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# TBI, Suicide, & PTSD in OEF/ OIF Veterans

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# Disclosure

This presentation is based on work supported, in part, by the Department of Veterans Affairs, but does not necessarily represent the views of the Department of Veterans Affairs or the United States Government.

# Veterans in Criminal Justice System

- Probation - 399,300
- Parole-Supervised Release - 75,000
- Local Jail - 72,600
- State Prison - 136,800
- Federal Prison - 19,300
- Total Correctional - 703,000
- Adults Arrested - 1,159,500

(Bureau of Justice Statistics, 2004)

# Veterans with Mental Illness in Jails and Prisons

- Veterans constitute 10.4% of US Adults
- Veterans are 11.7% of Jail inmates
- Veterans are 9.4% of State and Federal Prison inmates

(Bureau of Justice Statistics, 2004; US Census Bureau, 2006)



# Veterans prior to Incarceration

- 81% of all justice involved veterans had a **substance abuse problem** prior to incarceration
- 35% were identified as suffering from **alcohol dependency**
- 23% were **homeless** at some point in the prior year and
- 25% were identified as **mentally ill**

# What issues are we seeing in returning Veterans?

TBI, Suicide, and PTSD



# Traumatic Brain Injury (TBI)

- A blow or jolt to the head or a penetrating head injury which temporarily or permanently disrupts normal brain function



# Traumatic Brain Injury (TBI)

- Open head injuries (Penetrating): When the scalp/skull is broken, fractured, or penetrated. This may occur when a foreign object (e.g., a bullet) goes through the skull.
- Closed head injuries: When an outside force impacts the head, but the skull is not broken, fractured, or penetrated.

# Brain Injury Severity

<b>Mild</b>	<b>Moderate</b>	<b>Severe</b>
Altered or LOC < 30 minutes with normal CT and/or MRI	LOC < 6 hours with abnormal CT and/or MRI	LOC > 6 hours with abnormal CT and/or MRI
GCS 13 - 15	GCS 9 -12	GCS < 9
PTA < 24 hours	PTA < 7 days	PTA > 7days

# TBI in the Military



# TBI in Military

- Military personnel have **higher rates** of TBI compared to civilians (Ommaya et al., 1996)
- Military population considered higher risk for TBI due to combat/ occupations (e.g., parachuting)
- 1991- Desert Storm 20% of those treated for wounds had head injuries.

# TBI: Signature Injury



- **Blast injury** most common wound in OEF and OIF. 60% of blast injuries result in TBI.
- Blast-related injuries- artillery, improvised explosive devices (IED), mines, and rock-propelled grenades.
- 58,998 **(9.6%) Iraq and Afghanistan Veterans** who used VHA from 2009 – 2011 received a TBI diagnosis.

# Mild TBI: OEF & OIF



- Mild TBI makes up the overwhelming majority in current conflict
- Prevalence is considered “very high”
- Difficult to get precise estimates. Estimates range 12 - 23 % in U.S. personnel (Zoroya, 2006).

# TBI: Higher Rates with OEF & OIF

- Why higher than any other war?
- Advances in body/ protective Armor; Medical triage
- Saved lives of personnel who would have died in previous wars means these rates are going to be higher.
- High frequency of explosive/ blast attacks in Iraq and Afghanistan compared to past conflicts. \*



# TBI & other Mental Health problems

- 1/3 soldiers with mTBI dx w/ **PTSD or Depression** (Tanielian & Jaycox, 2008)
- 43.9% soldiers with LOC dx with PTSD (Hogue et al., 2008)
- Most Veterans with a TBI diagnosis also carried a mental health diagnosis, with **PTSD being the most common** (Taylor, 2012)

# Post-TBI

## Emotional problems are common

- Anger, lowered frustration tolerance, anxiety, depression, and low self-esteem
- Pathological Laughing and Crying
- Irritability or loss of temper (“rage episodes”)
- Disinhibition

# Post-TBI

## Emotional problems are common

- Apathy
- Mania
- Psychosis
- Socially inappropriate behaviors
- Agitation, excessive use of profanity, aggression, and potentially destructive behavior.

# Recovery from Mild TBI

- 1<sup>st</sup> week post-TBI: 90% (or more) endorse post-concussive symptoms
- 1 month post-TBI: ~ 50% are recovered fully
- 3 months post-TBI: ~ 66% are recovered fully

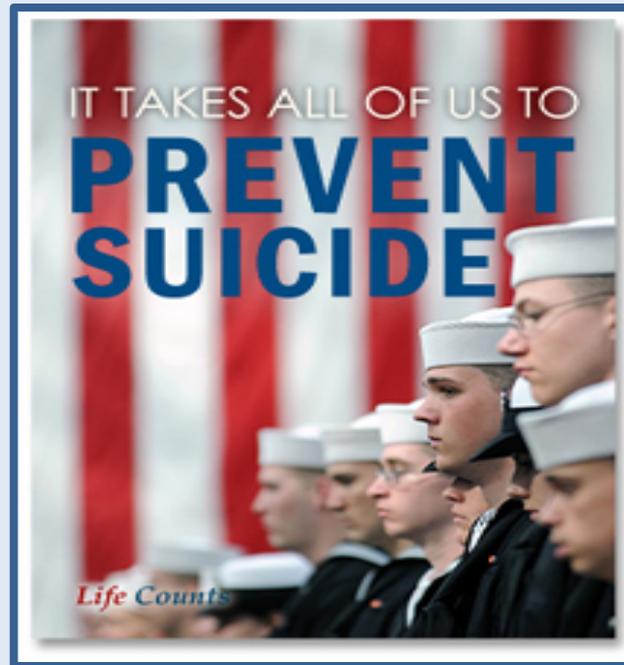
# Recovery from Mild TBI

- 6-12 months post-TBI: ~10% still symptomatic
- Those who remain symptomatic at 12 months are likely to continue experiencing post-concussive symptoms thereafter
- Symptoms: Headaches, Dizziness, Fatigue, **Irritability, Anxiety**, Insomnia, **Loss of concentration** and memory, **Noise and light sensitivity**

# Recovery from Mod-Severe TBI

- About 35-60% of persons with moderate to severe TBI will develop **chronic neurobehavioral and/or physical symptoms** related to TBI
- Successful return to work and/or school is inversely related to the severity of persistent neurobehavioral and physical symptoms

# TBI and Suicide



# Post-TBI: Depression & Suicidality

- As patients return to their prior roles following TBI, physical and cognitive difficulties can become noticeable and psychological adjustment problems can develop.
- Depression may develop and suicidal thoughts are possible.
- Lower levels of impulse control and impaired judgment increase concern for suicidality.

# TBI: Co-morbidity

- People with TBI and current suicide ideation (n = 88) were more likely to have current SI present and
- Major depression 52.3%
- An anxiety disorder (not PTSD) 50.0%
- PTSD 45.9%
- (Tsaousides et al., 2011)

# TBI and Suicide Rates

Study	Location	N	Observed/ Expected	All TBI SMR suicide	Severe TBI SMR	Mild TBI SMR
Harris & Barraclough 1997	Meta-analysis UK and Europe	NR	5/1.4	<b>3.50</b>	≈ 3.50	-
Teasdale & Engberg 2001	Population study Denmark	145,440	895 observed	-	4.01	3.02
Harrison-Felix et al 2009	IP Rehab + alive at 1 yr- US	1,678	10/3.39	<b>2.95</b>	-	-
Ventura et al 2010	Acute Hospital dc State-wide - US	18,998	38/16	<b>2.38</b>	-	-
Brenner et al 2011	All veterans TBI vs. 5% random sample non-TBI- US	49,626	105 observed	<b>1.55</b>	1.34	1.98
Simpson et al. Unpub. (Baguley et al, 2012)	IP rehab + alive at discharge, multi centre Australia	2,500	13/3.6	-	3.60	-

# TBI: Suicide Ideation, Attempts, & Death

- Clinically **significant suicidal ideation in 22 %** of the TBI population.
- Those with **TBI reported higher frequency of suicide attempts** than those without TBI (8.1% versus 1.9%)
- Individuals with **TBI suggest an increased risk of death by suicide** (2 to 4 times greater than the general population for those with moderate/ severe TBI)

# Veterans with PTSD



# Prevalence of PTSD

## General Population

- About **7-8%** of the population will have PTSD at some point in their lives.
- About **5.2 million adults have PTSD** during a given year. This is only a small portion of those who have gone through a trauma.
- Women are more likely than men to develop PTSD. About **10% of women** develop PTSD sometime in their lives compared with **5% of men**.

# Returning Veterans

- 30% of combat veterans experience PTSD
  - Approximately **50% of Vietnam Veterans** experience symptoms
  - Approximately **8% of Gulf War Veterans** have demonstrated symptoms
- **10-18% of OEF/OIF troops** are likely to have PTSD after they return.
- Depression in returning troops range from **3% to 25%.**

# “What Kind of War-Zone Stressors Did Soldiers in Iraq and Afghanistan Confront?”

- Preparedness (or lack thereof)
- Combat exposure
- Aftermath of battle
- Perceived threat
- Difficult living and work environment
- Perceived radiological, biological, and chemical weapons exposure
- Sexual or gender harassment (MST)
- Concerns about life and family disruptions

(Cozza et al., 2004)



# “Combat Fatigue”

- Immediate psychological and functional impairment that occurs in war-zone/battle or during other severe stressors during combat
- Caused by stress hormones
- Features of the stress reaction include:
  - ✓ Restlessness
  - ✓ Psychomotor deficiencies
  - ✓ Withdrawal
  - ✓ Stuttering
  - ✓ Confusion
  - ✓ Nausea
  - ✓ Vomiting
  - ✓ Severe suspiciousness and distrust



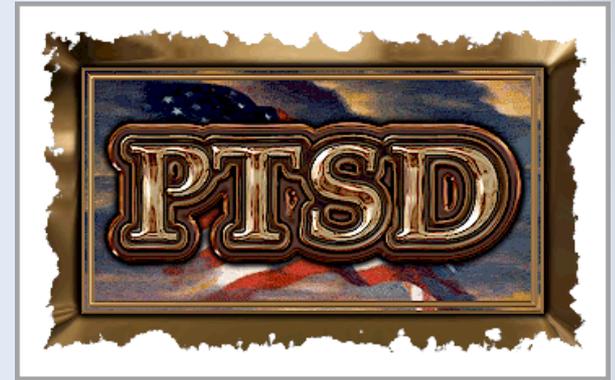
# What is PTSD?

- Different from other psychiatric disorders, as there is a known etiological component— an event that involves life threat, serious injury, or death.
- War zone/ combat exposure, assault, rape, torture, childhood physical/ sexual abuse, natural disasters, serious accidents



# What is PTSD?

- An anxiety disorder resulting from exposure to an experience involving direct or indirect threat of serious harm or death; may be experienced alone (rape/assault) or in company of others (military combat)



# Traumatic Event

The person experienced, witnessed, or was confronted with an event or events that involved actual or threatened death or serious injury, or a threat to the physical integrity of self or others (2) the person's response involved intense **fear, helplessness, or horror.**



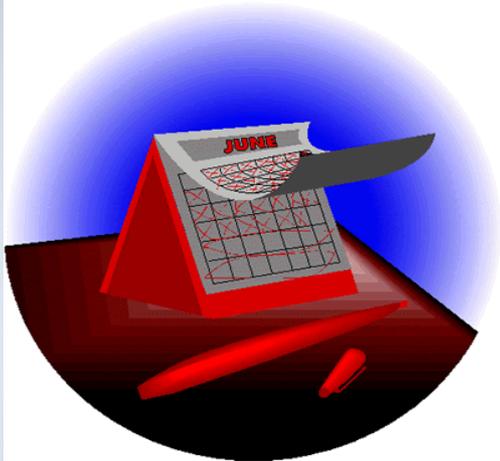
# Symptoms of PTSD

- Re-experiencing symptoms (nightmares, intrusive thoughts)
- Avoidance of trauma cues and Numbing/detachment from others
- Hyperarousal (increased startle response, hypervigilance)



# Duration of PTSD

- To meet criteria for PTSD, symptom duration must be **at least one month**



- **Acute PTSD:** duration of symptoms is less than 3 months
  - **Chronic PTSD:** duration of symptoms is 3 months or more
- Often, the disorder is more severe and lasts longer when the stress is of human design (i.e., war-related trauma)

APA, 1994

# PTSD is a failure to adapt

- It's adaptive for people to have strong reactions to a traumatic event.
- If you are being chased by a ferocious dog, it's adaptive if you run away or protect yourself.
- It's your body's way of protecting you.
- Over time we want to see this behaviors decrease when there is no longer a threat present.
- PTSD is a **failure to adapt** because extreme reactions occur with the individual even when no threat is present.

# Symptoms of PTSD

- ✓ Recurrent thoughts of the event
- ✓ Flashbacks/bad dreams
- ✓ Emotional numbness (“it don’ t matter”); reduced interest or involvement in work our outside activities
- ✓ Intense guilt or worry/anxiety
- ✓ Angry outbursts and irritability
- ✓ Feeling “on edge,” hyperarousal/ hyper-alertness
- ✓ Avoidance of thoughts/situations that remind person of the trauma
- ✓ Depression

# Behaviors seen in Veterans with PTSD

- Watching out windows of home. Perimeter checks around home/ car
- Overly protective about family and friend's safety (e.g., children)
- Startle response (jumpy) when hearing a loud noise (car backfire)
- Triggered by seeing a firearm/ weapon (or any other reminder of trauma)

# Behaviors seen in Veterans with PTSD

- Don't like to sit with back to door
- Don't want others standing behind them (want to be able to see what others are "going to do")
- Avoid large crowds/ gatherings (e.g., concerts, restaurants, Walmart)
- Use of alcohol or drugs (to help sleep, cope with nightmares & intrusive thoughts)

# Potential Consequences of PTSD

- Social and Interpersonal Problems
- Relationship issues- higher rates of divorce/ separation
- Low self-esteem
- Alcohol and substance abuse
- Employment problems
- Homelessness
- Trouble with the law- domestic violence
- Isolation

# Helping Veterans who are having Flashbacks

- Tell them to keep their eyes open.
- Help them orient themselves to the **PRESENT**
- Have them look around and notice where they are, what year it is, and that they are safe (e.g., “You are in your neighborhood in Denver, CO and it is October 2012”)
- Gently remind them that what they are experiencing **was in the past** and right now they are in the **present**.

# Helping Veterans who are having flashbacks

- If they are not posing a threat to themselves or anyone else, you want to help them **use their senses** to orient them back to the present.
- Have them get up and move around (e.g., touch sides of a chair, walk around)
- Give them a drink of water (cold)
- Wash hands (warm water)

# Helping Veterans in Crisis

- Ask if the person is a Veteran
- Validate and thank Veteran for service
- Speak at slower rate and use softer tone (hearing problems in some returning Vets)

# Helping Veterans in Crisis

- Decrease distractions- radio, television, disruptive bystanders
- Allow the Veteran time to think when they are being given commands
- Have Veteran repeat what you have said

**Thank you.**

**Questions/ Comments**

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# Use Your Smartphone to Visit the VISN 19 MIRECC Website

## Requirements:

1. Smartphone with a camera
2. QR scanning software (available for free download just look at your phones marketplace)



[www.mirecc.va.gov/visn19](http://www.mirecc.va.gov/visn19)

