because you felt ashamed? |
| “I don’t know—I just hate myself” |
| “My boy friend was supposed to call me, but he didn’t” |
| “I was mad at myself for trusting him—that’s why I hate myself” |
| “Yeah, I thought, “What kind of fool am I for trusting him?” |

Fisher, 2006

Connecting Symptoms to Triggers, cont.

Therapist continues to ask mindful:

| When you had that thought, what feelings came up? |
| How overwhelmed were you? |
| I wanted to kill him, and I wanted to kill me |
| Completely overwhelmed—I couldn’t stand it |
| But now I’m feeling stupid, and my arm is killing me |
| Do you want me to show you something else to do that will help you feel less overwhelmed? It won’t work as well, but it doesn’t get you in trouble |
| Sure… I’d like to survive this weekend |

Fisher, 2006

Dis-identifying from Symptoms

• When we preface a self-observation with the pronoun, “I,” we identify with that feeling or symptom, rather than just noticing it. But identifying with states of shame and self-loathing or helplessness and hopelessness is not adaptive. Thus, we must help the client to dis-identify with the symptoms

• By separating self from symptoms: “When you feel stressed, that old belief, ‘I’m a loser,’ gets more intense and feel real—isn’t that a coincidence?”

• By labeling symptoms as ‘just’ symptoms: “That anxiety is meant to be your early warning signal for danger—I wondered what triggered it . . .”

Fisher, 2008
Re-framing the Symptoms

- We should assume that every symptom is a valuable piece of information about how the client survived, adaptive instead of pathological.
- Use psychoeducational material to wonder about the meaning of each symptom: is this a feeling memory? Or a valiant attempt to cope or self-regulate?
- Heighten curiosity about what the symptom is trying to accomplish: Increase hypoarousal? Decrease hyperarousal? Regulate feelings of emptiness or loneliness? Restore a sense of power and control over one’s own experience? Admire the symptom as a survival resource!

What Symptoms Try to Accomplish

Generally, these secondary symptoms reflect unconscious, instinctive efforts to regulate autonomic arousal:

- Suicidal symptoms: “You found a way to live by always having a way out, a bail-out plan, that gave you some control over your fate”
- Cutting or self-injury: “Hurting the body when you feel overwhelmed is an ingenious way to get relief because it triggers your body to produce adrenaline and endorphins”
- Mistrust and paranoia: “You learned the hard way that it was safer to assume the worst in people . . .”
- Eating disorders and addictive behavior: “You found that alcohol took away the fear of being around people . . .” “Yes, when you restrict, you can’t feel . . . it lowers your activation.”

Trying to stay here, not ‘go there’

Fisher, 2006
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