

TREATING TRAUMA ACROSS THE LIFE SPAN: FROM EARLY DEVELOPMENTAL TRAUMA TO THE EXPERIENCE OF WAR



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POST-TRAUMATIC STRESS DISORDER CIRCUIT



POST-TRAUMATIC STRESS DISORDER CIRCUIT

- ◎ MALFUNCTIONING OF THE VENTROMEDIAL PREFRONTAL CORTEX (vmPFC) IS THOUGHT TO INCREASE VULNERABILITY BECAUSE IT MODULATES THE AMYGDALA, A DRIVER OF FEAR AND ANXIETY
- ◎ NORMALLY EXTINCTION REPLACES A FEAR RESPONSE WHEN A NEUTRAL RESPONSE IS LEARNED BY THE HIPPOCAMPUS AND THE DORSOLATERAL PREFRONTAL CORTEX
- ◎ THE vmPFC IS BELIEVED TO SERVE AS THE CRITICAL LINK BETWEEN THE DORSOLATERAL PFC AND THE AMYGDALA ALLOWING EXTINCTION LEARNING TO QUIET THE AMYGDALA

**POST-TRAUMATIC STRESS
DISORDER CIRCUIT**

- ◉ SYMPTOMS SUCH AS DISTURBED SLEEP AND INCREASED VIGILANCE ARE EXPECTED IMMEDIATELY AFTER A TRAUMATIC EVENT
- ◉ PTSD DEVELOPES WEEKS, MONTHS AND YEARS LATER IN ABOUT 20% OF TRAUMA VICTIMS
- ◉ EXTINCTION CAN OCCUR VIA REPEATED EXPOSURE TO A PARTICULAR TRAUMA-RELATED MEMORY OR CUE
- ◉ THE FEAR RESPONSE IS REPLACED BY A NEUTRAL RESPONSE. PTSD CAN BE CONSIDERED A *FAILURE OF EXTINCTION*

**POST-TRAUMATIC STRESS
DISORDER CIRCUIT**

- ◉ EVIDENCE SUGGESTS A DYSFUNCTIONAL CIRCUIT MAKES EXTINCTION HARDER TO ACHIEVE
- ◉ KEY BRAIN HUBS FOR FEAR ARE THE AMYGDALA AND A GALAXY OF ADJACENT CELLS CALLED THE BED NUCLEUS OF THE STRIA TERMINALIS
- ◉ THESE TWO AREAS DRIVE VIRTUALLY ALL SYMPTOMS OF FEAR INCLUDING RACING HEART, INCREASED SWEATING, FREEZING AND EXAGGERATED STARTLE RESPONSE

**POST-TRAUMATIC STRESS
DISORDER CIRCUIT**

- ◉ IF AMYGDALA IS THE ENGINE OF FEAR, SOMETHING SHOULD BE RESPONSIBLE FOR TURNING IT OFF
- ◉ GREG QUIRK AT THE UNIVERSITY OF PUERTO RICO SHOWED A TINY AREA IN THE PREFRONTAL CORTEX OF RODENTS CALLED THE INFRALIMBIC REGION IS CENTRAL TO FEAR EXTINCTION
- ◉ ACTIVITY IN THIS AREA INCREASES DURING EXTINCTION SERVING AS A BRAKE ON THE AMYGDALA WHILE BLOCKING THE INFRALIMBIC REGION IMPAIRS EXTINCTION

POST-TRAUMATIC STRESS DISORDER CIRCUIT

- ⊙ IN PTSD, NEUROIMAGING SHOWS REDUCED ACTIVITY IN vmPFC WHICH IS COMPARABLE TO THE RAT'S INFRALIMBIC REGION
- ⊙ THE PATIENTS ALSO HAD SMALLER vmPFC RELATIVE TO TRAUMA – EXPOSED CONTROLS
- ⊙ EXTINCTION INVOLVES INCREASE IN vmPFC ACTIVITY AND REDUCED FIRING OF PFC

POST-TRAUMATIC STRESS DISORDER CIRCUIT

- ⊙ IN COGNITIVE-BEHAVIORAL THERAPY IMAGING SHOWS THE IMPORTANCE OF THE HIPPOCAMPUS FOR ASSESSING CONTEXT AND THE DORSOLATERAL PFC FOR LEARNING TO TOLERATE AND OVERCOME FEAR
- ⊙ THE DORSOLATERAL PFC DOESN'T DIRECTLY CONNECT TO THE AMYGDALA
- ⊙ THE vmPFC IS THOUGHT TO BE THE CRITICAL LINK BETWEEN THE DORSOLATERAL PFC AND AMYGDALA ALLOWING COGNITIVE TREATMENT TO PRODUCE NEW LEARNING AND RECOVERY

INSEL, THOMAS. "FAULTY CIRCUITS". SCIENTIFIC AMERICAN. APRIL 2010, PPGS 44-51.

MEMORY

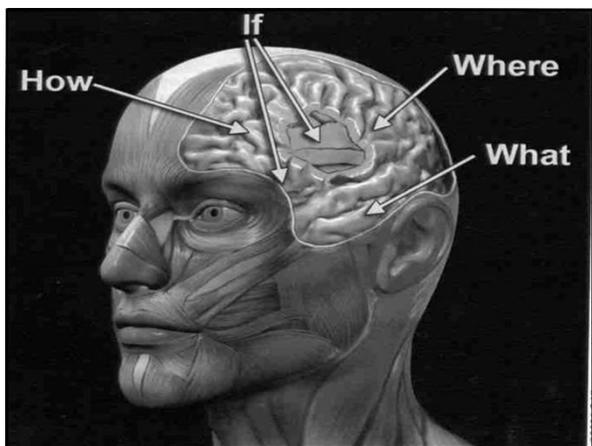
- ⊙ Explicit and implicit memories when made only key features are stored
- ⊙ When brain retrieves it is not like a computer that pulls up the whole file
- ⊙ Brain rebuilds memory from key features
 - Simulation
- ⊙ Each recollection is shaded by the emotional state especially if unpleasant or pleasant

MEMORY

- ◉ When recollection take place it is now with these associations
 - Example-If increasingly associate negative feeling states with memory it will become more negative. On the other hand, if add positive meaning and feelings to the memory you start to build a more positive view (positive feelings also increase immune and cardiovascular functioning and lift mood)

FEATURE DETECTORS

- ◆ Temporal Lobe (“What”)
 - Object identification
- ◆ Parietal Lobe (“Where”)
 - Spatial information
- ◆ Limbic, Dorsolateral Prefrontal and Orbitofrontal Circuits (“If”)
 - Engagement or Avoidance
- ◆ Dorsolateral Prefrontal (“How”)
 - Novel situations requiring problem solving



FEATURE DETECTORS

- ⦿ Trauma survivors may lack adequate feature detectors
- ⦿ They may not have representations for empathy, love and/or happiness
- ⦿ Such words could have little or no meaning and elicit no corresponding body states.
- ⦿ Incredibly lonely

MISATTUNED PRIMARY CAREGIVER

- ⦿ Lack of “resonance”
- ⦿ Triggers dysregulated states
- ⦿ Not able to repair these states
 - States become traits
 - Defenses are embedded in evolving personality
 - Potential Personality Disorders
 - Borderline Personality Disorder

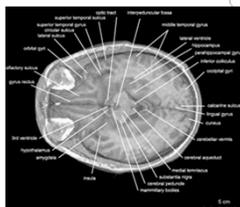
MALADAPTIVE BRAIN DEVELOPMENT

- ♦ Especially secondary to “relational trauma”
 - *Severe Affective Dysregulation*
 - Loss of emotional self-regulation
 - Expressed as loss of ability to regulate the Intensity and Duration of affect

STRESS MANAGEMENT

MALADAPTIVE BRAIN DEVELOPMENT

Paralimbic areas of the right hemisphere are preferentially involved in the storage of traumatic memories



INDIVIDUAL VARIABILITY

- ⦿ Genetic/biological
- ⦿ Resiliency
- ⦿ Personality development
 - Attachment
- ⦿ Prior and subsequent life events
- ⦿ Supportive structure
- ⦿ Age and sex
- ⦿ Type of trauma
- ⦿ Personal interpretation

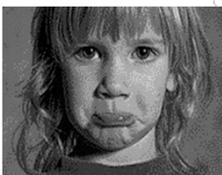
GENDER

- ⦿ Male
 - Limbic system has different connectivity patterns
 - Delayed cerebral maturation
 - More susceptible to “relational” abuse
 - Hyperarousal pattern
 - Externalizing disorders
 - Conduct Disorder
 - ADHD



GENDER

- ◎ Female
 - Dissociation
 - Internalizing disorders
 - Affective Disorders
 - Anxiety Disorders
 - Somatoform Disorders
 - Conversion Disorder
 - Pain Disorder
 - Hypochondriasis



COMPLEX POSTTRAUMATIC STRESS DISORDER

- ◎ Repeated inescapable early life trauma
- ◎ Multigenerational trauma
- ◎ May have genetic basis
 - Gene coding for dopamine transporter (DAT)
- ◎ Involves changes in *physiology, self and identity, memory and dissociation*

COMPLEX POSTTRAUMATIC STRESS DISORDER (DESNOS)

- ◎ **PHYSIOLOGICAL**
 - AFFECT REGULATION AND IMPULSE CONTROL
 - SOMATIZATION AND MEDICAL PROBLEMS
- ◎ **SELF AND IDENTITY**
 - ALTERED SELF AND OTHER PERCEPTION
 - ALTERED WORLD VIEW
- ◎ **CONSCIOUSNESS**
 - ALTERED ATTENTION AND CONSCIOUSNESS

RESPONSE TO THREAT	
HYPERAROUSAL	DISSOCIATION
HYPERVIGILANT	DISENGAGE
REACTIVE	SUSPENSION OF TIME
TACHYCARDIA	BRADYCARDIA
NOREPINEPHRINE	ENDOGENOUS OPIOIDS
FLIGHT: Panic	FREEZE: Fear
FIGHT: Terror	DEREALIZATION
OLDER CHILDREN	DEPERSONALIZATION
MALES	COMPLIANT
	YOUNG CHILDREN
	FEMALES

<i>PHYSIOLOGICAL</i>
<ul style="list-style-type: none"> ⦿ Acute Effects of Hyper-arousal ⦿ Chronic Effects of Hyper-arousal ⦿ Acute Effects of Dissociation ⦿ Chronic Effects of Dissociation ⦿ Stress Axis <ul style="list-style-type: none"> • Hypothalamic-Pituitary-Adrenal Axis (HPA)

Acute Effects of Hyper-Arousal
<ul style="list-style-type: none"> ⦿ Increased Sympathetic NS (Fight/Flight) ⦿ Decreased pain in the short run ⦿ Decreased immune response <ul style="list-style-type: none"> • Cortisol reduces inflammation • Cortisol suppresses immune response

Chronic Effects of Hyper-Arousal

- ◎ Cortisol reserves get used up (hypocortisolemia)
- ◎ Immune system becomes overactive
 - Rebound effect: get sicker than if not stressed
 - Increased inflammatory response
 - Increased risk of autoimmune disorders
- ◎ Osteoarthritis
- ◎ Crone's Disease
- ◎ Multiple Sclerosis

Acute Effects of Dissociation

- ◎ Increased Parasympathetic NS
 - Decrease:
 - Heart rate
 - Respiration/O2 requirements
 - Blood pressure
- ◎ Other Effects:
 - Increased Endorphins/Enkaphalins
 - Decreased intensity of inflammatory response
 - Decreased sensation of pain

Chronic Effects of Dissociation

- ◎ Depleted supply of endorphins leads to:
 - Chronic pain
 - Substance abuse (attempt to recharge endorphins)
 - Social isolation
 - Memory impairment
 - Depression

HTH (CRF)-PITUITARY (ACTH)-ADRENAL (CORTISOL) AXIS (HPA)

- ◎ **Reduced Immune Functioning**
 - Lymphocytes
- ◎ **Reduced Capacity to Learn**
 - Can Damage Hippocampus Secondary to Increased Glutamate
 - Forgetful
- ◎ **Reduced Ability to Relax**
 - Cortisol “revs up” Amygdala
 - Continued NE release which causes more Cortisol to be released
 - Neurosensitization

HTH (CRF)-PITUITARY (ACTH)-ADRENAL (CORTISOL) AXIS (HPA)

- ◎ Cortisol heightens the body’s ability to respond to challenging situations, but too much can over time cause lasting damage
- ◎ To keep cortisol in check two chemicals dampen the stress response- DHEA (dehydroepiandrosterone) and Neuropeptide Y
- ◎ Drugs and psychotherapy might stimulate production of these chemicals

HTH (CRF)-PITUITARY (ACTH)-ADRENAL (CORTISOL) AXIS (HPA)

- ◎ Cortisol can damage the hippocampus and the amygdala
- ◎ DHEA lessens the effect of cortisol
- ◎ Neuropeptide Y reduces anxiety by counteracting the effects of CRH
- ◎ Elevated levels of Neuropeptide Y in combat veterans lowered the risk of PTSD

HTH (CRF)-PITUITARY (ACTH)-ADRENAL (CORTISOL) AXIS (HPA)

- ⊙ HPA is an integral part of the stress response, as is the sympathetic nervous system, both also affect the immune system
- ⊙ Studies of early life trauma some studies show *blunted HPA response* in adults and others show *hyperresponsive HPA*
- ⊙ Reduction in hippocampal volume
- ⊙ Increase in autoimmune disorders

SUFFERING AND MISERY

- ⊙ Let's start with a real or perceived threat
 - The amygdala reacts sending signals to:
 - Thalamus
 - To brain stem to increase norepinephrine (NE) throughout the brain
 - Sympathetic Nervous System (SNS)
 - Sends signals to major organs and muscle groups
 - "Flight or Fight"
 - Hypothalamus
 - To pituitary releasing stress hormones
 - Epinephrine (increases HR and dilates pupils)
 - Cortisol

SUFFERING AND MISERY

- ⊙ Cortisol
 - Suppresses immune system to reduce inflammation
 - Continues to stimulate the amygdala
 - Suppresses hippocampal activity which normally inhibits amygdala leading to more cortisol
 - Remember amygdala hardwired to focus on negative
 - PFC is overridden pushing its appraisal in a negative direction

**MENTAL CONSEQUENCES
SNS/HPA Activation**

- ◎ **ANXIETY**
 - If amygdala gets neurosensitized causes
 - Rapid arousal of “state” anxiety (based on specific situations)
 - Helps form implicit memories and shades these memories with fear thus intensifying “trait” anxiety (free floating)
 - With frequent SNS/HPAA activation hippocampus wears down impacting explicit memories (clear record of what actually happened)
 - Cortisol inhibits new neuronal growth and weakens existing synaptic connections in hippocampus
 - May help explain dissociation
 - “Know something happened, don’t exactly know what happened but feel really upset”

**MENTAL CONSEQUENCES
SNS/HPA Activation**

- ◎ **DEPRESSION**
 - When norepinephrine is reduced may feel flat or even apathetic with poor concentration
 - Over time glucocorticoids (cortisol, etc) reduce dopamine causing loss of feeling of well-being and enjoyment of life
 - Constant stress reduces serotonin levels
 - The most important neurotransmitter for maintaining good mood state

**MENTAL CONSEQUENCES
SNS/HPA Activation**

- ◎ **Psychotherapy**
- ◎ **Pharmacotherapy**
- ◎ **Activation of parasympathetic nervous system**
 - Responsible for steady-state
 - Produces feelings of relaxation
 - Touching lips
 - Breathing
 - Forms of meditation and relaxation

BODY DYSMORPHIC DISORDER(BDD)

- ◎ **A distressing or impaired preoccupation with an imagined or slight defect in appearance**
 - 1-2.4% of general population
 - Classified as a somatoform disorder
 - Has a delusional form-Delusional Disorder, somatic type
 - Suicidality common with rate of completion higher than nearly all other disorders
 - Attempt 24-28%
 - Usually head and face but during lifetime 5-7 different body parts

BODY DYSMORPHIC DISORDER(BDD)

- ◎ **Accompanied by**
 - Low self-esteem
 - Shame
 - Disgust
- ◎ **50% spend over 3 hours a day**
- ◎ **Males more substance abuse and preoccupation with small body build, genitals and balding**
- ◎ **Females more eating disorder, excessive body hair, weight, breasts, hips and legs**

BODY DYSMORPHIC DISORDER(BDD) TREATMENT

- ◎ **SSRI at maximum daily dose**
 - Fluvoxamine- 150 mg
 - Fluoxetine- 40mg
 - Paroxetine- 40g
 - Sertraline- 150mg
 - Clomipramine- 150mg
 - Citalopram- 40mg
 - Escitalopram- 20mg

BODY DYSMORPHIC DISORDER(BDD) TREATMENT

◎ CBT

- Using relationship to test an alternative psychological understanding of their experience. Two incompatible theories
 - A (patient's theory)-the problem is with the patients physical appearance
 - B- the patient has a body image problem (the way they think and feel about their appearance)

PHYSICAL/SOMATIC SYMPTOMS

- ◆ May be viewed as physical, psychosomatic or conversion symptoms
 - Gastro-intestinal
 - Irritable Bowel Syndrome
 - Headaches
 - Migraines
 - Insomnia
 - Recurring nightmares
 - Being chased
 - Being suffocated
 - Being hunted
 - Being captured

SELF AND IDENTITY

◎ ATTACHMENT PATTERNS

- Secure
- Insecure: Anxious-fearful (vigilant)
 - Dependent ("Velcro")
 - Avoidant
 - Self-defeating
 - With borderline traits
- Insecure: Anxious-avoidant (dismissive)
 - Counterdependent/self-sufficient ("Teflon")
 - Detached
 - Dissociated

SELF AND IDENTITY

- ◎ **ATTACHMENT PATTERNS**
 - **Insecure: Disorganized/disoriented**
 - Avoidant, self-defeating, BPD
 - Contradictory, approach/avoidance; push-pull style
 - Dissociated
 - By age 6, often involves a sub-style of controlling/caretaking

SELF AND IDENTITY

- ◎ **Insecure attachment**
 - **Disorganized type**
- ◎ **Disorganized attachment themes**
 - **HELPLESSNESS**
 - Abandonment
 - Betrayal
 - Failure
 - Dejection

ABANDONMENT FEAR

TRAUMA → ATTACHMENT PROBLEMS →

ABANDONMENT FEAR → INCREASED ANXIETY →

INCREASED IMPULSIVITY

SELF AND IDENTITY

- ◎ **Disorganized attachment themes**
 - **COHERSIVE CONTROL**
 - Blame
 - Rejection
 - Intrusion
 - Hostility
- ◎ **Borderline Personality Disorder**

BORDERLINE PERSONALITY DISORDER

- ◎ **DIALECTICAL BEHAVIOR THERAPY (MARSHA LINEHAN)**
 - **AN INNOVATIVE FORM OF CBT**
 - HELPS DETECT AND COMBAT DISTORTED THOUGHTS
 - COUNTERACT PROBLEMATIC BEHAVIORS AND ASSOCIATED EMOTIONS
 - INCORPORATES MEDITATIVE PRACTICES- MINDFULNESS
 - SELF-SOOTHING TECHNIQUES TO MANAGE MOOD SWINGS (DEEP BREATHING, TAKING WALKS, LISTENING TO MUSIC, ETC.)
 - BUILDING HEALTHY RELATIONSHIPS

CONSCIOUSNESS

- ◎ **Dissociative adaptations**
 - **Automatization of behavior**
 - Deficits in judgment, planning and goal-directed behavior
 - **Compartmentalization of painful memories and feelings**
 - **Detachment from awareness of emotions and self**
- ◎ **Naltrexone**

CONSCIOUSNESS

- ◎ Dissociative detachment may numb the body as well
- ◎ Smaller hippocampal volume
 - Rich in glucocorticoid receptors
 - Smaller the size the greater the level of dissociation
- ◎ Drugs that block NMDA (subtype glutamate receptor) can produce dissociative symptoms
- ◎ Drugs that stimulate GABA can increase dissociative symptoms
 - Benzodiazepines

<http://www.dana.org/printerfriendly.aspx?id=11122>

STAGE ONE- STABILIZATION, TRUST AND SAFETY

- ◎ TREATMENT OF LONGER DURATION
- ◎ SETTING LIMITS
- ◎ ATTACHMENT ISSUES
 - RH to RH Resonance
- ◎ PSYCHOEDUCATION
 - EXPLAIN TREATMENT
 - EXPLAIN COMPLEX PTSD
- ◎ COGNITIVE RESTRUCTURING

STAGE ONE- STABILIZATION, TRUST AND SAFETY

- What has changed?
- Closed contract
- Stabilization
 - Physiological
 - Psychological
 - Social
 - Spiritual
- Trust
 - Validate feelings
 - Map of the World
 - Rapport

PHYSIOLOGICAL STABILIZATION

- ⊙ The positive symptoms (reexperiencing, hyperarousal) respond to medication.
- ⊙ The negative symptoms (avoidance, numbing) respond poorly
- ⊙ Medications have little or no effect on the dissociative defensive processes

PHYSIOLOGICAL STABILIZATION

- ◆ Medications
 - SSRI's (improves memory and concentration)
 - Sertraline (Zoloft)
 - Paroxetine (Paxil)
 - Dissociative symptoms
 - Naltrexone
 - Clonidine (Catapres)
 - Aroused, hyperactive
 - Propranolol (Inderal)
 - Clonidine (MAY ALSO HELP WITH SLEEP)

PHYSIOLOGICAL STABILIZATION

- ⊙ Medications
 - Fearful, paranoid and/or psychotic
 - Atypical antipsychotics
 - Clozapine
 - Risperidone
 - Labile, impulsive and/or aggressive
 - Anticonvulsant/mood stabilizers
 - Lithium
 - Tegretol
 - Atypical antipsychotics
 - ⊙ Baclofen (Lioresal) active at GABA receptor, improved symptoms of veterans with PTSD symptoms
 - ⊙ Propranolol given within hours to days after trauma reduced posttraumatic symptoms and lower risk of PTSD

PHYSIOLOGICAL STABILIZATION

- ◆ **Medications**
 - Antidepressants
 - Increase NE and Serotonin
 - Increase BDNF
 - Reduces Glucocorticoids
 - Phenytoin (Dilantin)
 - Blocks effects of stress on hippocampus
 - Modulates glutamate
 - Prazocin (Minipress)
 - Reduce intensity and frequency of nightmares

PSYCHOLOGICAL STABILIZATION

- ◎ **Affect Regulation**
 - Moving attention away from internal “cycling”
 - Panic
 - Anger
 - Flashback storms
 - Intrusive thoughts
 - Brief psychotic breaks
 - Attention toward
 - Non-autonomic body sensations
 - Details of room
 - Therapist's voice

PSYCHOLOGICAL STABILIZATION

- ◎ **Affect Regulation**
 - Breathing
 - Identifying and discriminating emotions
- ◎ **Cognitive interventions**
 - Normalization of experience
 - Reframing
 - Assessing beliefs and assumptions about trauma
- ◎ **Behavioral interventions**
 - What are triggers?
 - What do I think and do after the trigger?

SOCIAL STABILIZATION

- ◎ **Decrease social alienation**
 - Self help
 - Church
 - Support groups
- ◎ **Ability to engage in competent social relationships is important prognostic variable**
- ◎ **Self care is important (diet, exercise, self-grooming)**

SPIRITUAL STABILIZATION

- ◎ **As a part of a spiritual/religious assessment**
- ◎ **Fear, Guilt, Hopelessness, Pride are spiritual problems**
- ◎ **Require spiritual tools such as:**
 - Love
 - Forgiveness
 - Acceptance
 - Gratitude
- ◎ **SHAME**
- ◎ **MORAL INJURY**

RIGHT HEMISPHERE (RH)

- ◎ **ONE UNCONSCIOUS MIND COMMUNICATES WITH ANOTHER UNCONSCIOUS MIND**
- ◎ **RH RESPONDS QUICKLY TO ALL STIMULI**
- ◎ **IMPLICIT LEVEL OF THE THERAPEUTIC ALLIANCE (BENEATH THE EXPLICIT COGNITIONS AND LANGUAGE) ARE THE CORE OF THE CHANGE MECHANISM AT THE UNCONSCIOUS LEVEL**

RIGHT HEMISPHERE (RH)

- ◉ INVOLVES CO-CREATION OF AN INTERSUBJECTIVE CONTEXT THAT FACILITATES THE PROCESS OF CHANGE (ATTACHMENT COMMUNICATION)
- ◉ ATTACHMENT COMMUNICATION REPRESENTS RH TO RH TRANSACTION THAT FACILITATE THE EXPERIENCE DEPENDENT MATURATION OF RH

RIGHT HEMISPHERE (RH)

- ◉ EMOTIONAL AVAILABILITY OF CAREGIVER IN INTIMACY SEEMS TO BE THE CENTRAL GROWTH PROMOTING FACTOR IN EARLY REARING EXPERIENCE
- ◉ CAREGIVER MAXIMIZES POSITIVE AFFECT AND MINIMIZES NEGATIVE AFFECT
- ◉ PROMOTES INCREASED TOLERANCE FOR POSITIVE AND NEGATIVE AFFECT (AFFECTIVE RANGE)

RIGHT HEMISPHERE (RH)

- ◉ MUST BE ATTENTIVE TO LH PATIENT VERBALIZATIONS IN ORDER TO OBJECTIVELY DIAGNOSE AND UNDERSTAND PATIENTS DYSREGULATED SYMPTOMS
- ◉ BUT ALSO ATTENTIVE INTERSUBJECTIVELY TO RELATIONAL TRANSACTIONS (REFLECT EMOTIONS SUCH AS APPROVAL/DISAPPROVAL, SUPPORT, HUMOR AND FEAR)
 - FACIAL EXPRESSIONS
 - BODY POSTURE
 - TONE AND TEMPO OF VOICE

RIGHT HEMISPHERE (RH)

- ◎ CARL ROGERS (1986)
“AS A THERAPIST, I FIND THAT WHEN I AM CLOSEST TO MY INNER, INSTINCTIVE SELF, WHEN I AM SOMEHOW IN TOUCH WITH THE UNKNOWN IN ME, WHEN PERHAPS I AM IN A SLIGHTLY ALTERED STATE OF CONSCIOUSNESS IN THE RELATIONSHIP, THEN WHATEVER I DO SEEMS FULL OF HEALING.”

POST-TRAUMATIC STRESS DISORDER: Treatment

- ◎ PSYCHOEDUCATION
 - Present patient with information about common symptoms and assess to make sure they understand their particular symptoms
 - Normalize the trauma reaction
 - Establish the rationale for treatment while getting patients verbal commitment to proceed

POST-TRAUMATIC STRESS DISORDER: Treatment

- ◎ PSYCHOEDUCATION
 - Strategies for the prevention of future injury
 - Self-monitoring of symptoms
 - Awareness of limitations
 - Contact information
 - How and when to ask for help
 - How to participate in treatment

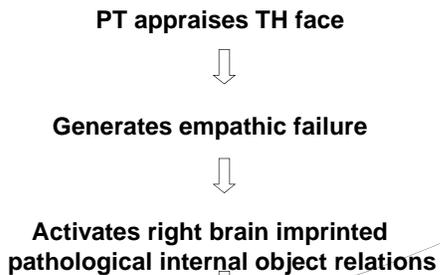
POST-TRAUMATIC STRESS DISORDER: Treatment

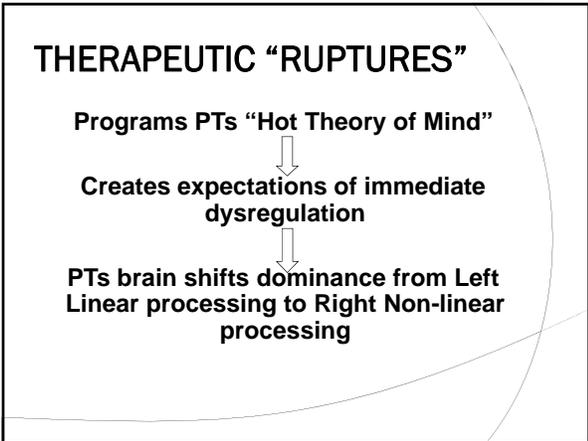
- ◎ **COGNITIVE RESTRUCTURING** (belief that maladaptive appraisals underlie PTSD symptoms)
 - “My life is destroyed”
 - “Why did I live and my best friend died?”
 - “The world is immoral”
 - “I am defective”
- ◎ **ID and evaluate the evidence for negative automatic thoughts**
- ◎ **Help evaluate beliefs about the trauma-the self, the world and the future**

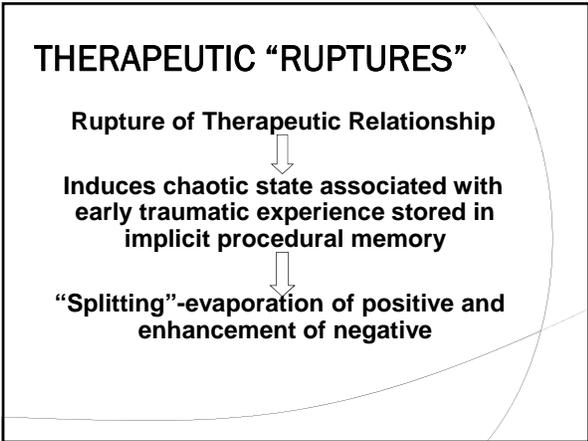
POST-TRAUMATIC STRESS DISORDER: Treatment

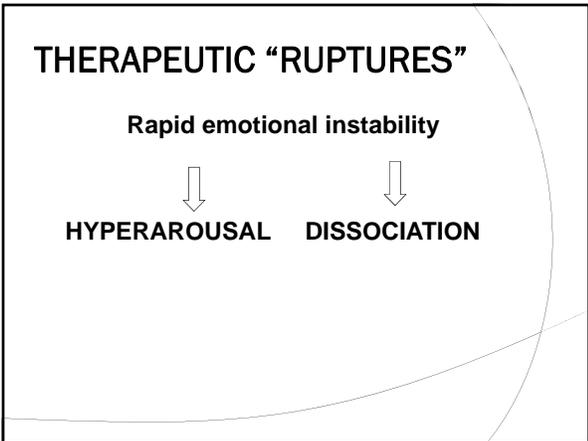
- ◎ **COGNITIVE RESTRUCTURING**
 - **Helps patient accept the reality they did not encode some information during periods of impaired consciousness**
 - **Some may experience guilt, anger or fear because of the way they interpret events that occurred during loss of consciousness**
 - **Help them use available information to not catastrophize the event**

THERAPEUTIC “RUPTURES”









REPAIRING THERAPEUTIC

“RUPTURES”

- ◎ Therapist must recognize and regulate the negative affect within self and client
- ◎ Therapist on a non-verbal level must detect, monitor and self-regulate countertransference
- ◎ “Reparative withdrawal” for self-regulation
- ◎ Model for CT that self-disorganization can be regulated
- ◎ Use psychoeducation to express verbally what just happened moving from right hemisphere to left

TRUST

- ◎ Validate feelings
 - Anger
 - Self-critical
 - Depression
 - Withdrawal
- ◎ Enter the map of the world
 - “World has fundamentally changed”
 - “World is unfair”

TRUST

- ◎ Past history of assessment
- ◎ Past experience with rules
- ◎ Power issues in therapeutic relationship
- ◎ Case
 - 35 yo female (Marsha) having difficulty at work with supervisors that she fears may interfere with future promotions

Non-Suicidal Self Injury

- ◎ **What is the function of self-injury?**
 - **Did patient want to die?**
 - Usually “No”
 - **A way to tolerate inescapable and unbearable emotions, most often intense anxiety**
 - Stuck in a bad situation and cannot find another way to cope
 - **Self-injury is reinforced to the extent the behavior is effective**

Non-Suicidal Self Injury

- **Self-injury is reinforced to the extent the behavior is effective (continued)**
 - Both positive and negative reinforcement
 - Negative reinforcement is rewarding by making and unpleasant situation stop
 - Positive reinforcement is rewarding by gaining something after the behavior
- **When negative reinforcement generally relieves uncomfortable emotions like anger, anxiety, guilt and numbness**
- **When positive reinforcement includes “feeling something even if it is pain”, punishing oneself and feeling relaxed**

Non-Suicidal Self Injury

- **Early childhood trauma changes the density of opiate receptors and level of B-endorphin baseline**
 - May find injuring less painful and subsequent opioid release more pleasurable
 - Patients with only one episode of self-injurious behavior say “It hurt” and didn’t repeat behavior
- **Non-suicidal self injury (NSSI) may be the best predictor of suicide attempt (Wilkinson P et al, *Am J Psychiatry* 2011; February 1)**
 - 70% of people who engage in NSSI eventually attempt suicide

Behavioral Safety Plan On 3x5 Index Card

MY PERSONAL SAFETY PLAN

- *I can write in my journal*
- *I can talk to friends on Facebook*
- *I can call my sponsor (299-289-5555)*
- *I can call my lover (299-426-1776)*
- *I can read from my favorite recovery book*
- *I can read affirmations*

SAFETY

- ◎ **Suicidal/Parasuicidal Behavior**
 - **Assessment**
 - Elaborate
 - **Contract**
 - Patient responsibilities
 - Clinician responsibilities
 - Alternatives
 - **Level of care**

STAGE TWO-TRAUMA WORK

- ◎ **Revisiting the trauma**
- ◎ **Graduated exposure using behavioral exposure and attachment narrative technique**
- ◎ **Resolution of core issues**
 - **Guilt and shame**
 - **Responsibility and self-blame**
 - **Mistrust**
 - **Toward self-compassion and self-forgiveness**

POST-TRAUMATIC STRESS

DISORDER: Treatment

◎ **IMAGINAL AND *IN-VIVO* EXPOSURE**

Exposure-based therapy is based on the premise that extinction learning occurs when the conditioned stimulus is repeatedly presented in the absence of an aversive outcome, thereby facilitating new learning that the stimulus is no longer signaling threat

- ▣ *In-vivo like treating panic with graded exposure or behavioral desensitization*

STAGE TWO-TRAUMA WORK

◎ **Resolution indicators**

- Behavioral change
- Symptoms of PTSD cease
- Client has control over memories
- Greater affect range and affective control
- Enhanced self-esteem and development of new meaning in life

TOP DOWN INHIBITION

ORBITOFONTAL CORTEX (OFC)
ANTERIOR CINGULATE GYRUS (AC)



HYPOTHALAMUS



PITUITARY



HEAD GANGLION

(ANS)

WORKING WITH HYPERAROUSAL AND DISSOCIATION

- ⊙ Medications
- ⊙ Symptom list
 - What are you feeling?
 - What is happening around you?
- ⊙ Help client make connection between internal state and external reality
- ⊙ “Mindfulness” and tolerance of feelings

HORIZONTAL INTEGRATION

- | | |
|---|--|
| <ul style="list-style-type: none">▣ LEFT BRAIN▪ Vertically integrated▪ Linear▪ Linguistic▪ Cause-effect▪ Literal▪ Logical | <ul style="list-style-type: none">▣ RIGHT BRAIN▪ Horizontally integrated▪ Holistic▪ Spatial▪ Ambiguous▪ Integrated map of entire body▪ Spontaneous▪ Empathy▪ Autobiographical▪ Non-verbal |
|---|--|

TELLING YOUR STORY

- ⊙ Autobiographical memories are at the core of our sense of self
- ⊙ Storytelling weaves together body sensations , feelings, thoughts and behaviors
- ⊙ Stories provide an opportunity for self-reflection

TELLING YOUR STORY

- ◎ **Stories provide an opportunity to learn things about yourself you did not know**
- ◎ **Understanding YOUR story can help make you a better person and break multigenerational patterns of disorganized attachment**

REMEMBERING EARLY UNHAPPY EVENTS

- ◎ **Non-trauma individual**
 - **Left and Right hemisphere both light up**
- ◎ **Traumatized individual**
 - **Only Right hemisphere lights up**
- ◎ **Difficulty putting words to feelings**
- ◎ **Geared to look for danger**
- ◎ **Normal or neutral stimuli not paid attention to (life passes you by)**

BEHAVIORAL ESXPOSURE THERAPY

- ◎ **International Society for Traumatic Stress Studies**
 - **Behavioral Exposure Therapy**
 - **Imaginal Exposure**
 - **Repeated recounting of traumatic memories**
 - **In Vivo Exposure**
 - **Confronting trauma related situations**
 - **Virtual Reality**
 - **Computer simulation**
 - **May be mediated by Prefrontal Cortical inhibition of Amygdala**

BEHAVIORAL EXPOSURE GENERALLY COMBINED WITH

- ◎ **Relaxation Training**
 - **Controlled Breathing**
 - **Muscle Relaxation**
- ◎ **Psychoeducation**
- ◎ **Cognitive Restructuring**
 - **Safety, trust, power, esteem and intimacy**

CASE STUDY

- ◎ **29 yo female (Peggy) in early recovery for cocaine addiction with history of early life trauma**
 - **Use of Attachment Narrative with elements of Imaginal and In Vivo Behavioral Exposure**
 - **What do you remember?**
 - **How has it impacted your life?**
 - **How do you feel about it now?**
- ◎ **Decrease hyperarousal and intrusive symptoms**

Trauma Treatment In Early Recovery from Addictive Disorder

- ◆ **Estimated 30-60 percent of individuals with substance abuse disorders have PTSD**
- ◆ **Joint Treatment of PTSD and Cocaine Abuse**
 - **Therapy combines**
 - **Substance abuse treatment**
 - **Behavioral exposure for PTSD**
 - **39 participants, 15 completed course of therapy**
 - **66% reduction in intrusive symptoms**
 - **70% reduction in avoidance symptoms**
 - **47% reduction in hyperarousal symptoms**

(NIDA Notes, Vol.18, No.1)

STAGE THREE- LEARNING TO LIVE GACEFULLY IN THE MOMENT

- ◎ On-going meaning in life
- ◎ Living in the moment
- ◎ Continued growth and complexity of Prefrontal Cortex
- ◎ Current life stage issues
- ◎ Spirituality
- ◎ Continued development of support issues including intimacy issues
- ◎ Issues related to career and/or vocation

STAGE THREE- LEARNING TO LIVE GACEFULLY IN THE MOMENT

- ◎ **RELAPSE PREVENTION**
 - Helping patient deal with residual symptoms as treatment should significantly diminish symptoms but will not make all of them go completely away
 - Example-nightmares and insomnia
 - Develop plans for maintaining abstinence if alcohol and drugs are a problem
 - Develop plans to manage Eating Disorders, gambling and other process addictions
 - On-going personal maintenance plan

DEVELOP HIGHER ORDER OPERATIONS

- ◆ **Allows for pursuit of reward consistent with:**
 - Contextual considerations
 - Societal rules
 - Vision for the future
- ◆ **Allows for the development of a conscience**
- ◆ **Allows for Executive Functioning**

DEVELOP HIGHER ORDER OPERATIONS

◎ **Present consciousness**

- Where attention goes, neural firing occurs
- When neural firing occurs, new neural connections are made
- This harnesses neural plasticity allowing new patterns of neural activation (as opposed to old automatic modes)

MORALITY

- ◎ **A code of values and customs that guide social conduct**
- ◎ **“Descriptive” morality is a code of conduct held by a particular society or group that determines right and wrong**
- ◎ **“Normative” morality is a universal code of moral actions and prohibitions held by rational people**

MORALITY

- ◎ **Neurobiology is concerned with “normative” morality which strengthens social cohesion and cooperation**
 - GUILT
 - SHAME
 - EMBARRASSMENT
 - GRATITUDE
 - COMPASSION
 - FEAR OF NEGATIVE EVALUATION
 - FAIRNESS AND EQUITY
 - NO-HARM

NEUROBIOLOGY OF MORAL BEHAVIOR

- ◎ “Neuromoral” network for responding to a moral dilemma
- ◎ Centered in the *right ventromedial prefrontal cortex and its connections*
- ◎ Neurobiological evidence indicates the existence of automatic “prosocial” mechanisms for identification with others that is a part of the moral brain

NEUROBIOLOGY OF MORAL BEHAVIOR

- ◎ Main neuromoral areas of the brain
 - *Ventromedial Prefrontal Cortex (VMPFC)*
 - *Orbitofrontal Prefrontal Cortex (OFC)*
 - *Ventrolateral Cortex (VL)*
 - *Amygdala*
 - *Dorsolateral Prefrontal Cortex (DLPFC)*

NEUROBIOLOGY OF MORAL BEHAVIOR

- ◎ **VMPFC**
 - Attaches moral and emotional value to social events; anticipates future outcome and participates in Theory of Mind (TOM), empathy and attribution of intent (participates in prosocial affiliative or social attachment emotions-guilt, compassion)
- ◎ **OFC/VL**
 - Mediates socially aversive responses, changes responses based upon feedback; inhibits impulses, automatic or amygdalar responses

NEUROBIOLOGY OF MORAL BEHAVIOR

- ◎ **Amygdala (Anteromedial Temporal Lobes)**
 - Mediates the response to threat and aversive social and moral learning
- ◎ **DLPFC**
 - Can overrule the neuromoral network through application of reasoned analysis of the moral situation
- ◎ **Other areas found active are the insula, anterior cingulate gyrus and temporoparietal junction**

NEUROBIOLOGY OF MORAL BEHAVIOR

- ◎ **VMPFC more activated by “personal” moral dilemmas involving the possibility that direct action could cause another harm; it is automatic**
- ◎ **VMPFC involved in inferring the intention of others behavior (TOM)**
- ◎ **TOM and empathy are closely related to morality**

NEUROBIOLOGY OF MORAL BEHAVIOR

- ◎ **OFC/VL and neighboring anterior insula and amygdala on right side effects altruistic punishment through sentiments linked to social aversion/exclusion such as anger, indignation, disgust and contempt**
- ◎ **DLPFC more activated by “impersonal” moral dilemmas suggesting a dispassionate reasoned or cost-benefit assessment for moral judgments**

MORAL INJURY

- ◎ DSM III “Guilt about surviving while others did not” or “about behaviors required for survival” were symptoms of PTSD
- ◎ Since then very little attention paid to the lasting impact of moral conflict as psychological trauma
- ◎ Military culture fosters an intensely moral and ethical code of conduct
- ◎ Current wars are creating morally questionable and ethically ambiguous situations

MORAL INJURY

- ◎ **EMOTIONS**
 - Experience of self-oriented negative moral emotions such as *shame and guilt*
 - *GUILT is a painful and motivating cognitive and emotional experience tied to specific acts of transgression of a personal or shared moral code*
 - Reduces the likelihood of participating in risky or illegal behavior
 - Often results in amends

MORAL INJURY

- ◎ **EMOTIONS**
 - *SHAME is a global evaluation of the self along with behavioral tendencies to avoid and withdraw*
 - Results in toxic interpersonal difficulties such as anger and reduced empathy for others
 - More damaging than guilt
 - May be a more integral part of moral injury
 - *SHAME is related to the expectation of negative appraisal by important others*
 - *Avoidance is not surprising*

MORAL INJURY

◎ EMOTIONS

- **SHAME** is visceral
- Involves the *parasympathetic* branch of the *autonomic nervous system*
 - Shutdown for repair, digestion, elimination and storage of chemistry necessary for engagement
 - AVOIDANCE
 - WITHDRAWAL
- Mediated by *endorphins*

MORAL INJURY

◎ SELF-FORGIVENESS

- A set of changes where one becomes...
 - Less likely to avoid stimuli associated with the offense
 - Reduces motivation toward self-injurious behavior
 - Increases motivation to act benevolently toward self
- ◎ So if a soldier feels remorse about behavior, he/she will feel guilt
- ◎ If blame themselves for personal inadequacy he/she will experience shame

MORAL INJURY

- ◎ If shame is generalized, internalized as a flaw and is enduring, he/she will experience shame and anxiety about being judged
- ◎ If this leads to withdrawal then corrective experiences are thwarted
- ◎ Will see reexperiencing, numbing and withdrawal (avoidance symptoms)

Moral Injury

- ◎ Many service members may mistakenly take the life of a civilian, be directly responsible for the death of an enemy combatant, unexpectedly see dead bodies or see ill or wounded women and children who they are unable to help
- ◎ *Exposure to atrocities is related to reexperiencing and avoidance symptoms*

MORAL INJURY AND PTSD

- ◎ *Exposure to atrocities does not appear to be associated with hyperarousal symptoms*
 - Arousal symptoms stem from high sustained fear due to real or perceived threat to life
- ◎ *Exposure to atrocities was only related to reexperiencing and avoidance*
 - Morally injurious experiences are recalled intrusively and a combination of avoidance and emotional numbing may also be present

MORAL INJURY AND PTSD

- ◎ *Killing, regardless of one's role in the act, is a good indicator of chronic PTSD symptoms*
 - Also correlated with alcohol abuse, anger and relationship problems
- ◎ *Subjective reactions are important*
 - Combat-related guilt (based on acts of commission or omission) is associated with reexperiencing and avoidance symptoms
 - Combat guilt largely related to reexperiencing and avoidance symptoms but not arousal symptoms

MORAL INJURY AND PTSD

- ◉ *It appears participation in atrocities and killing is chiefly implicated in reexperiencing and avoidance symptoms*
- ◉ Moral injury includes acts of transgression creating dissonance and internal conflict by violating beliefs about right and wrong and one's sense of personal goodness
 - How it is reconciled is key
 - If cannot accommodate or assimilate the event within existing schemas about self and others, guilt will be experienced, as well as, shame and anxiety about the personal consequences (being ridiculed)

MORAL INJURY AND PTSD

- Poor integration leads to lingering psychological distress with frequent intrusions and avoidance behaviors which thwarts accommodation
- Individuals with moral injury may see themselves as immoral, irredeemable and unreparable and may believe the world is immoral

MORAL INJURY

. . . Exposure to human remains is one of the most consistent predictors of long-term distress.

--McCarroll, Urganie & Fullerton, 1995

MORAL INJURY

Assessment Questions

1. At what point did you think or believe that you would not live and no longer cared about yourself?
2. Did you lose a friend or member of your unit to injury or death?
3. Were you exposed to dead bodies?
4. Did you feel numbed-out, unmoved, unable to sense loss or the sanctity of life?

MORAL INJURY

. . . Being able to pull the trigger through muscle memory is not the same as being able to reconcile the act afterward.

--Philipps, 2010

MORAL INJURY

Be too careful and you could die...Be too aggressive and you might not be able to live with yourself.

Mistake the foe for a friend, and perhaps die...*Mistake a friend for a foe and die inwardly.*

--Philipps, 2010

MORAL INJURY

...Many veterans were presenting with difficulties that were not sufficiently addressed in the fear and extinction-based frame that underlies exposure.

Steinkamp, et al., 2011

MORAL INJURY

... Clinicians and researchers . . . focus most of their attention on the impact of life-threatening trauma, failing to pay sufficient attention to the impact of events with moral and ethical implications.

--Litz, et al., 2009

MORAL INJURY

...We argue that repeated raw exposure to a memory of an act of transgression without a strategic therapeutic frame for corrective and countervailing attributions, appraisals, and without fostering corrective and forgiveness-promoting experiences outside therapy would be counterproductive at best and potentially harmful.

--Litz, et al. 2009

MORAL INJURY
Therapist Concerns
... Creating a strong relationship between veteran and caregiver to gradually let the veteran explore, accept, and forgive those involved in the trauma, including themselves, then forge new trust-building relationships.
--Philipps, 2010

MORAL INJURY
Therapist Concerns
To encourage disclosure, the therapist must portray

- **Unconditional acceptance**
- **The ability to listen to difficult and morally-conflicted material without revulsion.**

--Litz, et al., 2009; Haley, 1974
It does not help to try simply to forget, nor is it helpful to share gruesome details with those who respond with horror or distress.
--Dewey, 2004

MORAL INJURY
Therapist Concerns
... Concerns about trust and confidentiality are paramount; and it is the constancy of the "person" of the therapist that enables these patients to confide in another person rather than act on their fears and projections.
--Haley, 1974

MORAL INJURY

Therapist Concerns

Develop a knowledge of the exact nature, conditions, issues, environment, locations of the veteran's theatre of operation.

I have found vets' autobiographies about their war experiences the most useful of all readings when it comes to treating war trauma.

--Dewey, 2011 (personal communication with Chris Zaglifa)

MORAL INJURY

Manifestations of Moral Injury

- ◎ **Self-harm**
- ◎ **Poor self-care**
- ◎ **Substance abuse**
- ◎ **Recklessness**
- ◎ **Self-defeating behaviors**
- ◎ **Hopelessness**

MORAL INJURY

Manifestations of Moral Injury

- ◎ **Self-loathing**
 - ◎ **Decreased empathy**
 - ◎ **Preoccupation with internal distress**
 - ◎ **Remorse**
 - ◎ **Self-condemning thoughts**
- Litz, et al., 2009; Tangney, et al., 2007; Fisher & Exline, 2006

MORAL INJURY

The bright line that divides legitimate and militarily necessary killing from murder means everything to the psychological and spiritual health of marines.

--Jonathan Shay, 2007

Paper presented, 1st Annual
Corps COSC

Marine
Conference

MORAL INJURY

- ◎ **Extinction learning is hard-wired**
 - High fear and conditioning resulting from life-threatening events can be healed if the patient sustains sufficient unreinforced exposure to conditioned cues
- ◎ **Hard-wired to recover from loss**
 - If prevail ourselves of opportunities to reattach and reengage positively, grief will heal naturally
- ◎ **Not hard-wired to recovery from moral injury**
 - *Difficult to correct core beliefs about a personal defect or a destructive interpersonal or societal response especially when it leads to withdrawal*

MORAL INJURY

- ◎ **Traditional exposure treatment may not work for moral injury because it does not stem from conditioned responses.**
- ◎ **Repeated exposure to morally conflictual experiences may be harmful**
- ◎ **Cognitive therapy assumes that distorted beliefs about the moral violation are the source of misery**
- ◎ **Judgments and beliefs about the transgressions may be accurate and appropriate**

MORAL INJURY

- ◎ **Goal of Treatment of Moral Injury**
 - **REDUCE GUILT AND SHAME TO MILD REMORSE**
 - **MODIFY AMPLIFYING COGNITIONS**
 - **RETURN TO SEEING THE GOODNESS OF THE WORLD AND SELF THAT EXISTED PRIOR TO EXPERIENCE**

MORAL INJURY
Treatment Model

- ◎ **CONNECTION**
- ◎ **PREPARATION AND EDUCATION**
- ◎ **MODIFIED EXPOSURE COMPONENT**
- ◎ **EXAMINATION AND INTEGRATION**
- ◎ **DIALOGUE WITH MORAL AUTHORITY**
- ◎ **REPARATION AND FORGIVENESS**
- ◎ **FOSTERING RECONNECTION**
- ◎ **PLAN FOR THE LONG HAUL**

MORAL INJURY
Treatment Model

- ◎ **CONNECTION**
 - **Unconditional acceptance is mandatory This may well be the first time the patient has shared this information.**
 - **They may expect to be received with scorn, disgust or disdain (this is at the core of moral injury)**
 - **Must model implicitly and explicitly the idea of acceptance**
 - **Any discordant expression by the therapist will be experienced as condemnation**
 - **Detachment is not therapeutic**

MORAL INJURY
Treatment Model

◎ **PREPARATION AND EDUCATION**

- Patient needs a model of the plan and needs to accept their role in the implementation and success of the plan
- Patient needs to know approaching the psychologically painful material will bring healing and relief and not make matters worse
- Patient needs to understand that concealment is understandable but maladaptive
- Patient needs to understand this is a collaborative experience

MORAL INJURY
Treatment Model

◎ **MODIFIED EXPOSURE COMPONENT**
(Briefer and not necessary if patient can articulate thoughts, appraisals and meanings regarding the event)

- This is done in real-time (i.e. the current consideration of an upsetting experience)
- Patient may close eyes although it is not necessary
 - This reduces the eye-to-eye contact with therapist
 - Can also alter the chair arrangement
- The goal of the exposure is to foster sustained engagement in the raw aspects of the experience and its aftermath
- Extinction of strong affect from repeated exposure is not the primary change agent

MORAL INJURY
Treatment Model

◎ **MODIFIED EXPOSURE COMPONENT**

- **Focused** emotional reliving is a necessary precondition to change
- Will be unable to reconsider harmful beliefs stemming from deployment unless they “stay with the event” long enough for their beliefs to become articulated and explicitly discussed
- This step is done in tandem with the next two steps (EXAMINATION AND INTEGRATION and DIALOGUE WITH A BENEFICIAL MORAL AUTHORITY) where examination of meaning and corrective discourse can take place

MORAL INJURY
Treatment Model

◎ **EXAMINATION AND INTEGRATION**

- An important step in self-forgiveness, reclaiming a moral core and a sense of personal worth comes from examining the maladaptive beliefs about self and world
- Therapist asks what the event means for service members in terms of how they view themselves and their future
- Therapist asks about what caused the transgression and explores themes
 - Maladaptive interpretations such as "this will forever define me", severe self-condemnation "I am bad" or "I am worthless", "I don't deserve to live" are explored

MORAL INJURY
Treatment Model

◎ **EXAMINATION AND INTEGRATION**

- Want patient to not deny but also not to overly accommodate
- The goal is a change of worldview so as not to give up what was just and good about the world and the self prior to the event
- Allow patient to understand that the state of their mind and conditions of combat created a brain that is not the brain that is here right now
- Even if the act was bad it is possible to move on and have a good life

MORAL INJURY
Treatment Model

◎ **EXAMINATION AND INTEGRATION**

- It is important for the patient to express remorse and to reach their own conclusions about the event with clinical guidance
 - Don't try to relieve guilt as patient needs to feel remorseful as part of recovery
 - Therapists shouldn't assume they have enough knowledge or credibility to offer moral judgments about another's experience

MORAL INJURY
Treatment Model

◎ **DIALOGUE WITH MORAL AUTHORITY**

- In person or empty chair dialogue with a trusted, benevolent moral figure
- This could be a chaplain, a buddy who has had their back, etc. (someone who does not want them to suffer)
- Have patient verbalize what they did or saw and how this has affected them and what they believe should happen to them
- Also enhance the intensity by having them share remorse and sorrow and what they would like to do to make amends if they could

MORAL INJURY MORAL INJURY
Treatment Model

◎ **DIALOGUE WITH MORAL AUTHORITY**

- Now therapist asks the patient to verbalize what they believe the moral authority would say to them
- Want content that is forgiveness oriented (if patient doesn't bring this up the therapist should interject)
- At the end therapist elicits feedback
 - "What was that like for you?"
 - "What are you going to take from this?"
 - "How has this changed the way you view and feel about the event"
- Similar to 4th and 5th Step work in AA

MORAL INJURY
Treatment Model

◎ **REPARATION AND FORGIVENESS**

- Making amends as a vehicle of self-forgiveness and repair
- To amend means to change-in this case to change one's approach to how they live their life
- This could involve doing good deeds
- Be careful that the idea of making amends is not taken to extremes or that the amend might injure the other
- Similar to 8th and 9th Step in AA

MORAL INJURY

Treatment Model

◎ **FOSTERING RECONNECTION**

- If the patient is not able to generalize the therapy experiences and reconnect with loved ones gains will be short-lived
- Prepare patient for any self-disclosure with loved ones
- Foster a dialogue about spirituality if it is consistent with patient's beliefs

◎ **PLAN FOR THE LONG HAUL**

- Values and goals moving forward

Litz et al (2009)

POST-TRAUMATIC STRESS DISORDER

Failure to assimilate trauma leads to the cascading symptoms of PTSD:

- Avoidance
- Re-experiencing
- Hyperarousal
- Impaired functioning
- Maintenance of negative appraisals, shame, guilt.

POST-TRAUMATIC STRESS DISORDER

The clinician must be able to sort out a possible combat-related incident from those maliciously perpetrated [e.g., a soldier holding his wife down or hitting her due to a nightmare while sleeping may not be considered domestic violence, but a symptom of PTSD].

Everson and Herzog in Families Under Fire [2011].

POST-TRAUMATIC STRESS DISORDER

- ◎ Young recruits assessed before war experience, during and after return from war
 - ◎ Found PTSD does not appear to be triggered by a traumatic battle experience nor does there appear to be a typical trajectory for PTSD symptoms
 - ◎ Patterns
 - Vast majority were resilient recovering quickly from mild symptoms or altogether impervious
- Herbert, Scientific Am Mind

POST-TRAUMATIC STRESS DISORDER

- ◎ Patterns (continued)
 - The rest fell into distinct patterns
 - Group One- No symptoms before deployment or during tour of duty but symptoms spiked after they returned home. Symptoms didn't appear to follow any specific event but around seven months after returning home symptoms had worsened to a point where PTSD diagnosed
 - Group Two- About 13% of subjects showed reduced stress levels during deployment. Before deployment had major anxiety and frequent nightmares that eased in the first months of war only to spike again when safely home. This group had history of earlier life traumatic events. Early life trauma predicted PTSD.

POST-TRAUMATIC STRESS DISORDER

- ◎ A study of 500 veterans many with combat history were found to have a retinoid-related orphan receptor alpha (RORA) gene and one of its variants rs8042149
- ◎ The variant is a single nucleotide polymorphism or SNP- a change in one of the chemical bases that make up the gene. One gene can have thousands of such variants
- ◎ RORA has been implicated in ADHD, depression and bipolar disorder and is neuroprotective

POST-TRAUMATIC STRESS

DISORDER

- ◎ RORA detects changes in the biochemical cellular environment and responds to the changes such as stress
- ◎ Rs8042149 may reduce the capacity of neurons to respond to the biochemical stressors induced by traumatic stress
- ◎ Theory holds the RORA risk variant (rs8042149) makes neurons less able to mount a defense against the damaging effects of stress on the brain

Mirkin. "Study Links Gene to PTSD Risk". Brain in the News, September , 2012, pgs. 1-2. or <http://goo.gl/ISKpk>

POST-TRAUMATIC STRESS

DISORDER: Treatment

- ◎ **COGNITIVE RESTRUCTURING** (belief that maladaptive appraisals underlie PTSD symptoms)
 - "My life is destroyed"
 - "Why did I live and my best friend died?"
 - "I should have seen the bomb"
 - "It is all my fault"
- ◎ ID and evaluate the evidence for negative automatic thoughts
- ◎ Help evaluate beliefs about the trauma-the self, the world and the future

POST-TRAUMATIC STRESS

DISORDER: Treatment

- ◎ **COGNITIVE RESTRUCTURING**
 - Helps patient accept the reality they did not encode some information during periods of impaired consciousness
 - Some may experience guilt, anger or fear because of the way they interpret events that occurred during loss of consciousness
 - Help them use available information to not catastrophize the event

POST-TRAUMATIC STRESS DISORDER: Treatment

- ◎ **IMAGINAL AND *IN-VIVO* EXPOSURE (Behavioral Exposure)**
 - **Centerpiece of therapy**
 - **Vividly imagine the traumatic episode for prolonged periods**
 - VERBALLY
 - IN WRITTEN FORM
 - VIRTUAL REALITY
 - **Develop a coherent narrative**

POST-TRAUMATIC STRESS DISORDER: Treatment

- ◎ **IMAGINAL AND *IN-VIVO* EXPOSURE**
Exposure-based therapy is based on the premise that extinction learning occurs when the conditioned stimulus is repeatedly presented in the absence of an aversive outcome, thereby facilitating new learning that the stimulus is no longer signaling threat
 - ▣ *In-vivo like treating panic with graded exposure or behavioral desensitization*

POST-TRAUMATIC STRESS DISORDER: Treatment

- ◎ **RELAPSE PREVENTION**
 - **Helping patient deal with residual symptoms as treatment should significantly diminish symptoms but will not make all of them go completely away**
 - Example-nightmares and insomnia
 - **Develop plans for maintaining abstinence if alcohol and drugs are a problem**
 - **Develop plans to manage Eating Disorders, gambling and other process addictions**
 - **On-going personal maintenance plan**

POST-TRAUMATIC STRESS DISORDER: Treatment

- ◎ **MECHANISMS OF ACTION**
 - **FEAR CONDITIONING**-A traumatic event (unconditioned stimulus) leads to a fear reaction (unconditioned response) which becomes conditioned to many stimuli associated with the traumatic event
 - According to this model successful recovery from trauma involves extinction learning in which repeated exposure to trauma reminders or memories result in new learning that these reminders do not signal threat
 - *CBT is a form of extinction learning in which conditioned fear responses are inhibited by new learning of safe associations*

TREATMENT OF PTSD

- ◎ **MECHANISMS OF ACTION**
 - **COGNITIVE MODEL**-Posits that PTSD responses are influenced by:
 1. **Maladaptive appraisals of the trauma and aftermath**-Places considerable emphasis on how people appraise the event, response to the event and the likelihood of future harm (i.e. catastrophic appraisal increases PTSD)
 2. **Disturbances in autobiographical memory involving impaired retrieval and strong associative memory**-Mental representations are encoded at the time of trauma under conditions of extreme stress and are often coded in fragmented ways. Because of this memories are not adequately integrated into autobiographical memory. This contributes to intrusive thoughts. It is felt these memories need to be integrated into normal autobiographical memory (this is what the narrative does) permitting mastery of the memory and associated anxiety (this is what the exposure accomplishes)

TREATMENT OF PTSD- Pharmacotherapy

- ◎ **SSRI's fluoxetine (Prozac), sertraline (Zoloft) and paroxetine (Paxil)**
 - Allows for more time to think before acting particularly in anger
 - It doesn't sedate or cut a person off from themselves or the world
 - Useless as drugs for overdose
- ◎ **Buspirone (Buspar)**
 - Anti-anxiety drug that works differently from benzodiazepines.

TREATMENT OF PTSD-Pharmacotherapy

- ◎ **Beta-blockers like propranolol (Inderal), nadolol (Corgard) and atenolol (Tenormin)**
 - Breaks the mind-body-mind vicious cycle in rage reactions
- ◎ **Low dose lithium**
 - To help maintain control when angry
 - Can be fatal in large overdoses
- ◎ **Clonidine (Catapres) works well on many PTSD symptoms but only for about a week**
<http://www.dr-bob.org/tips/ptsd.html>

TREATMENT OF PTSD

- ◎ **Variants of trauma-focused therapy**
 - EMDR (has elements of exposure and cognitive restructuring)
 - Focus attention on traumatic memory while tracking the therapist's finger as it is moved across the visual field
 - Restructuring of memory
 - Patient identifies more adaptive or positive thoughts as again the therapist moves finger across visual field

TREATMENT OF PTSD

- ◎ **Variants of trauma-focused therapy**
 - CPT (Cognitive Processing Therapy)
 - Reframing unrealistic beliefs about safety, trust, control, esteem and intimacy
 - Engages traumatic memories by having patient write detailed accounts of the trauma
 - ◎ **One controlled study with mTBI related PTSD**
 - Patients with ASD following mTBI
 - 5 (1.5 hr.) weekly individual sessions
 - With either CBT or supportive counseling
 - At 6 mo. 8% of CBT group=PTSD while 58% of supportive counseling group=PTSD

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- http://www.medscape.com/viewprogram/1917_pnt
- <http://psychiatry.jwatch.org/cgi/content/full/2004/624/4?q=etoc>
- <http://www.sciencemaq.org/cgi/content/full/304/5672/881>
- <http://www.sfn.org/content/Publications/BrainBriefings/posttraumaticdisorder.html>

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- http://websfn.org/content/Publications/BrainBriefings/parental_care_brain.html
- http://web.sfn.org/content/Publications/BrainBriefings/child_abuse.html
- <http://www.childtrauma.org/print/print.asp?REF=/CTAMATERIAL/neuros-1.asp>
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Reference Sites

- ◎ Handouts for Parents and Professionals
 - <http://www.zerotothree.org>
- ◎ Information for Professionals
 - <http://www.childtraumaacademy.com>
- ◎ The National Center for PTSD
 - <http://www.ncptsd.org/publications>

RESOURCES

- ◎ WWW.ISTSS.ORG
- ◎ WWW.NCPTSD.ORG
- ◎ WWW.NCTSN.ORG
- ◎ WWW.SIDRAN.ORG

New York Academy of Science

- ◎ <http://www.nyas.org/Publications/EBriefings/Detail.aspx?cid=b856385b-a328-40ea-924d-044db0ac8a84>

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RESOURCES

- Brain Injury Association of America
 - <http://www.biausa.org>
- Brainline.org
 - <http://www.brainline.org>
- Centers for Disease Control and Prevention, National Center for Injury prevention and Control Traumatic Brain Injury Page
 - <http://www.cdc.gov/TraumaticBrainInjury/index.html>
- Defense and Veterans Brain Injury Center
 - <http://www.dvbic.org>
