The Neurobiology of Trauma and Its Application to Successful Treatment

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Non-financial disclosure

I, Judith Swack have no relevant financial relationships to disclose.
I, Wendy Rawlings have no relevant financial relationships to disclose.

The Presenters

Judith A. Swack, Ph.D. president of Healing from the Body Level Up, Inc., is a scientist, teacher, healer, visionary, and originator of Healing From the Body Level Up methodology which synthesizes biomedical research with NLP and Energy Psychology techniques resulting in an innovative and powerful methodology with transformative results.

Wendy Rawlings, MS  LMHC of Wendy Rawlings Counseling, is a therapist in private practice for over 35 years. Wendy counsels adults, adolescents, couples, and children with trauma. She also counsels bariatric clients, veterans with PTSD and their families, and practices collaborative law. She provides counselor supervision, serves on professional organization boards and is a past president of WMHCA.
Learning Objectives

• List the two major categories of trauma and define the differences between them.
• Describe the layers of trauma with their components.
• Use a meridian tapping technique for releasing eliminating traumatic emotion

Introduction

Trauma is structured and needs to be cleared in layers. It has neurobiological underpinnings that need to be accurately mapped to be successfully treated.

In this class you will learn:

• How trauma is structured
• An evidence-based technique from the field of Energy Psychology for rapidly clearing trauma from the conscious mind, unconscious mind and body.
The Body’s Neurochemical Response to Trauma

**Flight/Fight/Freeze Reflex**

- **Amygdala** responds to perceived danger, sends signal to hippocampus which stimulates hypothalamus to stimulate Pituitary gland.

- Pituitary sends ACTH directly down spinal cord and through blood stream.

- ACTH stimulates adrenal glands to release Adrenaline, Cortisol, and Endorphins.

**Physiological responses to the Fight/Flight/Freeze Reflex**

- Adrenalin stimulates muscle contractions.

- Cortisol stimulates release of glucose from the liver and raises blood fatty acid levels.

- ACTH stimulates mast cell degranulation causing an allergic response.

- Cortisol suppresses the immune system.

- Blood withdraws from the periphery.

- Bladder and bowels discharge.

- Endorphins cause numbness.
Adverse Childhood Experiences

The Adverse Childhood Experiences (ACEs) study offers a compelling correlation between childhood trauma and addiction:

- For each item noted on the ACEs, early substance use increased two to four times.
- Those who scored five or more on the ACEs were seven to 10 times more likely to abuse substances.
- Those who reported abusive and traumatic childhood events were 2/3 more likely to be IV drug users.
- Higher rates for depression, domestic violence, sexually transmitted diseases and heart disease in addition to substance abuse were present if subject scored 3 or more on the ACEs.

The Brain’s Response to Trauma

“While the left brain does all the talking, the right brain carries the music of experience.” —Bessel van der Kolk


Presented by: Judith A. Swack, PhD and Wendy Rawlings, LMHC, NCC, CDC
Left Brain Right Brain

Linguistic, sequential, and analytical
Remembers facts, statistics, and the vocabulary of events
It helps us explain and order our experiences.

Intuitive, emotional, visual, spatial, and tactile
Stores memories of sound, touch, smell, and the emotions they evoke
Reacts automatically to voices, facial features, gestures and places experienced in the past

Trauma is a Right Brain Activity

• When we are traumatized or remembering trauma or undergoing an experience similar to the original trauma, it is a right brain event.
• The resources of logic, order, speech, and memory located on the left side of the brain all but shut down (that’s why we get so scared or angry we can’t “think straight” or speak).
Stan and Ute’s Acute Stress/PTSD Symptoms

- Sleep disturbance
- Increased irritability
- Hypervigilance
- Increased alcohol consumption
- Intrusive thoughts and images
- Isolation

Flight|Fright Brain Scan

White areas show decreased activation.

Prefrontal Cortex struggles to maintain rational control.

Dorsolateral Prefrontal Cortex shows lost sense of time i.e., the feeling that “this will last forever.”

Right Amygdala can’t distinguish past from present and reacts as if the trauma is happening now.

Lateral Nucleus of Thalamus shows inability to filter information, i.e., flooding.

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“Dissociation is the essence of trauma. The overwhelming experience is split off and fragmented, so that the emotions, sounds, images, thoughts, and physical sensations related to the trauma take on a life of their own. The sensory fragments of memory intrude into the present, where they are literally relived. As long as the trauma is not resolved, the stress hormones that the body secretes to protect itself keep circulating, and the defensive movements and emotional responses keep getting replayed.”—Bessel Van der Kolk
Scan showing the Right and Left Brain in Trauma

Bright spots in (A) the limbic brain, and (B) the visual cortex, show heightened activation. In drawing © the brain’s speech center shows markedly decreased activation.

Because the brain is essentially offline, traditional “talk therapies” that rely on prefrontal cortex interaction become ineffective. We need to get to the place the trauma lives (and the thinking brain has no idea of the address) and heal the trauma.

The intervention you will learn is a complementary therapy and can be used with any type of therapy you currently practice.
The Emotional Response

Loss and Violence Trauma

Loss and Violence Trauma

I. Negative Emotions

A. Shock/Fear
B. Anger/Rage
C. Sadness/Sorrow
D. Hurt/Pain
# Loss and Violence Trauma

## II. Limiting (Core) Beliefs

### A. Responsibility (guilt/shame/blame)

1. It’s my fault because_________________.
2. It’s other people’s fault because_________________.
3. Disconnection from God. It’s God’s fault because_________________.  
   *(How could God let this happen? There is no God.)*

### B. Safety

1. My boundaries have been violated or breached.
2. I don’t feel safe/I feel vulnerable
3. I am a victim/I am a target
4. People/men/women are dangerous and/or crazy
5. I don’t trust anyone
6. I can’t receive from anyone.

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### Loss Trauma vs. Violence Trauma

<table>
<thead>
<tr>
<th>Loss Trauma</th>
<th>Violence Trauma</th>
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<tbody>
<tr>
<td>II. Limiting (Core) Beliefs</td>
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<tr>
<td>B. Who will take care of me?</td>
<td>B. Safety</td>
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<tr>
<td>C. People leave me. I can't trust them</td>
<td>1. My boundaries have been violated or breached.</td>
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<td><strong>D. I am powerless or helpless/have no control.</strong></td>
<td><strong>C. Power and control issues</strong></td>
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<tr>
<td><strong>C. I am bad/unlovable/unwanted/undeserving/unworthy</strong></td>
<td><strong>1. I am powerless/helpless. I have no control</strong></td>
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<td><strong>2. Power is bad.</strong></td>
<td><strong>2. Power is bad.</strong></td>
</tr>
<tr>
<td><strong>3. I am afraid of power (mine and/or other people’s.)</strong></td>
<td><strong>D. I am bad/unlovable/unwanted/undeserving-unworthy.</strong></td>
</tr>
<tr>
<td><strong>III. Feelings of emptiness (loss or grief)</strong></td>
<td><strong>III. Feelings of pollution</strong></td>
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### Loss and Violence Trauma

**IV. Optional**

- **A. Bitterness/hate**
- **B. Other negative emotions (disappointment, loneliness, etc.)**
- **C. Parts that feel that I’m already dead**
- **D. Other limiting beliefs**
- **E. Irrational thoughts**
- **F. Limiting decisions (I decided to do ______________ because of this trauma.**
- **G. Limiting identities [I am ____________ (something negative)].**
- **H. External messages**
- **I. Amend making/forgiveness**
- **J. ROOT CAUSE: the Setup**
- **V. ANTICIPATORY PHOBIAS**
What is a reflex?

Pavlov's Experiment

1. Before conditioning
   - Food (Unconditioned stimulus)
   - Salivation (Unconditioned response)

2. Before conditioning
   - Tuning fork (Neutral stimulus)
   - No salivation (No conditioned response)

3. During conditioning
   - Tuning fork
   - Food
   - Salivation (Unconditioned response)

4. After conditioning
   - Tuning fork
   - Salivation (Conditioned response)

**What fires together wires together**

https://www.age-of-the-sage.org/psychology/pavlov.html

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Treating Addiction as a Result of Trauma

Clearly, stress and trauma are linked to addiction. Early trauma impacts a person’s ability to cope with stress. When stress becomes unbearable, overwhelming and frightening, it often leads to addiction.

Trauma and addiction need to be treated as co-occurring and interrelated. Without helping individuals cope with their terror, shame, fear and isolation, there is no upside to sobriety for them. Those who are trauma victims and use drugs/alcohol do so not because it’s fun or because it makes them happy. They use substances to find short-lived solace from an internal experience that is unbearable.

--Deena McMahon (in The Trauma Imprint 12/17/2018)
What is phobia/trauma?

A phobia is a *conditioned response* of the fight/flight/freeze reflex that starts when a person experiences a traumatic shock (physical or emotional).

At the time the flight/fight/freeze reflex fired off, anything that was in the environment can become the conditioned stimulus and trigger the original reflex reaction, (like a body flashback).

Depending on the circumstances the shock may imprint as a phobia, or in more severe cases, a trauma.

What is a person to do? Homeostasis.

For every “on” system in the body there’s an “off” system. We have natural stress-relieving mechanisms in our bodies and techniques that we unconsciously use all the time to neutralize the fight or flight reflex.
Sustained stress carries many health risks!

The Body’s Neurochemical Response to Trauma
Feedback Regulation

When the concentration of cortisol and endorphins rise to a high enough level, it shuts off the Fight/Flight reflex at the level of the hypothalamus and pituitary.

Cortisol and Endorphins.
Energy Psychology

Not surprisingly, all the places we stimulate to calm ourselves correspond to the ends of acupuncture meridians. Acupuncture has been shown to stimulate the release of cortisol and endorphins. This group of techniques are now generally called “Meridian Tapping Techniques.” The field is called “Energy Psychology.”

Emotional Freedom Technique, EFT, Thought Field Therapy, TFT

The Natural Bio-Destressing Technique

In the Natural Bio-Destressing Technique you can clear a phobic reaction by:
1. focusing on what’s frightening or upsetting you and
2. intentionally tapping all your natural stress relief points to activate the calming reflex.

This neutralizes the fight/flight/freeze reaction and deactivates the triggering stimuli.
The Tapping Points

- Eyebrow
- Under nose
- Under lip
- Collarbone
- Under eye
- Top of head
- Under arm
- Liver
- (4 in.)
- Karate chop
- 9 gamut

So Tappy Together | Group Practice

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Thought Field Therapy

January 2016: After 34 years, Thought Field Therapy (TFT), was recently listed as an evidence-based practice in the Substance Abuse and Mental Health Services Administration (SAMHSA) registry (NREPP).

Thought Field Therapy was found to be effective for:
- Trauma and Stressor-Related Disorders and Symptoms
- Self-Regulation
- Personal Resilience/Self-Concept
Thought Field Therapy was found to be promising for:

- Phobia, Panic, and Generalized Anxiety Disorders and Symptoms
- Depression & Depressive Symptoms
- General Functioning & Well-Being

Dawson Church, Contributor Author of the award-winning science book *The Genie in Your Genes* | 7/31/2017

**VA Approves EFT Treatment**

Emotional Freedom Techniques (EFT) has been approved as a “generally safe” therapy by the US Veterans Administration (VA). After reviewing the extensive evidence for the safety and efficacy of EFT, a group of experts in the VAs Integrative Health Coordinating Center published a statement approving EFT and several other complementary and integrative health (CIH) practices.

The approval means that VA therapists will be able to use EFT with their clients suffering from PTSD, depression, anxiety, pain and other conditions.
References


References


Additional Resource

The *Science of Tapping* websites designed to offer tapping professionals an asset that they could share with colleagues, with clients and their family members along with web-based support to explain the research on how and why tapping works.

[www.scienceoftapping.com](http://www.scienceoftapping.com) for the tapping practitioner

[www.scienceoftapping.org](http://www.scienceoftapping.org) for those we wish "to educate and influence."

The .com page has a membership site for practitioners with the streaming videos, discussion forum, practitioner directory etc.

The .org site is for the public and has the top research (i.e. meta analyses, RCTs, review papers with commentary), Tapping in the news and more.
Q&A

Any questions?

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