

# Trauma, Complex Trauma, and Co-Morbid Problems

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## Disclaimer

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The author has no conflicts of interest to disclose.

## Trauma

## What Is Trauma?

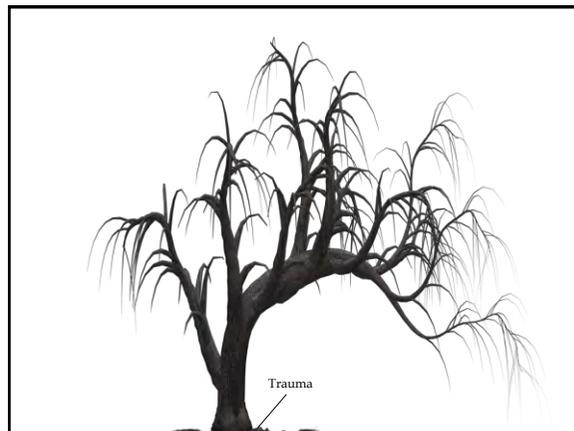
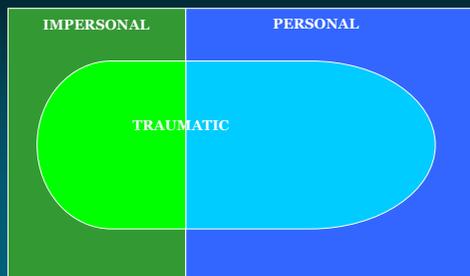
Trauma results from an event, series of events, or set of circumstances that is experienced by an individual as physically or emotionally harmful or threatening and that has lasting adverse effects on the individual's functioning and physical, social, emotional, or spiritual well-being.

SAMHSA, 2014

## Many Types of Trauma

- Combat and war-zone trauma
- Rape
- Child physical abuse
- Child sexual abuse
- Domestic violence
- School violence
- Environmental trauma
- Forced displacement
- Torture
- Being held hostage
- Genocide
- Cultural trauma
- Accidents
- Natural disasters
- Fires
- Historical trauma

## Life-Threatening Events



## Trauma and PTSD

TRAUMA

- Not all trauma leads to PTSD  
Depending on the study, the type of trauma, and the group studied, 3%-58% get PTSD
- Not all abuse leads to PTSD

## Women May Be More Vulnerable to Stress Disorders Than Men

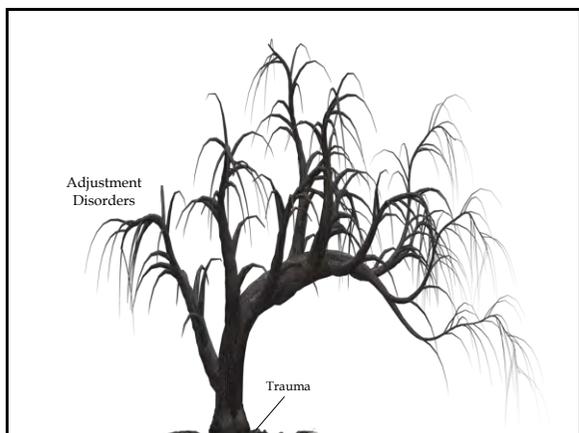
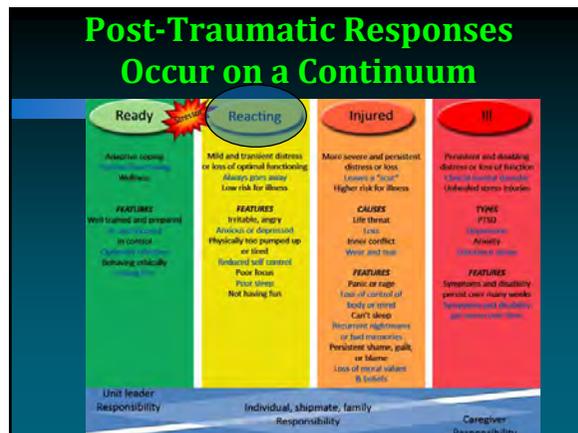
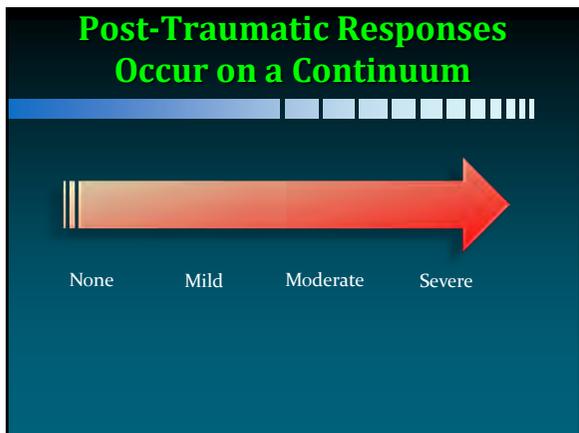
- More men (61%) than women (51%) experience a trauma at some point in their lives, but women experience PTSD at twice the rate of men (10% vs. 5%) (Kessler et al., 1995; Tolin and Foa, 2006)
- Females may be more sensitive to Corticotropin releasing factor (CRF) than males (Bangasser et al., 2010)

## Trauma and Gender

- Men are most likely to develop PTSD from combat exposure, rape, childhood neglect, and childhood physical abuse
- Women are most likely to develop PTSD from rape, sexual molestation, physical attack, being threatened with a weapon, and childhood physical abuse

(Kessler et al., National Comorbidity Survey, 1995)

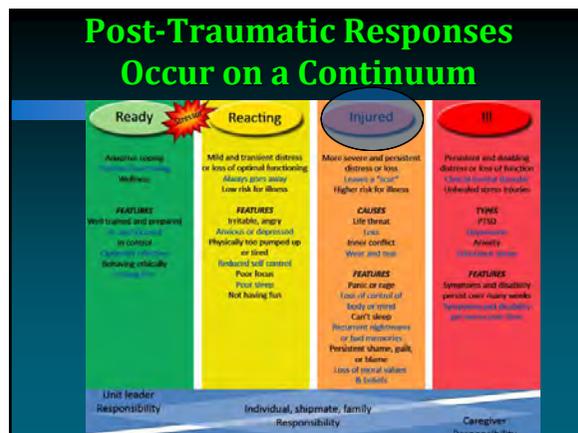
## Adjustment Disorders

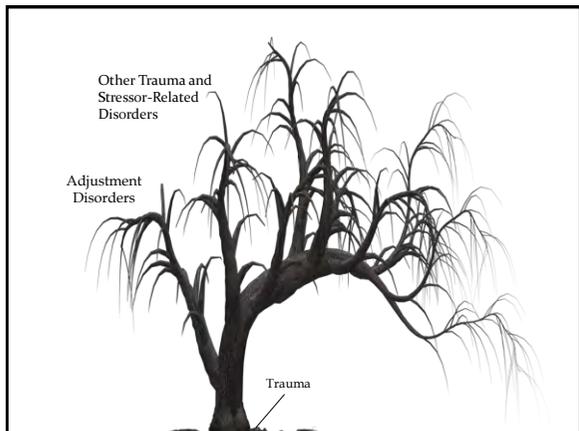


### Adjustment Disorders

- Come in several forms:
  - Anxiety
  - Depression
  - Conduct (under 18 only)
- May be mixed
- Usually do not come in response to traumas

### Other Trauma and Stressor-Related Disorders





## Post-Traumatic Stress Disorder in DSM 5

**PTSD is characterized by:**

- Exposure to a severe life-threatening event
- Repetitive re-experiencing of the event
  - 1/5 criterion must be met
- Avoidance of stimuli associated with trauma
  - 1/2 criterion must be met
- Negative moods and cognitions
  - 2/7 criterion must be met
- Increased arousal
  - 2/6 criterion must be met

## Other Trauma or Stressor-Related Disorder

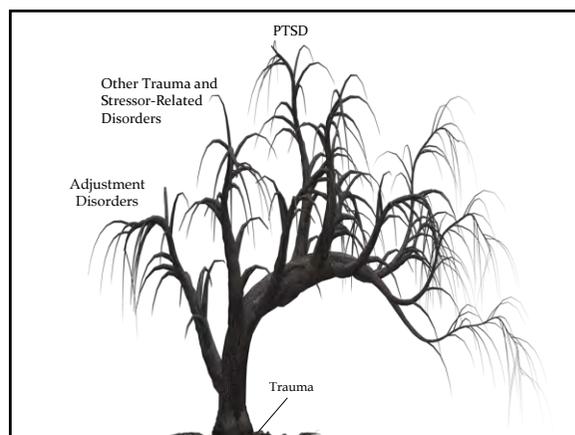
- Some of the symptoms of PTSD but not all
- Used to be called sub-clinical PTSD or partial PTSD
- Can be missing a criterion
  - Re-experiencing
  - Avoidance
- Can be partially-resolved PTSD
  - Due to time
  - Due to treatment

PTS

## Post-Traumatic Stress Disorder

## Post-Traumatic Responses Occur on a Continuum

Ready	Reacting	Injured	III
<b>Adapted coping</b> Wellness Midway	Mild and transient distress or loss of optimal functioning. Always goes away. Low risk for illness.	More severe and persistent distress or loss. Losses a "focal" Higher risk for illness.	Persistent and disabling distress or loss of function. Clinically significant. Unrelated stressors.
<b>FEATURES</b> Well trained and organized In control Optimistic and calm Following ethically	<b>FEATURES</b> Irritable, angry Anxious or depressed Physically too pumped up or tired Reduced self-control	<b>CAUSES</b> Life threat Loss Inter conflict Wear and tear <b>FEATURES</b> Panic or rage Loss of control of body or spirit Can't sleep Recurrent nightmares Persistent shame, guilt, or blame Loss of moral values & beliefs	<b>TYPE</b> PTSD Depression Anxiety Substance abuse <b>FEATURES</b> Symptoms and disability persist over many weeks Symptoms and disability get worse over time
Unit leader Responsibility	Individual, spouse, family Responsibility		Caregiver Responsibility



## Who Gets PTSD?

- It depends on:

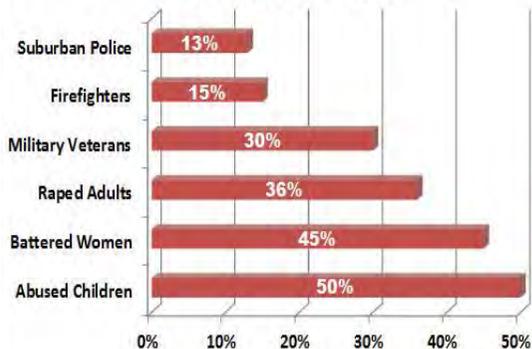
- Genetics
- Severity
- Duration
- Proximity



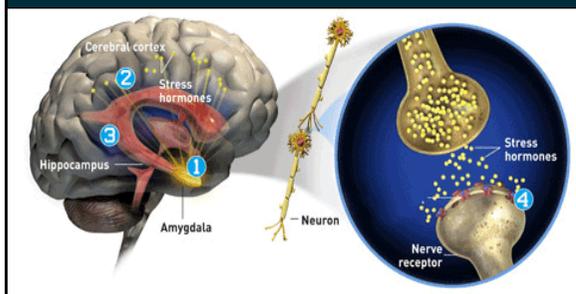
- PTSD is mitigated or worsened by:

- Childhood experience
- Personality characteristics
- Family history
- Social support

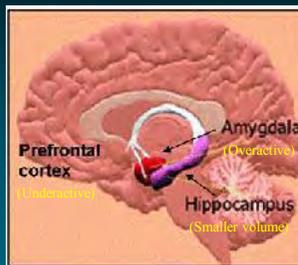
## PTSD Occurrence



## Traumatic Stress and the Brain



## PTSD and the Brain

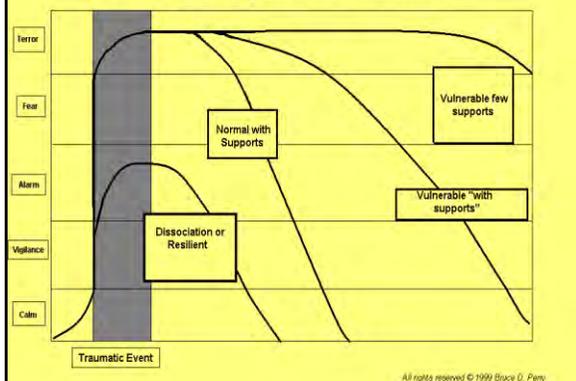


Amygdala – Emotional reactions, fight or flight alarm system

Hippocampus – Relay station for sorting memories

Prefrontal cortex – logic, reasoning, planning, impulse control, organizing

## ACUTE RESPONSE TO TRAUMA



**Post-Traumatic Stress Disorder is a normal response to an abnormal event.**

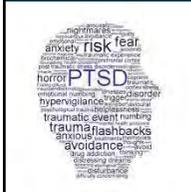
## Changes to PTSD Diagnosis in DSM 5

- Trauma and Stressor-Related Disorders are placed in their own category
- Loss of loved one must be traumatic or accidental
- Elimination of B criterion of reaction of horror, terror, or helplessness
  - Military and first responders do their job



## Changes to PTSD Diagnosis in DSM 5

- Addition of new criteria involving negative cognitions (negative beliefs about the world, blame of self or others for the trauma) and mood (depression, anger, guilt)
- Addition of a new arousal criterion: self-destructive or reckless behavior
- These changes result in approximately the same number of people who will meet criteria for a diagnosis of PTSD



## Post-Traumatic Stress Disorder in DSM 5

PTSD is characterized by:

- Exposure to a severe life-threatening event
- Repetitive re-experiencing of the event
- Avoidance of stimuli associated with trauma
- Negative moods and cognitions
- Increased arousal

## PTSD: Exposure to a Life- Threatening Event

### A. Exposure to a traumatic event

- Exposure to death, threatened death, actual or threatened serious injury, or actual or threatened sexual violence



## PTSD: Intrusion Symptoms

### B. Re-experiencing symptoms:

- Recurrent, involuntary and intrusive recollections
- Traumatic nightmares
- Dissociative reactions (e.g., flashbacks)
- Intense or prolonged distress after exposure to traumatic reminders
- Marked physiological reactivity to trauma-related stimuli

## PTSD: Avoidance of Stimuli Associated with Traumatic Event

### C. Persistent effortful avoidance of distressing trauma- related stimuli after the event:

- Trauma-related thoughts and feelings
- Trauma-related external reminders



## PTSD: Negative Cognitions and Mood

D. Negative alterations in cognitions and mood that began or worsened after the traumatic event:

- Inability to recall key features of the traumatic event
- Persistent negative beliefs and expectations about self or world
- Persistent distorted blame of self or others for causing the event or the resulting consequences

## PTSD: Negative Cognitions and Mood



- Persistent negative trauma-related emotions (e.g., fear, horror, anger, guilt, or shame)
- Markedly diminished interest in significant activities
- Feeling alienated from others
- Constricted affect: persistent inability to experience positive emotions

## PTSD: Increased Arousal

E. Trauma-related alterations in arousal and reactivity that began or worsened after the traumatic event:

- Irritable or aggressive behavior
- Self-destructive or reckless behavior
- Hypervigilance
- Exaggerated startle response
- Problems in concentration
- Sleep disturbance



## PTSD: A New Subtype

Dissociative Subtype of PTSD:

- Meets criteria for a diagnosis of PTSD
- Experiences high levels of depersonalization or derealization
- Dissociative symptoms are not related to substance abuse or other medical condition



## Further Symptoms Associated with PTSD



## What Does It Feel Like to Have PTSD?

## Inside the Skin of PTSD



- Nerves on edge
- Jumpy
- Can't sleep
- Nightmares
- Irritable all the time
- Explosive outbursts
- Wants to be left alone
- Depressed
- Can't stand crowds
- Heart races/sweats

## Inside the Skin of PTSD



- Hates New Year's Eve and July 4<sup>th</sup>
- Secretive
- Distrusts others
- Sees world as dangerous
- Constantly watching for danger
- Hates lines
- Overwhelmed by stimulation
- Feels responsible for trauma

## Inside the Skin of PTSD



### Copes by:

- Cutting off relationships
- Isolating
- Taking risks
- Self-harming behaviors
- Using drugs and alcohol

## Faces of PTSD



## Some Consequences of PTSD

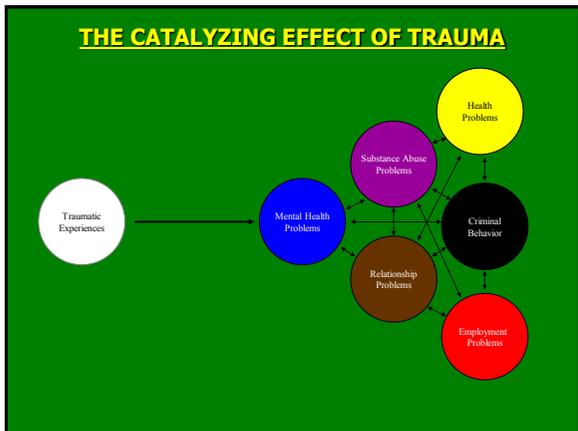
- Damaged relationships
- Strain on families
- Domestic violence
- Multiple marriages
- Problems in parenting
- Children develop problems



## More Consequences of PTSD

- Lost productivity
- Poverty
- Homelessness
- Legal problems
- Reduced quality of life





## Child Trauma and PTSD

### The Child Welfare System in the United States in 2013

- 74.4 million children in the U.S.
- 3.5 million referrals
  - An increase of 11.6% since 2009
  - One referral every 9 seconds
- This represents 6.4 million children
  - 8.6%, or more than 1 out of every 12 children
- 2.1 million investigations

*Child Maltreatment 2013, DHHS*

### The Child Welfare System in the United States in 2013

- 690,000 child victims
  - This equals 1.3% of children
- 269,000 children removed from home
- 144,000 children received foster care services
  - 402,000 total children in foster care (U.S. Children's Bureau, 2013)
- 1,520 fatalities

*Child Maltreatment 2013, DHHS*

### The Effects of Abuse on Early Brain Development

Excess cortisol and heightened amygdalar response causing:

- Chronic fear and anxiety
- Inattention
- Overreactivity
- Impulsivity
- Hyperalertness and hyperarousal
- Sleep problems

## The Effects of Abuse on Early Brain Development

Increased epinephrine and stress steroids causing:

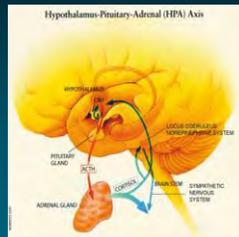
- Dissociation
- Disengagement
- Distorted attachments to others
- Numbing
- Emotional detachment
- Inability to feel empathy and remorse



## The Effects of Abuse on Early Brain Development

Hyperactivity of the Hypothalamic-Pituitary-Adrenocortical Axis causing:

- Cognitive impairments
- Emotional dysregulation
- Increased passive/avoidant behavior
- Depression



## The Effects of Neglect on Early Brain Development

Decreased brain growth causing:

- Poor attachment
- Difficulties with peer relationships
- Enduring behavioral problems
- Problems with learning



## The Effects of Neglect on Early Brain Development

Decreased brain size at age 3



Photo © 2005 Bruce D. Perry, M.D., Ph.D.

## Which Children Get PTSD?

Best predictors:

- Severity of exposure
- Dissociation during and after LT event

Other risk factors:

- Prior psychopathology
- Prior history of trauma



- Children get more PTSD than adults
- But children and adolescents are at equal risk

## Protective Factors against PTSD

- Positive relationship with an adult in childhood
- Positive experience in therapy as an adolescent or adult
- Ability to clearly recount childhood abuse
- Anger directed at perpetrator, not self
- Social support



# The ACE Study

## Origins of the ACE Study

- 55% of 1,500 people in a weight loss program at Kaiser Permanente dropped out each year
- Almost all of them were losing weight
- Dr. Vincent Felitti, chief of the Department of Preventive Medicine, wondered why

Stevens, 2005

## Origins of the ACE Study



- Felitti interviewed 286 patients
- None were born overweight
- They gained weight abruptly, then stabilized
- When they lost weight, they regained it rapidly
- 50% of the group were sexually abused as children

Stevens, 2005

## Complex Trauma and Health: The Adverse Childhood Events Study

- 17,421 adult patients of Kaiser Permanente
- Came out of an obesity program: many dropouts who lost weight believed that it protected them (against further sexual abuse, against violence from prisoners)
- Eight categories of events in the home: physical abuse, emotional abuse, sexual abuse, someone imprisoned, domestic violence, substance abuse, chronic mental illness, and loss of parent

Felitti, Anda, et al., 1998

## Adverse Childhood Experiences

ACEs = ADVERSE CHILDHOOD EXPERIENCES

The three types of ACEs include

ABUSE	NEGLECT	HOUSEHOLD DYSFUNCTION	
Physical	Physical	Mental Illness	Incarcerated Relative
Sexual	Emotional	Mother treated violently	Substance Abuse
Self-harm		Divorce	

Felitti & D'Anda, 1998

Finding Your ACE Score

While you were growing up, starting your first 18 years of life:

1. Did a parent or other adult in the household often or very often:
  - Swear at you, insult you, put you down or humiliate you?  Yes  No If yes enter: 1
  - And in a way that made you afraid that you might be physically hurt?  Yes  No If yes enter: 1
2. Did a parent or other adult in the household often or very often:
  - Push, grab, slap, or throw something at you?  Yes  No If yes enter: 1
  - Ever hit you so hard that you had marks or were injured?  Yes  No If yes enter: 1
3. Did an adult or person at least 18 years older than you ever:
  - Talk to you or leave you alone that made you feel uncomfortable?  Yes  No If yes enter: 1
  - Attempt or actually have sex, oral, anal, or vaginal intercourse with you?  Yes  No If yes enter: 1
4. Did you often or very often feel that:
  - No one in your family loved you or thought you were important or special?  Yes  No If yes enter: 1
  - Your family didn't stick out for each other, feel close to each other, or support each other?  Yes  No If yes enter: 1
5. Did you often or very often feel that:
  - You didn't have enough to eat, had to wear dirty clothes, and had no one to protect you?  Yes  No If yes enter: 1
  - Your parents were drunk or high to take care of you or take you to the doctor if you needed it?  Yes  No If yes enter: 1
6. Were your parents ever separated or divorced?  Yes  No If yes enter: 1
7. Were your mothers in a depressive, often or very often, painful, ill, or lost something precious at her?  Yes  No If yes enter: 1
8. Did you live with anyone who used a handgun or other gun or who used a knife?  Yes  No If yes enter: 1
9. Was a household member depressed or mentally ill, or did a household member attempt suicide?  Yes  No If yes enter: 1
10. Did a household member go to prison?  Yes  No If yes enter: 1

Now add up your "Yes" answers: \_\_\_\_\_ This is your ACE Score.

## Complex Trauma and Health: The ACE Study

Results more than 50 years later:

- More than 1/2 of population experienced one or more ACEs; 1/4 had two or more
- Exposure to one category increases likelihood of exposure to another by 80%
- The higher the ACE score, the worse the health problems

Felitti, Anda, et al., 1998

## Complex Trauma and Health: The ACE Study

Results:

- Greater likelihood of health problems:
  - Chronic obstructive pulmonary disease
  - Hepatitis
  - Sexually transmitted diseases
  - Obesity
  - Heart disease
  - Fractures
  - Diabetes
  - Unintended pregnancies

Felitti, Anda, et al., 1998

## Complex Trauma and Health: The ACE Study

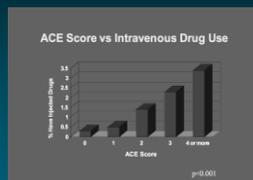
Results:

- Greater likelihood of behavioral health problems:
  - Smoking
  - Intravenous drug abuse
  - Depression
  - Attempted suicide
  - Alcoholism



Felitti, Anda, et al., 1998

## The ACE Study: A Dose-Response Curve



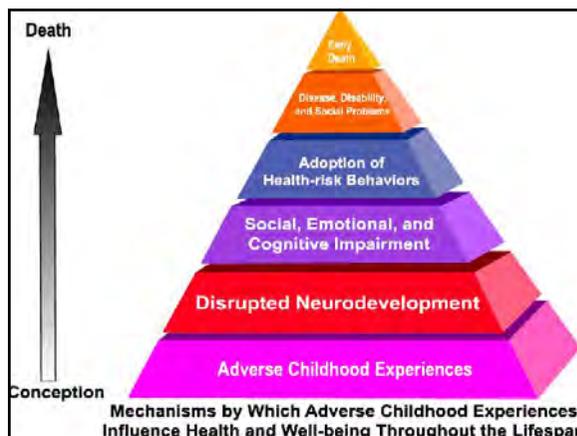
## Complex Trauma and Health: The ACE Study

Results:

- Greater likelihood of occupational problems:
  - Occupational health
  - Poor job performance



Felitti, Anda, et al., 1998



## Trauma in Veterans

## Premilitary Trauma

- Experiences of multiple traumatic events have a cumulative negative impact on the mental health of veterans after deployment (Bremner et al., 1993; Zinzow et al., 2007)
- Experiences of premilitary trauma increase the likelihood of exposure to traumatic events during and after military service (Himmelfarb et al., 2006; Suris & Lind, 2008)

## High Prevalence of Prior Child Maltreatment

### Studies of Army soldiers:

#### Rosen & Martin, 1996:

- 17% of males and 51% of females reported childhood sexual abuse
- 50% of males and 48% of females reported physical abuse
- 11% of males and 34% of females experienced both

#### Seifert et al., 2011 (combined males and females):

- 46% reported childhood physical abuse
- 25% reported both physical and sexual abuse
- Soldiers with both reported more severe PTSD symptoms and more problem drinking

## Pre-military Trauma in Women

- Female service members and veterans report more premilitary trauma than servicemen and female civilians
- More than half of female veterans experienced premilitary physical or sexual abuse
- 1/3 of female veterans report a history of childhood sexual abuse, compared to 17-22% of civilian women
- 1/3 of female veterans report a history of adult sexual assault, compared to 13-22% of civilian women

Schultz et al., 2006; Zinzow et al., 2007; Merrill et al., 1999

## Pre-military Trauma in Women

- Female veterans report more severe childhood abuse, including sexual abuse by a parent and greater duration of sexual abuse, than civilian women (Schultz et al., 2006)
- Adult rape was 4 times more likely among Navy servicewomen who experienced childhood sexual abuse and 6 times more likely if they experienced childhood physical and sexual abuse (Merrill et al., 1999)

## Prior Child Maltreatment Increases Military PTSD

- Two or more adverse childhood experiences (ACEs) are associated with increased risk of PTSD, beyond combat exposure (Cabrera et al., 2007)
- Veterans with PTSD are more likely to have been physically abused as children than those without PTSD (Bremner et al., 1993; Zaidi and Foy, 1994)
  - Physical abuse as a child also associated with greater severity of PTSD (Zaidi and Foy, 1994)
- Childhood physical abuse and combat-related trauma *both* increase later anxiety, depression, and PTSD (Fritch et al., 2010)

## Multiple and Repeated Types of Trauma in the Military



- Combat and war-zone trauma
- Traumatic grief/loss
- Military sexual trauma
- Accidents

## Trauma Exposure among OEF/OIF Veterans

- 50% had a friend seriously wounded or killed
- 45% saw dead or seriously wounded civilians
- 10% required hospitalization for injury

Tanielian & Jaycox,  
RAND, 2008



## Types of Military Stress Injuries

### Combat/Operational Stress

#### Stress Adaptations

Positive Behaviors

Negative Behaviors

#### Stress Injuries

Traumatic Stress

Operational Fatigue

Grief

Moral Injury

✓ A horrible or terrifying event

✓ The wear and tear of deployment

✓ The loss of friends and leaders

✓ Actions that violate moral values

## The Effects of Combat

- Regardless of whether a veteran develops PTSD or not, the experience of combat is *transformative*
- “I came back a different person”
- “I want my son back”



## Combat Exposure and PTSD

- Combat exposure increases PTSD (Kulka et al., 1990; Prigerson et al., 2002)
- High war zone stress associated with greater levels of PTSD, both current and lifetime, than low and moderate war zone stress in Vietnam era veterans (Jordan et al., NVVRS, 1991)
- Up to 58% of soldiers in heavy combat
- 50-75% of POWs and torture victims

## The Problem of Repeated Deployments

- The Persian Gulf war was the longest war in American history, with the most repeated deployments
- Repeated deployments wear down resiliency
- 36% of servicemen and women were deployed twice or more (Department of Defense, 2008)
- More than 400,000 servicemen and women were deployed at least 3 times (Rosenbloom, 2013)
- 50,000 servicemen and women had at least four deployments (Army Secretary John McHugh, testifying before Congress, 3/21/12)

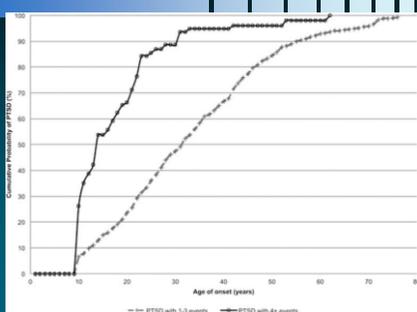
## Repeated Deployments Increase PTSD

- Mental health problems increase with repeated deployments: 14.3% of those with one deployment, 21.8% of those with two, and 32.5% of those with three or four (Mental Health Advisory Team-VII, 2011)
- Army soldiers deployed twice have 1.6 times greater chance of developing PTSD than those deployed once (Reger et al., 2009)
- Active duty military with PTSD may be sent back into combat
- Shorter dwell times increase risk of PTSD (MacGregor et al., 2012)

## Problems after Multiple Deployments



## According to Number of Traumatic Events



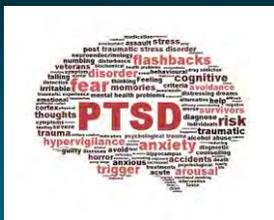
## Military and Combat Reinforcement of PTSD Symptoms

These are all adaptive in a war zone and, in some cases, trained:

- Reactivity to reminders
- Avoidance of felt danger
- Distrust of outsiders
- Negative expectations of world
- Anger
- Aggressive behavior
- Numbness
- Hypervigilance
- Startle responses
- Risk-taking
- Insomnia

## Variable Rates of PTSD in Different Conflicts

- Vietnam veterans: lifetime prevalence 30.9% for males and 26.9% for females (NVVRS, Kulka, Schlenger, et al., 1990)
  - This is equivalent to more than 1 million veterans
- First Gulf War veterans: 10.1% (Kang, Natelson et al., 2003)
  - This is equivalent to 75,000 veterans



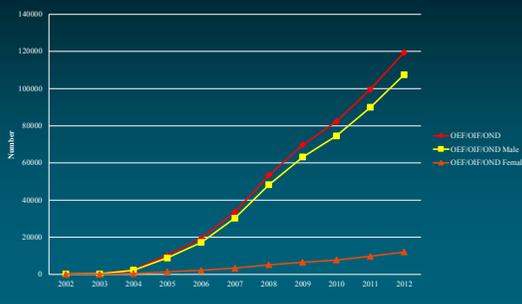
## Variable Rates of PTSD in Different Conflicts

- OEF/OIF/OND veterans after 9/11/01: 13.8-21.8% (Seal, Metzler, et al., 2009; Tanielian & Jaycox, 2008)
  - 28.4% of OEF/OIF/OND veterans treated in VHA have PTSD (VHA, 2012)
    - This is equivalent to 250,000 veterans
    - But 45% of veterans do not receive medical and mental health services from the VHA, so the actual number is greater
  - Future estimates as high as 35% lifetime prevalence (Atkinson, Guetz, & Wein, 2009)
    - This is equivalent to 735,000 veterans

## Increasing Numbers of Veterans with PTSD in the VHA



## Increasing OEF/OIF/OND Veterans in VHA with PTSD Diagnosis 2002-2012



## Frequency of Mental Disorders among OEF/OIF/OND Veterans Seen at VAMCs since 2002

Disease Category (ICD code)	Total Number of OEF/OIF/OND Veterans*	Change since Q4FY11
<b>PTSD (ICD-9CM 309.81)</b>	<b>250,242</b>	<b>20.8%</b>
Depressive Disorders (311)	194,503	24.5%
Neurotic Disorders (300)	171,530	27.3%
Tobacco Use Disorder (305.1)	149,026	20.7%
Affective Psychoses (296)	117,260	24.1%
Alcohol Abuse (305.0)	58,316	23.4%
Alcohol Dependence Syndrome (303)	55,897	26.6%
Non-Alcohol Abuse of Drugs (ICD 305.2-9)	40,147	30.3%
Drug Dependence (304)	39,198	31.4%
Specific Nonpsychotic Mental Disorder due to Organic Brain Damage (310)	29,713	14.0%

N = 464,685  
 \*Not including PTSD from VA's Vet Centers or data from Veterans not enrolled for VA health care  
 Cumulative from 1st Quarter FY 2002 through 4th Quarter FY 2012

## Not All Wars Are the Same

- Length of war
- Number of deployments
- Who deploys together
- Symmetric vs. asymmetric warfare
- National view of war's morality
- Who won?
- Length of time spent returning
- Reception upon return

History teaches us that in asymmetric warfare the most heavily armed do not always win.

## Military Trauma in Women



- 2/3 of female OIF veterans report at least one combat experience (Milliken et al., 2007)
- 38% of OIF servicewomen are in firefights, and 7% report shooting at an enemy (Hoge et al., 2007)
- OIF servicewomen handle human remains more often than servicemen: 38% vs. 29% (Hoge et al., 2007)
- 21% of female veterans of Iraq and Afghanistan have been diagnosed with PTSD (VA, 2010)

## Military Sexual Trauma

- Military Sexual Trauma is sexual assault or sexual harassment that is threatening
- Among active duty personnel:
  - 3% of women and 1% of men reported attempted or completed sexual assault in the previous year
  - 54% of women and 23% of men reported sexual harassment in the previous year (DOD, 2002)
- Among veterans using VA health care:
  - 23% of women reported being sexually assaulted while in the military
  - 55% of women and 38% of men reported sexual harassment (VA, 2009)

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  - 23% of women reported being sexually assaulted while in the military
  - 55% of women and 38% of men reported sexual harassment (Dept. of Veterans Affairs, 2009)

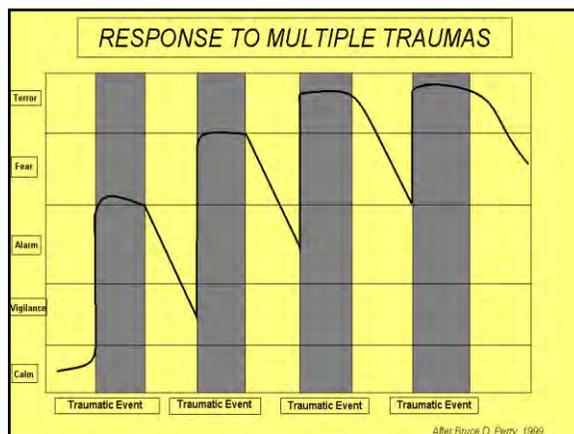
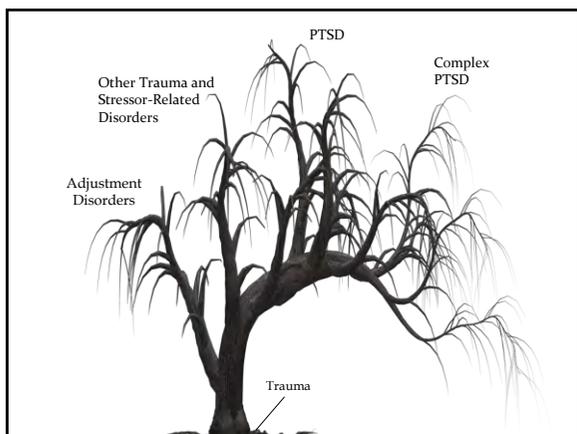
## Military Sexual Trauma

- 37% of women reporting MST had been raped at least twice during military service (Sadler et al., 2003)
- Female veterans experience sexual assaults (30%), physical assaults (35%), or both (16%) (Sadler et al., 2000)
- 80% of sexual assaults in the military go unreported (Department of Defense studies quoted by Whitley in testimony before Congress, 2010)
- Female veterans with MST are more likely to develop PTSD than those who have experienced other traumas (60% vs. 43%) (Yaeger et al., 2006)

## Complex Trauma

## What is Complex Trauma?

Complex psychological trauma results from “exposure to severe stressors that (1) are repetitive or prolonged, (2) involve harm or abandonment by caregivers or other ostensibly responsible adults, and (3) occur at developmentally vulnerable times in the victim’s life.” Ford and Courtois, 2009



## What is Complex Trauma?

- The psychological effects of chronic and cumulative traumas
- Results from interpersonal victimization, multiple traumatic events, and/or traumatic exposure of prolonged duration
  - Sexual and physical abuse
  - Domestic violence
  - Ethnic cleansing
  - Prisoners of war
  - Torture
  - Being held hostage



## What is Complex Trauma?

- Complex trauma is often relational
- Trauma creates vulnerability to further trauma: adults who are traumatized may have been traumatized previously as children



## Complex PTSD Is Much More Than Simple PTSD

- Loss of a coherent sense of self
- Problems in self-regulation
- Tendency to be revictimized
- Other mental health disorders
- Substance use disorders
- Health problems
- Relationship problems
- Changes in systems of belief and meaning

## Core Problems in Complex Trauma

- Affect dysregulation
  - Dissociation
  - Somatic dysregulation
  - Impaired self-concept
  - Disorganized attachment patterns
- In addition to symptoms of PTSD and other comorbid disorders**

Ford and Courtois, 2009

### What is Complex PTSD?



Complex PTSD involves the core symptoms of PTSD plus additional groups of symptoms  
source: ISTSS Expert Consensus Treatment Guidelines For Complex PTSD In Adults

TraumaAndDissociation  
[www.dissociative-identity-disorder.net/wiki/Complex\\_PTSD](http://www.dissociative-identity-disorder.net/wiki/Complex_PTSD)

## Experiencing Complex Trauma

- Emotional instability
- Overwhelming feelings of rage, guilt, shame, despair, ineffectiveness and/or hopelessness
- Tension reduction activities such as self-mutilation, compulsive sexual behavior, and bulimia
- Suicidal or violent behavior
- Dissociation



## Experiencing Complex Trauma



- Loss of a sense of trust, safety, and self-worth
- Loss of a coherent sense of self
- Belief of being bad or unlovable
- Insecure attachments/damaged interpersonal relationships
- Difficulty functioning in social settings, including work
- Loss of faith
- Enduring personality changes

## People at Risk of Developing Complex Traumatic Stress Disorders

- Economically impoverished inner city minorities
- Incarcerated individuals
- Homeless persons
- Sexually and physically revictimized children or adults
- Victims of genocide or torture
- Developmentally, intellectually, or psychiatrically challenged persons
- Civilian workers and soldiers harassed on the job or in the ranks
- Emergency responders

Vogt et al., 2007

## Rates of PTSD for Simple vs. Complex Trauma

Simple	Complex
10-20%	33-75%

Copeland et al., 2007; Kessler et al., 1995

## Complex PTSD May be Confused With:

- PTSD
- ADHD
- Other anxiety disorders
- **Bipolar Disorder**
- Mood Dysregulation Disorder
- Psychotic Disorder NOS
- Reactive Attachment Disorder



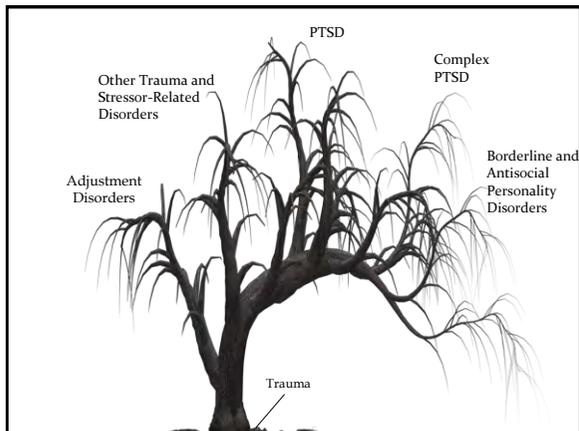
## Complex PTSD Often Appears as or Co-Occurs with:

- PTSD
- Other Anxiety Disorders
- Mood Disorders
- Behavior Disorders, especially ADHD
- Substance Use Disorders



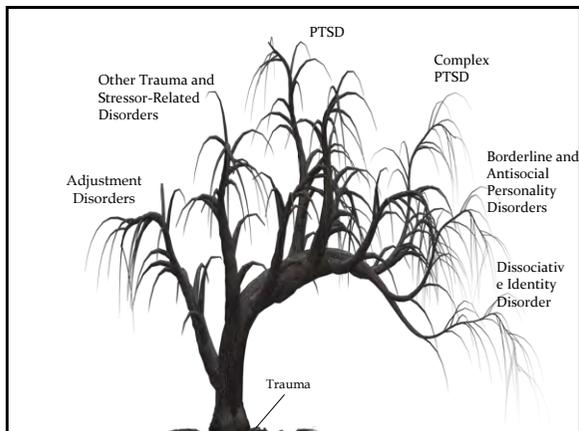
Co-morbidity is the rule

## Extreme Trauma



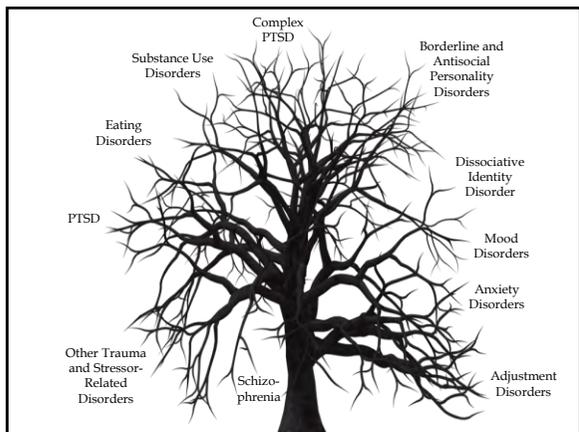
## Personality Disorders

- Borderline Personality Disorder
  - 81% have histories of childhood trauma (Herman et al., 1989)
- Antisocial Personality Disorder
  - Childhood trauma significantly increases likelihood (Dutton & Hart, 1992; Horwitz et al., 2001; Marchall & Cooke, 1999)
- 73% of people with personality disorders have histories of child abuse (Battle et al., 2004)
- This suggests that personality disorders may be specific manifestations of complex trauma



## Dissociative Identity Disorder

- Formerly called Multiple Personality Disorder
- Defined by dissociative states that compartmentalize aspects of personality functioning
- More than 90% of people with DID have experienced severe child abuse (Putnam et al., 1986)

## Evidence-Based Treatment of PTSD

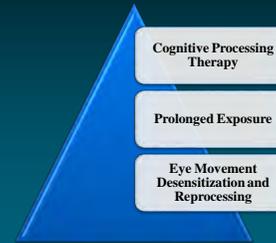
## Treatment of PTSD: Medication

### Medication for trauma symptom management and co-morbid disorders

- Antidepressants
- Mood stabilizers
- ~~Atypical antipsychotics~~ **no longer**
- Anticonvulsants
- Anxiolytics **not benzodiazepines**
- Sleep aids

There is no medication that specifically treats PTSD; only Prozac, Paxil, and Prazosin have been approved

## Evidence-Based Treatments for PTSD



## Cognitive Processing Therapy

- A cognitive intervention to change the way a traumatized person thinks
- 12 weekly sessions delivered in a structured, manualized protocol
  - Number of sessions can be expanded
- May or may not include a trauma narrative
- Can be delivered individually and/or in groups
- Homework worksheets between sessions

## Cognitive Processing Therapy

- Central techniques:
  - Identifies stuck points
  - Examines evidence for thoughts and beliefs
  - Challenges beliefs
- Changing the interpretation of the traumatic event changes the emotions resulting from the event
- CPT is an effective treatment for PTSD (Vickerman & Margolin, 2009; Ougrin, 2011; Jonas et al., 2013; Ehring et al., 2014)
- CPT successfully treats complex trauma (Resick et al., 2003; Galovski et al., 2013)

## Prolonged Exposure

- A behavioral intervention that repeatedly exposes patients to distressing stimuli in order to decrease their anxiety in response to those stimuli
- 10 weekly sessions
- First part involves *in vivo* exposure to places that increase anxiety (e.g., public places)
  - Uses an anxiety hierarchy

## Prolonged Exposure

- Second part involves writing and dictating a trauma narrative focusing on one traumatic experience
  - The patient listens to the narrative over and over for an hour each day
  - Repeated and prolonged exposure decreases their anxiety
- Prolonged exposure is an effective treatment for PTSD (Vickerman & Margolin, 2009; Ougrin, 2011; Jonas et al., 2013; Ehring et al., 2014)
- There is no evidence that it successfully treats complex trauma

## Eye Movement Desensitization and Reprocessing

- Patient focuses on distressing image
  - States a belief that goes with it
  - Notices feelings that go with it
  - Identifies body sensations that go with it
- Therapist passes fingers back and forth, guiding the eyes
- As this occurs, the images, thoughts, feelings, and body sensations change
- Adaptive information processing results

## Eye Movement Desensitization and Reprocessing

- Auditory and tactile alternatives to eye movements using bilateral stimulation
- Additional exercises:
  - Safe Place
  - Lightstream
  - Resource-building
  - Protocol for substance abuse
  - Etc.

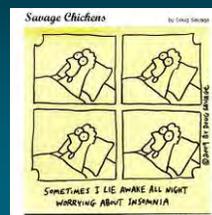


## Eye Movement Desensitization and Reprocessing Results

- EMDR works for PTSD and complex trauma (Davidson & Parker, 2001; Foa et al., 2009; Maxfield & Hyer, 2002; Seidler & Wagner, 2006)
- EMDR addresses substance abuse (Vogelmann-Sine et al., 1998)
- EMDR uses the same mechanism for resolution (eye movements) that sleep does
  - EMDR also targets nightmares

## CBT-I for Insomnia

- Cognitive-Behavioral Therapy for Insomnia (Perlis et al., 2008)
  - Psychoeducation about sleep and what interferes with it
  - Sleep restriction
  - Stress management
  - Cognitive restructuring
  - Relapse prevention



## Imagery Rehearsal Therapy for Nightmares

- Imagery Rehearsal Therapy 3-5 sessions (IRT, Krakow & Zadra, 2006)
  - Psychoeducation about dreams
    - Dreams are a present event
  - Practicing positive imagery
  - Writing down a recurrent dream
  - Identifying the hotspot where the dream turns bad
  - Rewriting the dream after the hotspot
  - Visualizing the rewritten dream each night for 15 minutes before bedtime

## Imagery Rehearsal Therapy for Nightmares

- IRT results in significant improvements (Krakow et al, 2001; Lu et al., 2009; Nappi et al., 2010)
  - Fewer post-traumatic nightmares (from 6.4 to 2.4 in one study)
  - Fewer nights with nightmares (from 3.9 to 1.3 in one study)
  - Improved sleep
  - Decreased PTSD symptoms
- These studies were done with sexual assault survivors and Veterans



## Promising Treatments: CBCT for PTSD

- Four studies of Conjoint Behavioral Couples Therapy for PTSD in Veterans from different eras (Monson et al., 2004; Monson et al., 2011; Monson et al., 2012; Schumm et al., 2013) show:
  - Decreased PTSD symptom severity
  - Decreased depression, anxiety, and anger
  - Increased relationship satisfaction
  - Improved well-being of partners

## Promising Treatments: Mindfulness Meditation

- Mindfulness is focusing on the present moment without judging it
- Meditation exercises
  - Mindful breathing
  - Body scan
  - Thought diffusion
- Mindfulness shifts the brain into a state of calm
- Regular practice shifts the nervous system baseline

## Promising Treatments: Mindfulness-Based Stress Reduction



- Combines mindfulness meditation and gentle yoga
- Eight 2.5 hour weekly group sessions
  - Sometimes includes a full-day meditation retreat
- Groups of up to 25 people
- MBSR reduces PTSD symptoms in Veterans (Kearney et al., 2012; Kluepfel et al., 2013)

## Promising Treatments: STAIR Narrative Therapy

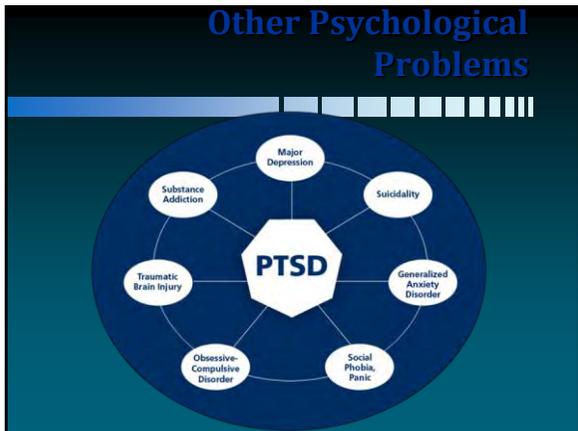


- Skills Training in Affective and Interpersonal Regulation (STAIR) Narrative Therapy uses coping skills from Stress Inoculation Training and Dialectical Behavior Therapy (Cloitre et al., 2006)
- 8-10 sessions of skills building and 8 sessions of narrative therapy

## Promising Treatments: STAIR Narrative Therapy

- Four studies of STAIR Narrative Therapy (Cloitre et al., 2002; Levitt et al., 2007; Trappner & Newville, 2007; Cloitre et al., 2010) show:
  - Decreases in PTSD symptoms
  - Improvements in interpersonal problems
  - Improvements in emotion regulation
- Studies of women with child abuse histories, post 9/11 survivors, and inpatients with co-morbid PTSD and Schizoaffective Disorder
- Implemented in 26 VA facilities

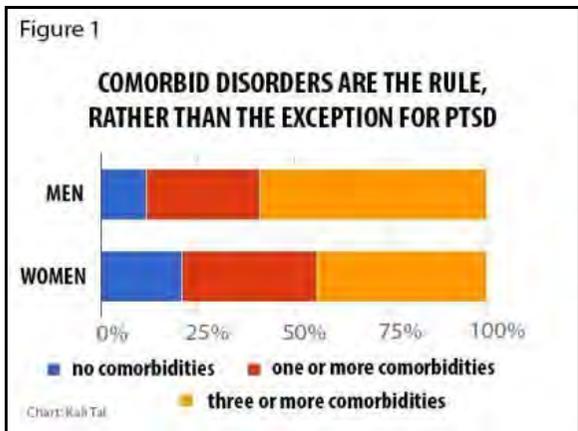
## Co-Occurring PTSD and Substance Abuse in Veterans



### Co-occurrence of PTSD and Substance Abuse

Co-occurring disorders are the rule rather than the exception.

(SAMHSA, 2002)



### Co-occurrence of PTSD and Substance Abuse

- PTSD and substance abuse co-occur at a high rate
  - 20-40% of people with PTSD also have SUDs (SAMHSA, 2007)
  - 40-60% of people with SUDs have PTSD
- Among people with PTSD, 52% of men and 28% of women develop an Alcohol Use Disorder (Najavits, 2007)

### Co-occurrence of PTSD and Substance Abuse

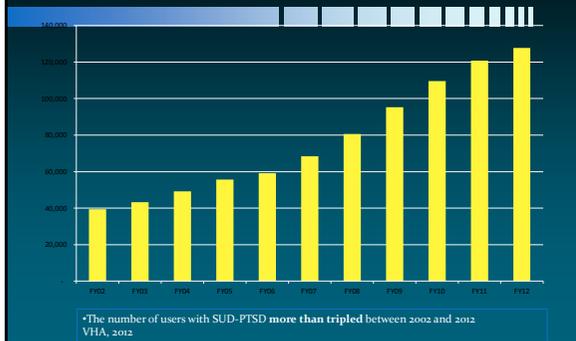
- Substance use disorders are 3-4 times more prevalent in people with PTSD than those without PTSD (Khantzian & Albanese, 2008)
- The presence of either disorder alone increases the risk for the development of the other
- PTSD increases the risk of alcohol relapse (Heffner et al., 2011) and substance relapse (Norman et al., 2007)
- The combination results in poorer treatment outcomes (Ouimette et al., 2003; Sonne et al., 2003)

### Rates of SUDs in Vietnam Veterans with PTSD

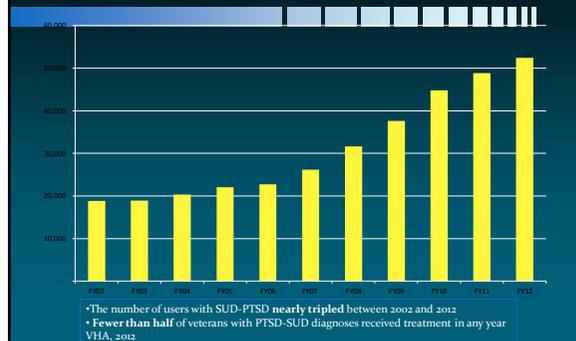
	Current	Lifetime
<b>Alcohol Abuse/Dependence</b>	22%	75%
<b>Drug Abuse/Dependence</b>	6%	23%

Kulka et al., NVVRS, 1988

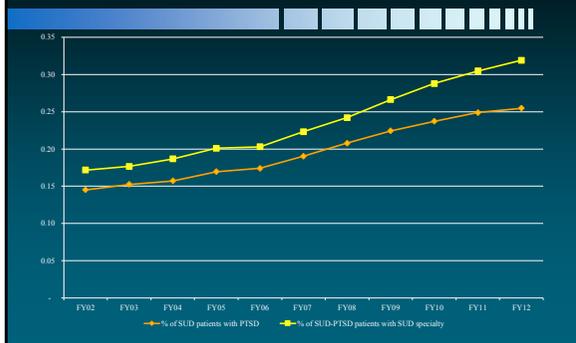
### Veterans in VHA Care with PTSD Diagnosis and SUD FY02-12



### Veterans with PTSD Receiving Specialty SUD Treatment FY02-12



### Trends in SUD-PTSD as % of all SUD



### PTSD and SUD in OIF/OEF Veterans

Veterans with PTSD also:

- Binge on alcohol – 50% (2 X community rate)
- Smoke tobacco – 50% (2.5 X community rate)
- Abuse opiates – 9% (3 X community rate)
- Abuse other drugs – inhalants, sedatives, and marijuana

Rand, 2008

### Pathways Between Trauma-related Disorders and Substance Use



Hien, 2004

### Co-Occurring PTSD and SUDs Make Each Other Worse

- Substance abuse exacerbates PTSD symptoms, including sleep disturbance, nightmares, rage, depression, avoidance, numbing of feelings, social isolation, irritability, hypervigilance, paranoia, and suicidal ideation
- People who drink or use drugs are at risk for being retraumatized through accidents, injuries, and sexual trauma





## The Rationale for Integrated Treatment

## Why Should We Treat Co-Occurring Disorders Integratively?

- PTSD does not go away with abstinence; in fact, it may get worse, at least initially
- Improvement in PTSD symptoms does not bring about abstinence from substance use
- Even if substance abuse began as self-medication, it takes on a life of its own
- Separate treatment is usually uncoordinated and at worst countertherapeutic
- Integrated treatment leads to better outcomes

## The Importance of Integrated Treatment for PTSD and SUDs

- Treating one disorder without treating the other is ineffective
- Sequential treatment (usually SUD first) is ineffective
- Fully integrated treatment is optimal
- Simultaneous treatment is next best



## The Importance of Integrated Treatment for PTSD and SUDs

- Recent evidence on integrated and simultaneous treatment (Hien et al., 2010) suggests:
  - If PTSD symptoms decline, so do SUDs
  - If SUDs decline, PTSD symptoms do not
- Therefore, **treating substance abuse without treating PTSD will fail**
  - This includes ASAP programs



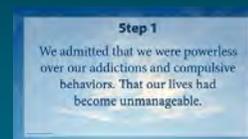
## Barriers to Integrated Treatment

- Most insurance does not pay for substance abuse treatment
- Separate payment streams
- Separate treatment systems
- Professional training biases
- Lack of dually trained clinicians



## PTSD and Substance Abuse Treatment

- PTSD symptoms may worsen in the early stages of abstinence
- Some aspects of 12-Step groups are difficult for some trauma patients
  - Powerlessness
  - Higher Power
  - Issues of forgiveness

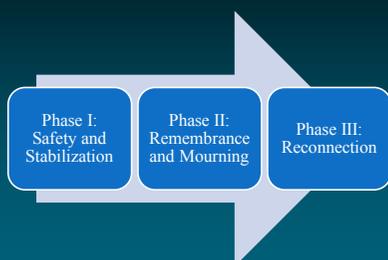


## Integrated Treatment of PTSD and Substance Abuse

## Trauma-Informed ≠ Evidence-Based Treatment

- Trauma-informed treatment means that trauma is taken into account when treating substance abuse
  - *Beyond Trauma: A Healing Journey for Women* by Stephanie Covington
- Evidence-based means that research has shown treatment to be effective
  - *Seeking Safety* by Lisa Najavits
- Evidence-based is better

## Phases of Integrated Treatment



After Herman, 1992

## Stage I: Safety and Stabilization



- Alliance building
- Psychoeducation about multiple traumas
- Safety
- Stabilization
- Skills-building
  - Affective regulation
  - Cognitive
  - Interpersonal
- Self-care

## Medication Treatment of Substance Use Disorders

- Alcohol:
  - Antabuse (Disulfiram)
  - Naltrexone
  - Acamprosate
- Opiates:
  - Methadone
  - Buprenorphine



## Psychological Treatment of Substance Use Disorders

### Evidence-Based Treatments:

- Motivational Interviewing
- Motivational Enhancement Therapy
- Cognitive-Behavioral Therapy (CBT)
- Contingency Management
- Twelve-step Facilitation Therapy
- Behavioral Couples Therapy

## Treatment of PTSD: Medication

### Medication for trauma symptom management and co-morbid disorders

- Antidepressants
- Mood stabilizers
- Atypical antipsychotics
- Anticonvulsants
- Anxiolytics
- Sleep aids

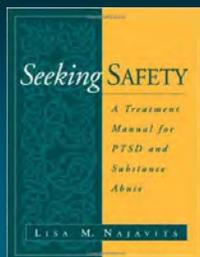
There is no medication that specifically treats PTSD; only Prozac, Paxil, and Prazosin have been approved

## Psychological Treatment of PTSD and SUDs

### Evidence-Based Psychotherapies for Integrated Phase I Treatment:

- Seeking Safety
- Dialectical Behavior Therapy (DBT)
- Therapies for specific problems
  - Imagery Rehearsal Therapy
  - Cognitive-Behavioral Therapy
  - EMDR resource building, safe place, etc.

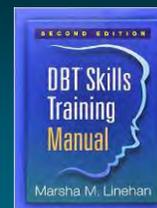
## Seeking Safety



- 25 lessons on topics that overlap between PTSD and Substance Abuse
  - Safety Skills
  - Grounding
  - Anger
  - Boundaries
  - Self-care
  - Honesty
  - Compassion

## DBT Skills Training

- Four topics with multiple lessons
  - Mindfulness
  - Interpersonal Effectiveness
  - Distress Tolerance
  - Affect Regulation
- New manual provides suggested menus of different specific skills and exercises with different populations



## Stage II: Remembrance and Mourning



- Exposure and desensitization
- Processing
- Grieving
- Constructing a narrative
- Integration of the trauma

## Evidence-Based Treatments for PTSD

Cognitive Processing Therapy

Prolonged Exposure

Eye Movement Desensitization and Reprocessing

## Stage III: Reconnection



- Gradually decrease isolation
- Re-establishing estranged relationships
- Developing trusting relationships
- Developing intimacy
- Developing sexual intimacy
- Parenting
- Community-based activities
- Spirituality

## Stage III: Reconnection

- There are no Evidence-Based Psychotherapies for Phase III trauma treatment
  - but couples and/or family therapy may be helpful
- Cognitive-Behavioral Conjoint Therapy for PTSD shows promise (Monson and Fredman, 2012)

## Integrated Treatment for PTSD and Substance Abuse

Seeking Safety is the only empirically-supported integrated treatment for *both* PTSD and Substance Abuse  
But it is only a Phase I treatment for Safety and Stabilization

## Recent Research on Treatment for PTSD and SUDs

- Two recent studies of treatment of PTSD and SUDs using Prolonged Exposure and *simultaneous* SUD treatment show mixed results
  - Exposure therapy does not increase substance use
  - One study found that integrated exposure therapy plus SUD treatment improves trauma symptoms but not substance abuse, depression or anxiety compared to TAU (Mills et al., 2012)
  - The other found that Prolonged Exposure plus Naltrexone does not improve trauma symptoms more than treatment as usual (Foa et al., 2013)

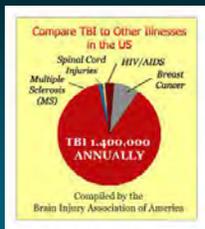
## Promising Treatments: Mindfulness Meditation

- Mindfulness Meditation
  - DBT
  - Mindfulness-Based Stress Reduction
    - MBSR reduces PTSD symptoms in Veterans (Kearney et al., 2012; Kluepfel et al., 2013)
  - Mindfulness-Based Relapse Prevention
  - Acceptance and Commitment Therapy

## What Is Traumatic Brain Injury?

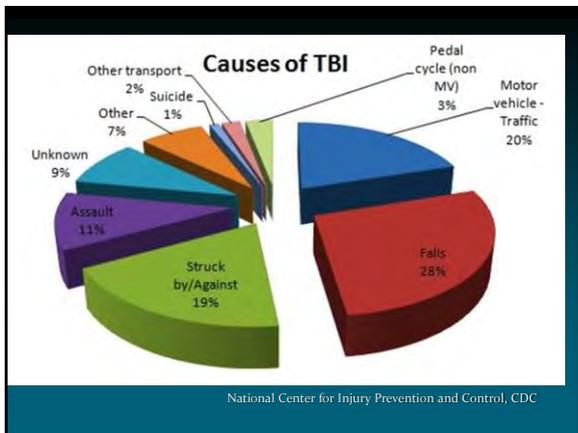
## Traumatic Brain Injury

- TBI occurs when a blow or jolt to the head or a penetrating head injury disrupts the function of the brain (CDC, 2005)
- Most mild TBIs resolve within six months
- Effects of TBI are often cumulative



## Traumatic Brain Injuries

Estimated Average Annual Number of TBI in the United States, 2002-2006

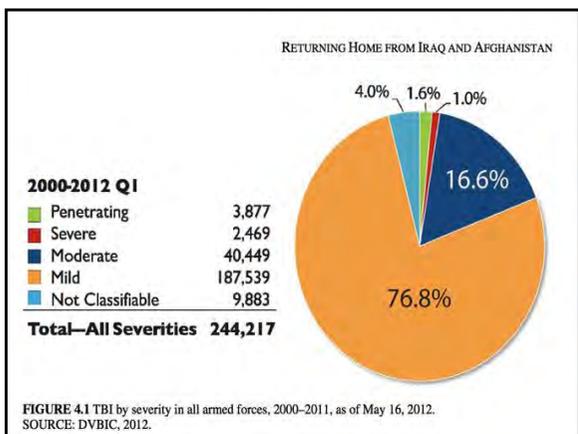


## Traumatic Brain Injury Classification

Severity	GCS	LOC	PTA
Mild	13-15	< 30 min.	<24 hrs.
Moderate	9-12	30 min. - 24 hrs.	24 hrs. - 7days
Severe	3-8	>24 hrs.	>7 days

GCS = Glasgow Coma Scale  
 LOC = Loss of Consciousness  
 PTA = Post-Traumatic Amnesia

American Congress of Rehabilitation



## Experiencing a mTBI



- Loss of consciousness
- Altered consciousness
  - Dizziness
  - Seeing stars
  - Uncoordinated
  - Hazy, out of it, confused
  - “Getting your bell rung”
  - Can’t remember part of what happened

## TBI in OEF-OIF Veterans



- Estimates of TBI in range from 10-22.8% in OEF-OIF veterans (Dolan et al., 2012; Hoge et al., 2008; NCPTSD, 2010; Tanielian & Jaycox, RAND, 2008)
  - This translates to 260,000 - 593,000 Veterans
- 80% of OEF-OIF TBI diagnoses are closed-head injuries (Department of Defense, 2007)

## Post-Concussive Symptoms from mTBI

### Physical:

- Headaches
- Sleep disturbance
- Dizziness
- Fatigue
- Vision problems
- Noise and light sensitivity
- Coordination and balance problems
- Tinnitus



## Post-Concussive Symptoms from mTBI

### Cognitive/learning:

- Difficulties with attention and concentration
- Memory problems (both of the event and having difficulty remembering things in the present)
- Impulsivity
- Slowed information processing
- Difficulty solving new problems
- Cognitive rigidity
- Difficulty putting thoughts into words

## Post-Concussive Symptoms from mTBI

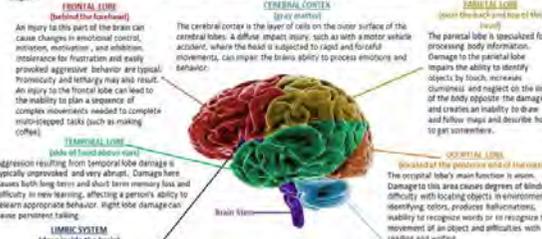
### Emotional/behavioral:

- Irritability
- Angry outbursts and aggression
- Emotional lability
- Low frustration tolerance
- Disinhibition
- Depression
- Anxiety
- Personality changes



### BEHAVIORAL PROBLEMS OF TBI

Behavioral problems of people with traumatic brain injury (TBI) complicate recovery. The list of behavioral dysfunction ranges from emotionally labile (mood swings), depression, and hyperactivity in aggression, sexual inappropriateness, and alcoholism (coming away). Even lack of activity, or lack of initiation, can be a behavioral problem. In addition, psychological reactions to traumatic brain injury as well as predisposition to psychiatric abnormalities can be factors in behavioral consequences. The focus of the treatment team is to be a predictor of behavioral problems, as shown in the following diagram.



Betty Clooney Foundation for Persons with Brain Injury  
4439 1/2 E. Village Road  
Long Beach, CA 90808  
562-938-9005  
[www.bcfctbi.org](http://www.bcfctbi.org) [info@bcfctbi.org](mailto:info@bcfctbi.org)

## Recovery from mTBI

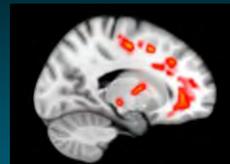
- Most injured personnel return to duty
  - 14-27% are evacuated
  - Average amount of time out: 3 days (Gondusky & Reiter, 2005)
- 80-90% recover within 3-6 months without intervention
- 10-20% have continued problems (Wood, 2004)
- The greater the number of TBIs, the longer it takes to recover (although this information comes from studies of sports concussions; e.g., Guskiewicz et al, 2003)
- Veterans have PCS longer than civilians; many still have symptoms 18-24 months after a TBI (NCPTSD, 2010)
- Adjustment to "the new normal"

## Long-term Effects of TBIs

- Moderate and severe TBIs increase risk for late life dementia (Gardner et al., 2014)
- mTBIs are a risk factor for age-associated neurodegenerative diseases such as
  - Alzheimer's disease (Fleminger et al., 2003)
  - ALS (Chen et al, 2007)
  - Parkinson's Disease (Bower et al., 2003)



## IEDs and Brain Damage



Areas of damaged neurons shown in red

Trotter et al., 2005

- Recent study found that brains of veterans exposed to IEDs showed signs of damage to white matter connections and premature aging
- Memory, planning, and executive functioning all worsened over time
- This held true even when subjects did not show signs of concussion

## Treatment of mTBI

- Speech therapy
- Physical therapy
- Occupational therapy
- Cognitive rehabilitation
  - Restoration
  - Substitution
  - Environmental restructuring
- Psychotherapy focused on adjustment
- No medications have been approved to treat the cognitive deficits associated with TBIs



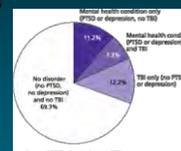
## PTSD and mTBI

## Co-Occurrence of PTSD and mTBI

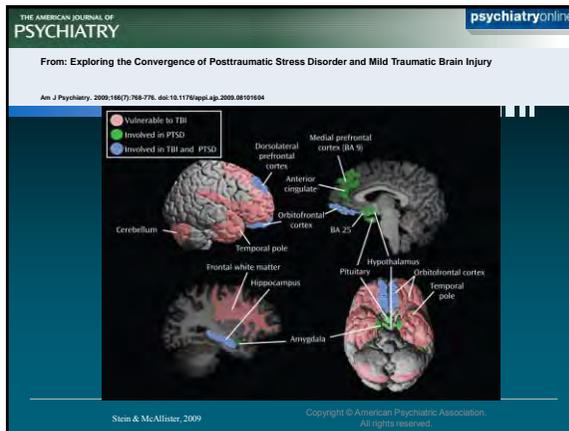
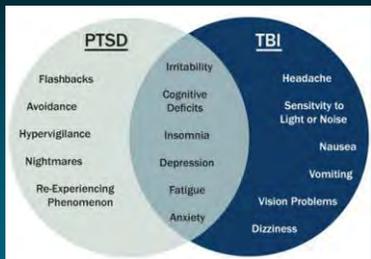
- PTSD occurs more in mild TBI than in moderate or severe TBI
  - Post-traumatic amnesia may have a protective effect (Vasterling et al., 2009)
- Increased level of brain injury *within* mTBI increases likelihood of developing PTSD (Kennedy et al., 2007)
  - 27% of those with concussions developed PTSD
  - 44% of those with loss of consciousness developed PTSD

## Co-Occurrence of PTSD and mTBI

- 37-65% of veterans with mTBI have PTSD (Hoge et al., 2008; Pietrzak et al., 2009; Tanielian & Jaycox, RAND, 2008)
- It is much more difficult to estimate the percentage of veterans with PTSD who also have mTBI
  - 39% of veterans with PTSD or Depression have mTBI (Tanielian & Jaycox, RAND, 2008)



## Symptom Overlap between PTSD and mTBI



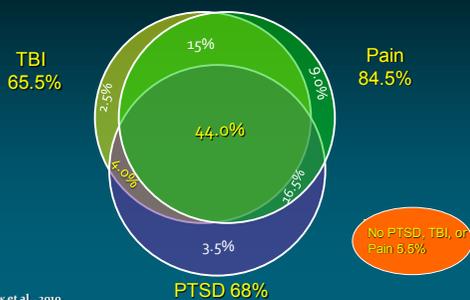
## Overlapping Symptoms

- One symptom may lead to and/or exacerbate another
- Sleep problems may lead to poor concentration and attention, slowed thinking, irritability, memory difficulties etc.
- Disinhibition may lead to emotional lability, anxiety, depression, suicidality, aggression, etc.
- General decline in functioning may lead to depression
- Attempts to cope may exacerbate problems (e.g., alcohol and drug use)
- Symptoms resulting from two or more conditions create a cumulative "burden of adversity" where additive effects make symptoms more severe (Brenner et al., 2009)

## The Polytrauma Clinical Triad



## The Polytrauma Clinical Triad: Patients at a VA Polytrauma Network Site



## PTSD Is More Strongly Associated with Post-Concussive Symptoms than mTBI

- In veterans (Hoge et al., 2008; Schneiderman et al., 2008) and non-veterans (Lagarde et al., 2014) with both PTSD and mTBI, PTSD contributes to PCS more than mTBI
- Memory problems, insomnia, imbalance, ringing in the ears, irritability, difficulty concentrating
- This is true even when overlapping symptoms are removed from PTSD scores (Schneiderman et al., 2008)
- PTSD also mediates negative outcomes involving health, mental health, and psychosocial problems (Pietrzak et al., 2009)

## PTSD May Interfere with Resolution of Post-Concussive Symptoms

- Stress hormones may impede brain repair (Hoffman & Harrison, 2009)
- Overlapping symptoms may increase cumulative severity
- Sleep disturbance increases fatigue and associated problems with cognition
- Hypervigilance and distrust may increase cognitive rigidity
- Avoidance may reinforce difficulty solving new problems
- Co-morbid disorders (PTSD, Depression, pain, and substance abuse) are associated with longer recovery from mTBI/PCS (Cloitre, NCPTSD, 2010)

## mTBI/Post-Concussive Symptoms Interfere with Resolution of PTSD

- Overlapping symptoms may increase cumulative severity
- Difficulties with new problem solving may increase avoidance and distrust
- Poor frustration tolerance may exacerbate irritability and angry outbursts
- Headaches may worsen sleep difficulties
- Executive deficits may interfere with self-management of emotional responses
- Memories may be only partially encoded
- 69% of veterans with PTSD recover from it, compared to 48% of those who experience a later mTBI (Vanderploeg et al., 2009)

## Evidence-Based Treatment of PTSD and mTBI

## Treatment of PTSD: Medication

### Medication for trauma symptom management and co-morbid disorders

- Antidepressants
- Mood stabilizers
- Atypical antipsychotics **no longer**
- Anticonvulsants
- Anxiolytics **not benzodiazepines**
- Sleep aids

There is no medication that specifically treats PTSD; only Prozac, Paxil, and Prazosin have been approved

## Treatment of mTBI

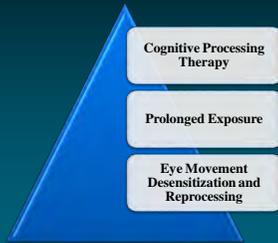
- Speech therapy
- Physical therapy
- Occupational therapy
- Cognitive rehabilitation
  - Restoration
  - Substitution
  - Environmental restructuring
- Psychotherapy focused on adjustment
- No medications have been approved to treat the cognitive deficits associated with TBIs



## Medication Contraindications in Co-Occurring PTSD and mTBI/PCS

- Stimulants used for PCS may increase anxiety associated with PTSD
- Pain medications – particularly opiates – used for PCS may interfere with treatment of PTSD
- Benzodiazepines used for PTSD may interfere with healing of brain needed with mTBI
- Anti-cholinergic, seizure-inducing, and anti-dopaminergic medications should also be avoided because they may increase sedation, impair cognition, and impede neuronal recovery (Hurley, 2010)

## Evidence-Based Treatments for PTSD



## Little Research on Treatment of Co-Occurring PTSD and mTBI/PCS

- Two studies show that PTSD can be successfully treated by Cognitive Processing Therapy in the presence of mTBI (Chard et al., 2011; Walter et al., 2012)
- Two studies show that Prolonged Exposure therapy can also successfully treat PTSD in the context of mTBI (Sripada et al., 2013; Wolf et al., 2012)
- However, none of these indicate whether post-concussive symptoms improve after treatment

## MBSR in the Treatment of Co-Occurring PTSD and mTBI

- Mindfulness-Based Stress Reduction (MBSR) consists of eight 2.5 hour sessions of mindfulness meditation and gentle yoga (Kabat-Zinn, 1990)
- MBSR decreased mental fatigue and improved processing speed in people with mTBIs (Johansson et al., 2012)
  - Some anxiety and depression scores also declined
- MBSR improved attention and decreased PTSD symptoms in a pilot study of Veterans with mTBI and PTSD (Cole et al., 2015)

## Wellness Approaches

- Mindfulness meditation
- Yoga
- Tai Chi
- Qi Gong
- Acupuncture



## Resources

## Resources for PTSD

- *Handbook of PTSD, 2<sup>nd</sup> ed.* (2014), Matthew Friedman, Terence Keane, and Patricia Resick
- *The Body Keeps the Score: Brain, Mind, and Body in the Healing of Trauma* (2014), Bessel van der Kolk
- *Posttraumatic Stress Disorder in Children and Adolescents: Handbook* (2004), Raul Silva

## Resources for PTSD

- *Trauma and Recovery* (1993), Judith Herman
- *The PTSD Workbook: Simple, Effective Techniques for Overcoming Traumatic Stress Symptoms*, 2<sup>nd</sup> ed. (2013), Mary Beth Williams and Soili Poijula

## Resources for PTSD

- National Center for PTSD: [www.ptsd.va.gov](http://www.ptsd.va.gov)
- International Society for Traumatic Stress Studies: [www.istss.org](http://www.istss.org)
- International Society for the Study of Trauma and Dissociation: [www.isst-d.org](http://www.isst-d.org)
- PTSD 101 courses: [www.ptsd.va.gov/professional/ptsd101/course-modules.asp](http://www.ptsd.va.gov/professional/ptsd101/course-modules.asp)
- [http://mghcme.org/courses/course-detail/from\\_the\\_war\\_zone\\_to\\_the\\_home\\_front\\_supporting\\_the\\_mental\\_health\\_of\\_veteran](http://mghcme.org/courses/course-detail/from_the_war_zone_to_the_home_front_supporting_the_mental_health_of_veteran)

## What It Is Like to Have Combat PTSD

- *What It Is Like to Go to War* (2012), Karl Marlantes
- *On Killing: The Psychological Cost of Learning to Kill in War and Society* (2009), Dave Grossman
- *Achilles in Vietnam: Combat Trauma and the Undoing of Character* (1995), Jonathan Shay

## Resources for Military PTSD

- PTSD 101 courses: [www.ptsd.va.gov/professional/ptsd101/course-modules.asp](http://www.ptsd.va.gov/professional/ptsd101/course-modules.asp)
- [http://mghcme.org/courses/course-detail/from\\_the\\_war\\_zone\\_to\\_the\\_home\\_front\\_supporting\\_the\\_mental\\_health\\_of\\_veteran](http://mghcme.org/courses/course-detail/from_the_war_zone_to_the_home_front_supporting_the_mental_health_of_veteran)
- Adjustment after deployment
  - [www.afterdeployment.org](http://www.afterdeployment.org)
  - <http://maketheconnection.net>
- PTSD treatment can help: [www.ptsd.va.gov/apps/AboutFace](http://www.ptsd.va.gov/apps/AboutFace)

## Veteran Resources for PTSD

- *Once a Warrior--Always a Warrior: Navigating the Transition from Combat to Home--Including Combat Stress, PTSD, and mTBI* by Charles Hoge
- *After the War Zone: A Practical Guide for Returning Troops and Their Families* by Matthew Friedman and Laurie Slone
  - Free podcast available at <https://itunes.apple.com/eg/podcast/returning-from-the-war-zone/id657517343>

## Veteran Resources for PTSD

- Adjustment after deployment
  - [www.afterdeployment.org](http://www.afterdeployment.org)
  - <http://maketheconnection.net>
- PTSD treatment can help: [www.ptsd.va.gov/apps/AboutFace](http://www.ptsd.va.gov/apps/AboutFace)

## Family Resources for PTSD

- *When Someone You Love Suffers from Posttraumatic Stress: What to Expect and What You Can Do* by Claudia Zayfert and Jason Deviva
- *Finding My Way: A Teen's Guide to Living with a Parent Who Has Experienced Trauma* (2005), Michelle Sherman and DeAnne Sherma
- <http://www.ptsd.va.gov/public/pages/fslst-family-relationships.asp>
- Helping family members get veterans into treatment: Coaching Into Care  
[www.mirecc.va.gov/coaching/index.asp](http://www.mirecc.va.gov/coaching/index.asp)

## Seeking Safety

- *Seeking Safety* (1998), Lisa Najavits
- *8 Keys to Trauma and Addiction Recovery* (2015), Lisa Najavits
- <http://www.treatment-innovations.org/seeking-safety.html>

## Dialectical Behavior Therapy

- *Cognitive-Behavioral Treatment of Borderline Personality Disorder* (1993), Marsha Linehan
- *DBT Skills Training Manual, 2<sup>nd</sup> edition* (2014), Marsha Linehan
- *DBT Skills Training Handouts and Worksheets, 2<sup>nd</sup> edition* (2014), Marsha Linehan
- <http://www.behavioraltech.com>
- <http://www.linehaninstitute.org/>

## Prolonged Exposure

- *Prolonged Exposure Therapy for PTSD: Emotional Processing of Traumatic Experiences Therapist Guide* (2007), Edna Foa, Elizabeth Hembree and Barbara Olaslov Rothbaum
- *Reclaiming Your Life from a Traumatic Experience: A Prolonged Exposure Treatment Program Workbook* (2007), Barbara Rothbaum, Edna Foa and Elizabeth Hembree

## Cognitive Processing Therapy

- *Cognitive Processing Therapy for Rape Victims: A Treatment Manual* (1993), Patricia Resick and Monica Schnicke

## EMDR

- *Eye Movement Desensitization and Reprocessing (EMDR): Basic Principles, Protocols, and Procedures, 2<sup>nd</sup> Ed.* (2001), Francine Shapiro
- *Getting Past Your Past: Take Control of Your Life with Self-Help Techniques from EMDR Therapy* (2013), Francine Shapiro
- [www.emdr.com](http://www.emdr.com)
- [www.emdria.org](http://www.emdria.org)
- [www.emdrhap.org](http://www.emdrhap.org)

## Mindfulness-Based Stress Reduction

- *Full Catastrophe Living (Revised edition)*, (2013), Jon Kabat-Zinn
- *Mindfulness for Beginners: Reclaiming the Present Moment - and Your Life (Book and CD)*(2011), Jon Kabat-Zinn
- *Guided Mindfulness Meditation Series 1 (CD)* (2005), Jon Kabat-Zinn
- Mindfulness-Based Stress Reduction  
[www.umassmed.edu/cfm/stress/index.aspx?id=41252](http://www.umassmed.edu/cfm/stress/index.aspx?id=41252)
- Free online MBSR course:  
<http://palousemindfulness.com/selfguidedMBSR.html>

## Complex Trauma Resources

- *Trauma and Recovery* (1992), Judy Herman
- *Treating Complex Traumatic Stress Disorders* (2009), Christine Courtois and Julian Ford, eds.
- *Treating Complex Traumatic Stress Disorders in Children and Adolescents: Scientific Foundations and Therapeutic Models* (2013), Christine Courtois and Julian Ford, eds.
- *Treatment of Complex Trauma: A Sequenced, Relationship-Based Approach* (2012), Christine Courtois, Julian Ford, and John Briere
- *The Trauma Recovery Group: A Guide for Practitioners* (2011), Michaela Mendelsohn, Judith Herman, Emily Schatzow, and Diya Kallivayalil

## Resources

- *Complex Trauma in Children and Adolescents*, NCTSN White Paper, available at  
[http://www.nctsn.org/sites/default/files/assets/pdfs/ComplexTrauma\\_All.pdf](http://www.nctsn.org/sites/default/files/assets/pdfs/ComplexTrauma_All.pdf)
- *The Trauma Recovery Group: A Guide for Practitioners* (2011), Michaela Mendelsohn, Judith Herman, Emily Schatzow, and Diya Kallivayalil
- Trauma Focused-Cognitive Behavioral Therapy:  
<http://tfcbt.musc.edu>

## STAIR Narrative Therapy

- *Treating Survivors of Childhood Abuse: Psychotherapy for the Interrupted Life* (2006), Marilene Cloitre, Lisa Cohen, and Karestan Coenen
- Online at <http://www.stairnt.com/index.html>  
[http://www.ptsd.va.gov/professional/continuing\\_ed/STAIR\\_online\\_training.asp](http://www.ptsd.va.gov/professional/continuing_ed/STAIR_online_training.asp)

## PTSD and SUDs

- *Trauma and Substance Abuse (2<sup>nd</sup> ed.)* by Page Ouimette and Jennifer Read
- PTSD 101 course about treating PTSD and SUDs:  
[www.ptsd.va.gov/professional/ptsd101/course-modules/SUD.asp](http://www.ptsd.va.gov/professional/ptsd101/course-modules/SUD.asp)
- Practice recommendations for treating co-occurring PTSD and SUDs:  
[www.ptsd.va.gov/professional/pages/handouts-pdf/SUD\\_PTSD\\_Practice\\_Recommend.pdf](http://www.ptsd.va.gov/professional/pages/handouts-pdf/SUD_PTSD_Practice_Recommend.pdf)

## Internet Resources

- PTSD 101 course about treating PTSD and SUDs:  
<http://www.ptsd.va.gov/professional/ptsd101/course-modules/SUD.asp>
- Practice recommendations for treating co-occurring PTSD and SUDs: [http://www.ptsd.va.gov/professional/pages/handouts-pdf/SUD\\_PTSD\\_Practice\\_Recommend.pdf](http://www.ptsd.va.gov/professional/pages/handouts-pdf/SUD_PTSD_Practice_Recommend.pdf)

## Internet Resources

- Helping family members get veterans into treatment: Coaching Into Care
  - <http://www.mirecc.va.gov/coaching/index.asp>
- Adjustment after deployment
  - <http://www.afterdeployment.org/>
  - <http://maketheconnection.net/>
- PTSD treatment can help
  - <http://www.ptsd.va.gov/apps/AboutFace/>

## TBI Internet Resources

- Traumatic Brain Injury Survival Guide  
<http://www.tbiguide.com>
- Cognitive Symptom Management and Rehabilitation Therapy (CogSMART) for Traumatic Brain Injury  
[http://www.mirecc.va.gov/visn22\\_coe/documents/Prod\\_Twamley\\_CogSMART.pdf](http://www.mirecc.va.gov/visn22_coe/documents/Prod_Twamley_CogSMART.pdf)

## PTSD and mTBI Resources

- *PTSD and Mild Traumatic Brain Injury* (2012), Jennifer Vasterling, Richard Bryant, and Terence Keane
- *Combat-Related Traumatic Brain Injury and PTSD: A Resource and Recovery Guide* (2011), Cheryl Lawhorne and Don Philpott

## PTSD and mTBI Internet Resources

- PTSD and TBI: <http://ptsd.va.gov/professional/pages/traumatic-brain-injury-ptsd.asp>
- PTSD, TBI and pain practice recommendations: <http://www.ptsd.va.gov/professional/pages/traumatic-brain-injury-ptsd.asp>
- The Defense and Veterans Brain Injury Center: [www.dvbic.org](http://www.dvbic.org)
- The Defense Centers of Excellence for Psychological Health and Traumatic Brain Injury: [www.dcoe.health.mil](http://www.dcoe.health.mil)

## Internet Resources

- Military culture courses:
  - [http://www.ptsd.va.gov/professional/continuing\\_ed/military\\_culture.asp](http://www.ptsd.va.gov/professional/continuing_ed/military_culture.asp)
  - <http://www.deploymentpsych.org/military-culture>
  - <http://www.essentiallearning.net/student/content/sections/Lectora/MilitaryCultureCompetence/index.html>
  - <http://www.apa.org/about/gr/issues/military/military-culture.pdf>

## Online and Telephone Resources

The collage features three main resources:

- Veterans Crisis Line:** A graphic with a man's face, the text "Veterans Crisis Line 1-800-273-8255 PRESS 1", and the slogan "IT'S YOUR CALL". Below it, it says "Confidential help for Veterans and their families" and "Confidential chat at VeteransCrisisLine.net or text to 828355".
- ABOUTFACE:** A graphic with a woman's face and the text "LEARN FROM VETERANS HOW PTSD TREATMENT CAN TRANSFORM YOUR LIFE AND SOON ABOUTFACE".
- MAKE THE CONNECTION:** A screenshot of a website with the text "WELCOME TO MAKE THE CONNECTION" and a search bar.

## Online Resources

- Self-assessment Mental Health screening  
<http://www.militarymentalhealth.org/>
- Computer-based Problem-Solving Therapy  
<http://startmovingforward.t2.health.mil/>
- Wellness resources  
<http://afterdeployment.t2.health.mil/>

## Self-Help Mobile Applications

<http://www.t2health.org/mobile-apps>

- PTSD Coach 
- T2 MoodTracker 
- Breathe 2 Relax 
- Tactical Breather 

## Self-Help Mobile Applications

<http://www.t2health.org/mobile-apps>

- Mindfulness Coach 
- Parenting2Go 
- LifeArmor (includes family section) 

## Self-Help Mobile Applications

<http://www.t2health.org/mobile-apps>

- mTBI Pocket Guide 
- Concussion Coach 
- Biofeedback 

## Self-Help Mobile Applications

- Positive Activity Jackpot   
<http://www.militarymentalhealth.org/articles/media/>
- Virtual Hope Box 
- Provider Resilience 
- More to come!

## Mobile Applications That Assist Psychotherapy

- PE Coach 
- CPT Coach 
- CBT-I Coach 
- ACT Coach 



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