

TREATING EARLY LIFE DEVELOPMENTAL TRAUMA: A SCIENCE BASED PERSPECTIVE



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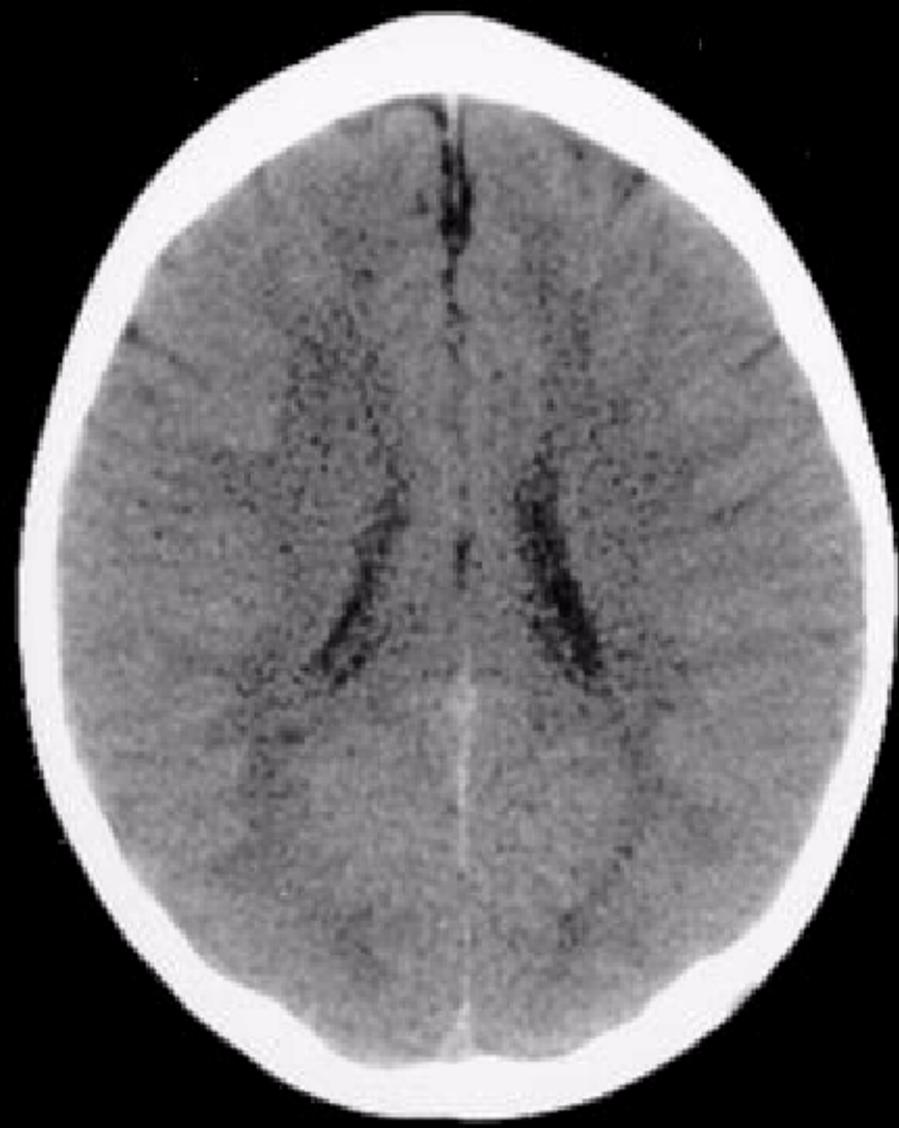
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OVERVIEW

- ◆ NEUROBIOLOGY
- ◆ COMPLEX POSTTRAUMATIC STRESS DISORDER (DESNOS)
- ◆ STAGES OF TREATMENT

3 Year Old Children



Normal



Extreme Neglect

TOP DOWN INHIBITION

ORBITOFRONTAL CORTEX (OFC)
ANTERIOR CINGULATE GYRUS (AC)



HYPOTHALAMUS

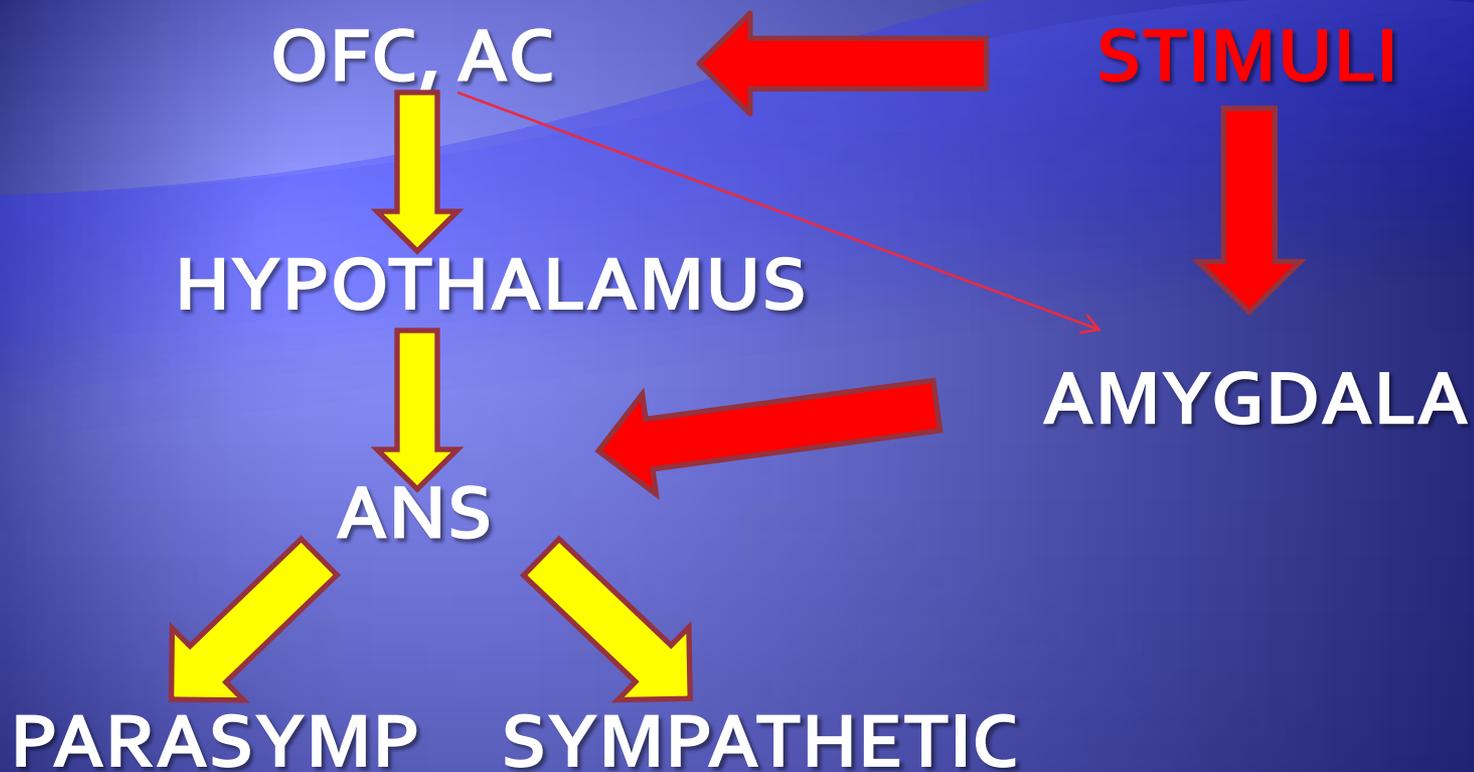


PITUITARY



HEAD GANGLION (ANS)

BOTTOM UP EXCITATION



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

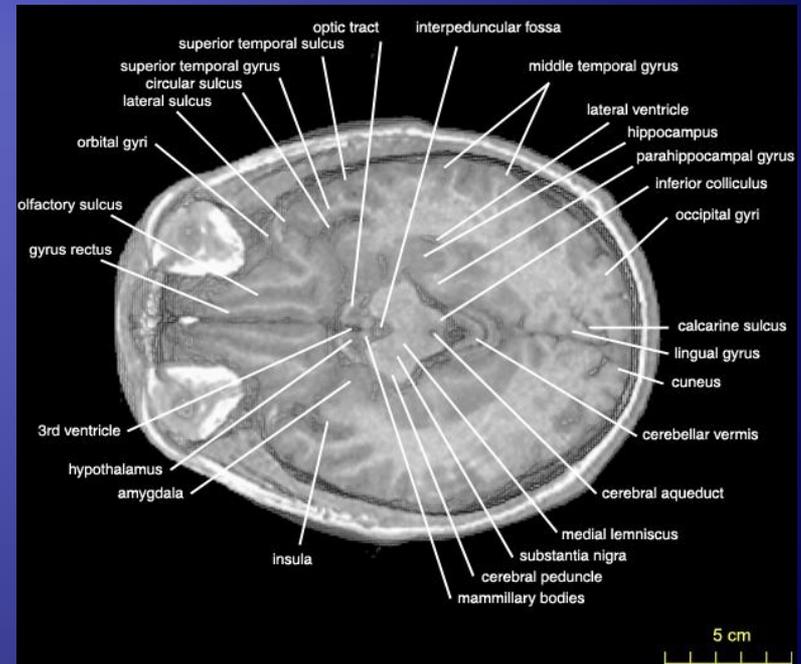
Maladaptive Brain Development

- ◆ 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 (DESNOS)

- ◆ 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

Physiological

- ◆ Acute Effects of Hyper-arousal
- ◆ Chronic Effects of Hyper-arousal
- ◆ Acute Effects of Dissociation
- ◆ Chronic Effects of Dissociation

Acute Effects of Hyper-Arousal

- ◆ Increased Sympathetic NS (Fight/Flight)
- ◆ Decreased pain in the short run
- ◆ Decreased immune response
 - ◆ 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
- ◆ Crohn's Disease
- ◆ Multiple Sclerosis

Acute Effects of Dissociation

- ◆ Increased Parasympathetic NS
 - ◆ Decrease:
 - ◆ Heart rate
 - ◆ Respiration/O₂ requirements
 - ◆ Blood pressure
- ◆ Other Effects:
 - ◆ Increased Endorphins/Enkephalins
 - ◆ 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

- ◆ 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

Hypothalamic-Pituitary-Adrenal 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

Autonomic Nervous System (ANS)

- ◆ Alterations in cardiovascular response with history of early life trauma
 - ◆ Heart rate and blood pressure elevations
 - ◆ Stress excites the locus coeruleus-norepinephrine system
 - ◆ Greater incidence of ischemic heart disease (IHD)
 - ◆ Depression also associated with increase in IHD
 - ◆ Increased risk of depression in early life trauma survivors
 - ◆ General increased risk of heart disease

Other Manifestations

- ◆ Increased rates of obesity and eating disorders
- ◆ Increase in many psychiatric disorders
- ◆ Low cognitive functioning and/or poor attention
 - ◆ Neurodevelopmental possibilities

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

- ◆ 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

Self And Identity

- ◆ Attachment styles reflect that of the primary caretakers
- ◆ Some are excessively self-sufficient while others are constantly anxious and insecure
- ◆ Those exposed to the greatest abuse (or are the most vulnerable) have disorganized/dissociative styles emotional lability, shifting relationships, self injury, etc.

Self And Identity

- ◆ A secure attachment is associated with:
 - ◆ Reduced firing of amygdala
 - ◆ Less anxiety
 - ◆ Increased nucleus accumbens activity
 - ◆ Enhanced reward in relationships
 - ◆ Reduced firing of orbitofrontal cortex
 - ◆ Reduced criticism of others

Self And Identity

- **Secure attachment with therapist**
 - Involves Right Hemisphere (RH) RH to RH nonverbal communication
 - In a safe environment
 - Liberates client from past constraints of rigid personality
 - Facilitates self-observation (active scanning of inner-world)
 - Observe without criticism or evaluation
 - Enhances capacity for introspection
 - Reduces prediction error

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

- ◆ ADRA_{2B} deletion variant of gene that encodes the alpha 2b-adrenergic receptor is related to increased responsivity and connectivity of brain regions implicated in emotional memory
pnas.org/content/106/45/19191.full?link
- ◆ Blocking the emotion about a trauma can also block the memory of it and over time this may become unconscious

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
- ◆ Higher connectivity between the right insula and the left ventrolateral thalamus-involved in emotion and consciousness

Consciousness

- ◆ 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>

STAGES OF TREATMENT

- ◆ **STAGE ONE- STABILIZATION, TRUST AND SAFETY**
 - ◆ Alliance building, safety, affect regulation, support, self-care and stabilization issues
- ◆ **STAGE TWO-TRAUMA WORK**
 - ◆ Resolution and integration of trauma
- ◆ **STAGE THREE- LEARNING TO LIVE GACEFULLY IN THE MOMENT**
 - ◆ Self and relational development and daily life enhancement

Client Comes Into Treatment

HOPELESS

FEARFUL

STAGE ONE- STABILIZATION, TRUST AND SAFETY

- ◆ TREATMENT OF LONGER DURATION
- ◆ SETTING LIMITS
- ◆ ATTACHMENT ISSUES
- ◆ PSYCHOEDUCATION
 - ◆ EXPLAIN TREATMENT
 - ◆ EXPLAIN COMPLEX PTSD

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

- ◆ Behavioral
 - ◆ Decrease Stress
- ◆ Cognitive-behavioral
 - ◆ Decrease confusion
- ◆ Interpersonal
 - ◆ Decrease interpersonal distress

SAFETY PLAN

FOUNDATION PROGRAM

Behavioral Safety Plan On 3x5 Index Card

MY PERSONAL SAFETY PLAN

- Remember that symptoms go away
- Write down the symptoms on a piece of paper
- I can write in my journal
- 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

Behavioral Foundation Program

TASK	MON	TU	WED	THU	FRI	SAT	SUN
SH							
TX							
FUN							
NUT							
PEX							

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

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

Safety

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

Treatment Considerations

- ◆ Stress Management
 - ◆ Mindfulness Meditation or Centering Prayer
- ◆ Group Behavioral Interventions-DAD₂ Receptors
 - ◆ Group Therapy
 - ◆ Active participation
 - ◆ Successful completion of assignments
 - ◆ Milieu
 - ◆ Leadership
 - ◆ Modeling
 - ◆ Self help
 - ◆ Coffee and chairs
 - ◆ “Telling story”

Labeling Our Feelings

- ◆ Verbalizing our feelings and labeling emotions makes them less intense.
- ◆ Photograph of an angry or fearful face causes increased activity in the amygdala
 - ◆ Creates a cascade of events resulting in “fight or flight” response
- ◆ Labeling the angry face changes the brain response

Labeling Our Feelings

- ◆ Labeling the response caused the amygdala to be less active and the right ventrolateral prefrontal cortex to activate.
- ◆ Using mindfulness and labeling the feelings one experiences allows the prefrontal cortex to override the amygdala.
 - ◆ Matthew Lieberman, UCLA, Psychological Science, May 2007

David Creswell, UCLA

- ◆ “We found the more mindful you are, the more activation you have in the right ventrolateral prefrontal cortex and the less activation you have in the amygdala. We also saw activation in widespread centers of the prefrontal cortex for people who are high in mindfulness. This suggests people who are more mindful bring all sorts of prefrontal resources to turn down the amygdala.”

STAGE TWO-TRAUMA WORK

- ◆ Revisiting the trauma
- ◆ Work from least traumatic to most traumatic
- ◆ 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

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

Overriding The Amygdala

- ◆ Only the Medial Prefrontal Cortices (especially the Anterior Cingulate and Orbitofrontal Cortex) can control the Amygdala
 - ◆ With continued stress the neurotransmitters that power PFC are reduced
 - ◆ Dopamine
 - ◆ Serotonin

Neural Integration

- ◆ Complexity
- ◆ Working with Hyperactivity and Dissociation
- ◆ Mindfulness Meditation
- ◆ Meditation
- ◆ Mindful Tolerance
- ◆ Horizontal Integration
- ◆ Behavioral Exposure Therapy

Anticipated Results

- ◆ Balance the sympathetic and parasympathetic branches of the ANS
- ◆ Ability to tune into others including the experience of empathy
- ◆ Emotional balance including the ability to inhibit impulses
- ◆ Self-Knowing Awareness thru autobiographical narrative

Anticipated Results

- ◆ Fear Extinction from GABA fibers extending down to amygdala-calming the conditioned fear response
- ◆ Becoming aware of the input from our bodies (gut, heart, etc.) allowing intuitive wisdom
- ◆ The capacity to think of the larger good and act in a pro-social manner

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 (Narrative) Integration

▣ LEFT BRAIN

- Vertically integrated
- Linear
- Linguistic
- Cause-effect
- Literal
- Logical

▣ 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 at trauma
- ◆ Normal or neutral stimuli not paid attention to (life passes you by)

Behavioral Exposure 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

Clinical Case Study

- ◆ 29 yo female (Peggy) in early recovery for cocaine addiction with history of early life trauma
 - ◆ Use of grief letter 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

Living In The Moment

- ◆ Past
 - ◆ *Guilt*
- ◆ Present
 - ◆ *Spiritually "connected"*
- ◆ Future
 - ◆ *Fear*

Develop Higher Order Functions

- ◆ *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*

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 - ◆ <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