Mapping the Challenges of Veterans Entering College

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Disclaimer

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Overview

- Challenges experienced by student veterans
- Overview of the diagnosis and treatment of PTSD
- Overview of the diagnosis and treatment of mild Traumatic Brain Injury
- Resources for student veterans and health care providers

Challenges Experienced by Student Veterans
Military Experience (CSCMH data)

Have you ever been enlisted in any branch of the US military (active duty, veteran, national guard, or reserves?)

- Yes: 2%
- No: 98%

Did your military experiences include any traumatic or highly stressful experiences which continue to bother you?

- Yes: 28%
- No: 72%

Difficulties of Student Vets with Trauma Exposure

The percentage of students who strongly endorsed specific CCAPS items

- I get angry easily
- I have difficulty controlling my temper
- I have spells of panic or terror
- I have unwanted thoughts I cannot control
- I am afraid I may lose control and act violently
- I have no one who understands me

Military with trauma
Military without trauma
Non-military
Mental Health Diagnoses for New Veterans in VA

- PTSD: 13%
- Drug abuse: 12%
- Depression: 9%
- Neurotic disorders: 8%
- Affective psychoses: 5%
- Alcohol dependence: 2%
- Drug dependence: 1%

Functional and Social Issues for Student Veterans

- Liberal bias of professors
- Feeling out of place due to differing demographics and developmental mismatch with peers
- High marriage rate means student veterans have more commitments
- Military sexual trauma can lead to relationship problems and medical refusal
- Driving problems
Posttraumatic Stress Disorder (PTSD)

What is PTSD?

- Anxiety Disorder
- First included in DSM-III in 1980
- Previously known as:
  - 19th Century
    - Railway Spine, Traumatic Neurosis, Irritable Soldier’s Heart
  - WWI
    - Neurocirculatory Asthenia, Shell Shock, War Neurosis, Combat Stress Reaction, Combat Fatigue
  - Late 20th Century
    - Rape Trauma Syndrome, Battered Woman Syndrome, Post-Vietnam Syndrome
PTSD in DSM-TR-IV (APA, 2000)

A1. Traumatic event occurs: a person experiences, witnesses, or is confronted by an event involving death or serious injury, or a threat to the physical integrity of self or others.

A2. The individual experiences fear, helplessness, or horror at the time of the event.

The following symptoms must (E) last one month or more and must (F) cause significant distress or impairment:

<table>
<thead>
<tr>
<th>B. Reexperiencing (≥ 1)</th>
<th>C. Avoidance/Numbing (≥ 3)</th>
<th>D. Hyperarousal (≥ 2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>• distressing recollections of the trauma in the form of thoughts or perceptions</td>
<td>• avoidance of trauma-related thoughts, feelings, and conversations</td>
<td>• sleeping difficulties</td>
</tr>
<tr>
<td>• distressing trauma-related dreams</td>
<td>• avoidance of activities, places, or people related to the trauma</td>
<td>• irritability</td>
</tr>
<tr>
<td>• acting or feeling as if the trauma were recurring</td>
<td>• an inability to recall an aspect of the trauma</td>
<td>• concentration problems</td>
</tr>
<tr>
<td>• distress on exposure to trauma-related cues (internal or external cues) aka triggers</td>
<td>• loss of interest in typical activities</td>
<td>• hypervigilance</td>
</tr>
<tr>
<td>• physiological arousal on exposure to trauma-related cues.</td>
<td>• a feeling of detachment or estrangement from others</td>
<td>• exaggerated startle</td>
</tr>
</tbody>
</table>

A2. The individual experiences fear, helplessness, or horror at the time of the event.

A1. Traumatic event occurs: a person experiences, witnesses, or is confronted by an event involving death or serious injury, or a threat to the physical integrity of self or others.

Symptom Interplay

<table>
<thead>
<tr>
<th>Irritability</th>
<th>Problems sleeping</th>
<th>Always being on high alert</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hyperarousal</td>
<td>Reexperiencing</td>
<td>Intrusive thoughts or images</td>
</tr>
<tr>
<td>Avoidance</td>
<td>People, places, conversations, thoughts, situations, etc.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Nightmares</td>
<td>Triggers</td>
</tr>
</tbody>
</table>
How Common is PTSD?

- Lifetime prevalence: 7.8%
  - Women (10.4%) twice as likely as men (5%)
- Point prevalence: ~4%
- Risk of developing PTSD after trauma
  - Women (20.4%) 2.5 times more likely than men (8.1%)
- Rates of PTSD vary depending on trauma type and severity
  - Natural disaster: 4-5%
  - Motor Vehicle Accident: 8-12%
  - Rape: 40%
  - Terror 28-34%
  - War
    - Vietnam War: 18-30%
    - OIF: 13-20%
    - OEF: 6-12%

*Rates vary depending on time since trauma and diagnostic criteria used
### What are Some Risk Factors for PTSD?

<table>
<thead>
<tr>
<th>Pre-trauma</th>
<th>Peri-trauma</th>
<th>Post-trauma</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Prior Trauma</td>
<td>• Perceived life threat</td>
<td>• Social Support</td>
</tr>
<tr>
<td>• Psychological Adjustment</td>
<td>• Dissociation</td>
<td>• Additional Life Stressors</td>
</tr>
<tr>
<td>• Family History of Psychopathology</td>
<td>• Emotional Responses</td>
<td></td>
</tr>
<tr>
<td>• Childhood Abuse</td>
<td>• Trauma Severity</td>
<td></td>
</tr>
</tbody>
</table>

Brewin et al. (2000); Ozer et al. (2003)

### PTSD and Ethnicity

- In general, studies find that ethnic minority Veterans have higher rates of PTSD
  - For example: The NVVRS found higher rates of PTSD for Hispanics (28%) & African American (21%) than White Veterans (14%)
  - Possibly due to:
    - Higher rates of exposure to war stressors
    - Race/ethnicity related stressors
    - Identification with plight of civilians in war zone

NCPTSD Fact Sheet: PTSD among ethnic minority Veterans
Trauma

What is trauma?

- Physical trauma versus emotional or psychological trauma
- Examples of psychological trauma
  - Witnessing someone being badly injured or killed
  - Being involved in a fire, flood, or natural disaster
  - Being involved in a life-threatening accident
  - Being physically or sexually assaulted
  - Having a life-threatening illness (including traumatic childbirth)
  - Being in combat

Although we might say a negative event was traumatic (e.g., a divorce, loss of job, etc.) these do not technically qualify as traumas.
How common is trauma? (Lifetime prevalence)

(Kessler et al. 1995)

Traumas of Military Service

- Traditional Combat Traumas
  - Firefights
  - Seeing or handling mutilated bodies
  - Death and dying
  - Medical care in the field
  - Captivity/POW
    - Torture
- Non-traditional Combat Traumas
  - Atrocities and abusive violence
  - Guerilla-style warfare
    - IEDs, suicide bombs, civilian combatants
- Other Military Traumas
  - Sexual assault
  - Accidents (MVAs, falls, burns, explosions, etc.)
  - Physical Assaults
- 78% reported seeing destroyed homes and villages
- 67% (95%) reported seeing dead bodies or human remains
- 65% reported having hostile reactions from civilians
- 63% (93%) reported receiving small arms fire
- 61% (89%) reported being attacked or ambushed
- 59% (86%) reported knowing someone who was seriously injured or killed
- 37% reported engaging in a firefight
- 19% (48%) reported being directly responsible for death of enemy combatant
- (14%) reported being responsible for death of non-combatant
- (22%) reported having buddy shot or hit who was near you
- 11% (22%) reported engaging in hand-to-hand combat
- 10% (14%) reported being wounded/injured

*Reported during deployment (reported after deployment)
Exposure to war-zone stressors in OIF

- Combat stressors:
  - 51% reported they had been in serious danger of being injured or killed on at least several occasions during the deployment

- Non-combat stressors: “high/very high trouble or concern”
  - 87% uncertain redeployment
  - 71% long deployment length
  - 55% lack of privacy or personal space
  - 54% boring or repetitive work

Military Sexual Trauma (MST)

- 23% of female VA patients reported experiencing at least one sexual assault while in military
  - < 1% of male VA patients???

- Rates are higher in wartime
  - Persian Gulf War
    - Sexual assault (7%)
    - Physical sexual harassment (33%)
    - Verbal sexual harassment (66%)
Peri-traumatic Reactions

- Intense fear, helplessness, horror
- Loss of control over situation and self and emotional reactions (panic)
- Unpredictability
- Thinking you will die or are in extreme danger
- Extreme anger
- Dissociation

What are some common reactions during trauma?
**Fight-or-Flight-or-Freeze Response**

- Sympathetic nervous system response to threat

**What Happens after Trauma?**

<table>
<thead>
<tr>
<th>Mild</th>
<th>Moderate</th>
<th>Severe</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chronic</td>
<td>Delayed</td>
<td>Recovery</td>
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</table>

Bonanno (2004)
Assessing PTSD

Primary Care PTSD Screen (PC-PTSD; Prins et al., 2004)
In your life, have you ever had any experience that was so frightening, horrible, or upsetting that, in the past month, you...

1. Have had nightmares about it or thought about it when you did not want to?
2. Tried hard not to think about it or went out of your way to avoid situations that reminded you of it?
3. Were constantly on guard, watchful, or easily startled?
4. Felt numb or detached from others, activities, or your surroundings?

*Positive screen if 3 or more answered “yes”

Detecting PTSD
How do we Diagnose PTSD?

Unstructured Clinical Interview
- Follow DSM-IV-TR criteria

Structured Clinical Interview
- Clinician Administered PTSD Scale (CAPS for DSM-IV)

Additional Information
- Self-report measures (e.g., PTSD Checklist)
- Collateral report
- Chart review

Diagnosing PTSD

Clinician Administered PTSD Scale (CAPS; Blake et al., 1995)
- **Description**
  - 30-item structured interview with Life Events Checklist to identify traumatic stressors (A1)
  - Takes 45-60 minutes to administer

- **Sample Item**

  **Frequency:** "Have you ever had unwanted memories of (EVENT)? What were they like? What did you remember? IF NOT CLEAR: Did they ever occur while you were awake, or only in dreams? [EXCLUDE IF MEMORIES OCCURRED ONLY DURING DREAMS] How often have you had these memories in the past month (week)?"
  - 0 Never
  - 1 Once or twice
  - 2 Once or twice a week
  - 3 Several times a week
  - 4 Daily or almost every day

  **Intensity:** "How much distress or discomfort did these memories cause you? Were you able to put them out of your mind and think about something else? How hard did you have to try? How much did they interfere with your life?"
  - 0 None
  - 1 Mild, minimal distress or disruption of activities
  - 2 Moderate, distress clearly present but still manageable, some disruption of activities
  - 3 Severe, considerable distress, difficulty dismissing memories, marked disruption of activities
  - 4 Extreme, incapacitating distress, cannot dismiss memories, unable to continue activities
Posttraumatic Checklist (PCL; Weather et al., 1993)

- **Description**
  - 17-item self-report measure
  - Rate how much they were “bothered by that problem in the past month” on a 5-point scale ranging from 1 (“not at all”) to 5 (“extremely”).

- **Scoring**
  - Total score (range 17-85)
    - Cutoff scores for a probable PTSD diagnosis (44 civilians, 50 military)
    - Use DSM-IV criteria
    - Combined scoring

- **Sample Item**
  “In the past month, how much have you been bothered by: Repeated, disturbing memories, thoughts or images of a stressful experience from the past?”
  1 = Not at all
  2 = A little bit
  3 = Moderately
  4 = Quite a bit
  5 = Extremely

---

**Treating PTSD: Guidelines and Recommendations**

- **Expert Consensus Guidelines (Journal of Clinical Psychiatry)**

- **ISTSS**

- **American Psychiatric Association Practice Guidelines**

- **VA/DOD Joint PTSD Practice Guidelines**
Significant benefit (good evidence): A strong recommendation that the intervention is always indicated and acceptable
- Cognitive Therapy
- Exposure Therapy
- Stress Inoculation Training
- Eye Movement Desensitization Reprocessing (EMDR)

Some benefit (fair evidence): A recommendation that the intervention may be useful/effective
- Imagery Rehearsal Therapy (for Nightmares)
- Psychodynamic Therapy

What promotes recovery from PTSD?
- Community and Family Support
- Psychotherapy
- Medications
- Supportive Counseling
Little or No Evidence for PTSD

- Group Therapy (potentially effective)
- Debriefing (not recommended)
- Assertion (not recommended)
- Biofeedback/Relax (not recommended)
- Little research...
  - Marital and family therapy
  - Hypnosis
  - Creative therapies

Institute of Medicine: Tx of PTSD: Assessment of

- Released October 2007
- Sponsored by VA
- Identified a total of 2771 studies.
- Included only randomized controlled trials (RCTs)
  - 37 pharmaceutical (14 RCTs of SSRIs)
  - 53 psychotherapy
Exposure-based therapy is the only therapy found evidence sufficient to conclude it is efficacious in PTSD

Overall evidence inadequate to confidently determine efficacy of SSRIs
  • Minority opinion stated evidence suggestive although not sufficient for efficacy in the general population (not male, chronic, VA)

IOM’s Conclusions:

Prolonged Exposure Therapy (PE)

- Manualized CBT (Foa, Hembree, & Rothbaum, 2007)
- 10 to 12+ Weekly (or 2/wk) 90 Minute Sessions
- Individual (Group?)
- Includes:
  • Psychoeducation
  • Breathing Retraining
  • Repeated In Vivo Exposure
  • Repeated Prolonged Imaginal Exposure
**Cognitive Processing Therapy (CPT)**

- Manualized CBT (Resick, Monson, & Chard, 2007)
- 12 Weekly (or 2/wk) 1-hour Sessions
- Individual or Group
- Includes:
  - Psychoeducation
  - Written Exposure Exercise
  - Cognitive Restructuring

**Client Appropriateness for Trauma-Focused Therapies**

- Safety issues should be resolved first
  - Including danger to self, others, or in danger
- Comorbid depression and anxiety normally remit along with PTSD
  - Treat first if client can’t engage in PTSD treatment
- Substance use problems should be addressed prior to starting
  - Substance dependence treat first
  - Substance abuse okay if client can commit to not using during treatment episode
    - Frame use as avoidance
    - Track use and urges
Secondary child, family, and marital issues typically are addressed after completing trauma work
- Personality disorders (treat PTSD despite PD)
  - Challenges
- Dissociation
- Amnesia
- Motivation is most important factor
- Development of therapeutic relationship

Client Appropriateness for Trauma-focused treatments (cont)

What else should we be focusing on in treatment?

Functioning/Role Maintenance
- School work and developmentally-appropriate socialization
- Marriage-family-work-social connection:
  - Suffered in returning Vietnam Veterans
- Areas represent quality of life that PTSD disrupts
- If returnees fail or experience significant impairment in these domains may help maintain PTSD
- Should organize treatment around partner, family, work, social, and PTSD/Substance Abuse issues
PTSD and Comorbid Mental Health Problems?

- Depression
  - 50% lifetime in PTSD patients

- Alcohol and Substance Use Disorders
  - 27% women, 52% men lifetime in PTSD patients in general population
  - 58% of veterans in substance abuse programs have lifetime PTSD
  - 73% of male Vietnam veterans who met diagnostic criteria for PTSD also qualified for lifetime substance use disorders

Potential Reasons for SUD Comorbidity

- Alcohol and drugs may be used in an attempt to control PTSD symptoms
- Substance abuse may increase risk of development of PTSD by increasing likelihood of exposure to certain types of trauma
- Pain related to traumatic injuries may drive both
- A third variable may be related to the development of both PTSD and substance abuse following a trauma exposure, e.g. poor coping skills
PTSD, unlike other disorders, may worsen in the early stages of abstinence creating a challenging treatment environment.

PTSD/substance abuse has an adverse impact on treatment outcome:
- Decreased motivation for treatment
- Decreased compliance with aftercare

Some therapies may trigger substance abuse relapse.

Aspects of 12-Step groups can be difficult:
- Powerlessness
- Higher Power
- Locating appropriate groups
- Issues of forgiveness

**Good Clinical Practice for PTSD/Substance Abuse**

- Substance abuse patients should be routinely screened for PTSD
- PTSD/substance abuse patients should be referred for concurrent treatment of the trauma
- PTSD/substance abuse patients should be referred for concurrent self-help groups and family treatment when indicated
- Providers should offer PTSD/substance abuse continuing outpatient mental health care
**A Promising Treatment of PTSD and SUD**

- **Seeking Safety**
  - Cognitive-Behavioral Therapy
  - 25 coping skills topics
  - Very flexible (each session is independent)
  - Group or individual
  - 4 content areas: cognitive, behavioral, interpersonal, and case management
  - No exploration of trauma memories or interpretive psychodynamic work
  - Designed to be maximally helpful to clinicians
  - Very easy to learn and use
  - Solid evidence base (17 studies; [www.seekingsafety.org](http://www.seekingsafety.org))


**Problematic Drinking After Deployment** (Hoge, 2004)

![Bar chart showing problematic drinking after deployment](chart.png)

<table>
<thead>
<tr>
<th></th>
<th>Pre-Deployment</th>
<th>Army Afghanistan</th>
<th>Army Iraq</th>
<th>Marine Iraq</th>
</tr>
</thead>
<tbody>
<tr>
<td>Have you used alcohol more than you meant to?</td>
<td>17%</td>
<td>25%</td>
<td>24%</td>
<td>35%</td>
</tr>
<tr>
<td>Have you felt you wanted or needed to cut down on your drinking?</td>
<td>13%</td>
<td>18%</td>
<td>21%</td>
<td>29%</td>
</tr>
</tbody>
</table>
New Veterans May Minimize Substance Use Problems....

- Heavy drinking is socially validated among young adults
  - 37% of men under age 25 binge drink (drops to 20% in men age 45-64)
  - Drinking to mask problems is less stigmatizing than admitting to PTSD or depression
- Admitting to drug use may have negative consequences
- Younger veterans often have not yet had enough time to encounter negative consequences of substance use (have not “hit bottom”)

PTSD and Medical Issues

- Experiencing childhood trauma is related to:
  - More health problems
  - More high risk behaviors (smoking, no exercise)
- PTSD mediates this relationship
- Female Veterans with PTSD have more:
  - Cardiovascular, gynecological, pain, GI, & skin problems
- Male Veterans with PTSD have more:
  - Respiratory, nervous system, musculoskeletal, digestive, & circulatory problems
- Higher healthcare costs
- PTSD may compromise self-care
PTSD and Pain

- Pain in PTSD Patients
  - Veterans
    - 80% of PTSD patients reported chronic pain complaints (Beckham et al., 1997)
    - 25% of PTSD patients treated in a VA residential PTSD program had pain (White & Faustman, 1989)
  - Other
    - ~50% of volunteer firefighters with PTSD (McFarlane et al., 1994)
    - 20% to 30% in community mental health outpatients (Amir et al., 1997; Hubbard et al., 1995)

- PTSD in Pain Patients
  - General
    - 10% in patients at a VA Pain Clinic (Benedikt & Kolb, 1986)
    - 9.5% in patients at a chronic pain center (Muse, 1986)
  - Referred for traumatic pain
    - 34.7% in patients in a rehabilitation program (Asmundson et al., 1998)
    - 30% to 50% in patients with MVA-related pain (e.g., Hickling et al., 1992)
    - 45% in burn patients

Other Features of This Comorbidity

- Patients with chronic pain related to trauma or PTSD experience:
  - More intense pain and affective distress (Geisser et al., 1996; Toomey et al., 1994)
  - Higher levels of life interference (Turk & Okifuji, 1996)
  - Greater disability (Sherman et al., 2000)
  - Higher depression and anger (Chibnall & Duckro, 1994)
Operation S.A.V.E training will help you act with care and compassion if you encounter a person who is suicidal. The acronym summarizes the steps needed to take an active and valuable role in suicide prevention.

- **S**igns of suicidal thinking
- **A**sk questions
- **V**alidate the person’s experience
- **E**ncourage treatment and **E**xpedite getting Help

**Mild Traumatic Brain Injury**
What is Traumatic Brain Injury?

- Traumatically induced physiologic disruption of brain function as manifested by at least one of the following:
  - Any period of loss of consciousness (LOC)
  - Any loss of memory for events before or after the injury
  - Any alteration in mental state at the time of the accident
  - Focal neurologic deficit that may or may not be transient
    (American Congress of Rehabilitation Medicine, 1993)

- The “signature wound” of the current conflicts
  - Approximately 30,000 U.S. Service Members have been wounded in action in OIF
  - Slightly more than half of the injuries are due to blasts.
  - Between Jan 2003 and Feb 2007, 29% of patients med evac’ed from combat theater to WRAMC had evidence of TBI.
  - Difficult to estimate frequency of concussion among combat troops who do not require medical treatment b/c they may be only briefly stunned or knocked unconscious.
  - All returning service members are assessed with Post Deployment Health Assessment (PDHA – DD2796)
    (Kennedy, et al, 2007)

Military Causes of TBI

<table>
<thead>
<tr>
<th>Blunt Trauma/Closed Head Injury</th>
<th>Penetrating/Open Head Injury</th>
</tr>
</thead>
<tbody>
<tr>
<td>An injury caused by changes in compression or speed</td>
<td>An injury caused by an object crushing, stretching, or entering the head</td>
</tr>
<tr>
<td>• Explosion / Blast (IED, RPG, land mine, grenade, etc.)*</td>
<td>• Gunshot or stab wound</td>
</tr>
<tr>
<td>• Motor vehicle crash (any type of vehicle including airplane)*</td>
<td>• Fragments / shrapnel</td>
</tr>
<tr>
<td>• Fall (including jumps by paratroopers)</td>
<td>• Some types of skull fractures</td>
</tr>
<tr>
<td>• Non-deployment related: Sports injury, construction, bicycle accidents, physical abuse/assault</td>
<td></td>
</tr>
</tbody>
</table>
Exposure to Blasts

- Most service members serving in OIF and OEF are exposed to one or more blasts during deployment.
  - Notably, combat troops exposed to blasts had significantly higher levels of PTSD (USMC Survey)
  - Similar outcomes with Vietnam vets: those exposed to blasts had 2-3 times higher rate of PTSD (Kulka, 1990)

- Mechanism of blast-related concussion is controversial.
  - **Primary blast injury**: exposure to blast overpressurization induces ultrastructural and biochemical alterations in the brain (controversial)
  - **Secondary**: SM struck by objects put into motion by the blast
  - **Tertiary**: individuals themselves can be thrown into motion by the strength of the blast and hit something
  - **Quaternary**: injury develops from sources such as thermal, toxic inhalation, or electromagnetic fields

Civilian Causes (cdc.gov)

- Falls: 28%
- Motor Vehicle / Traffic: 20%
- Struck by/against: 19%
- Assault: 11%
- Bicycle (non MV): 3%
- Other transport: 2%
- Suicide: 1%
- Other transport: 2%
- Unknown: 9%
- Other: 7%
TBI Incidence

- Mild: 84%
- Severe: 4%
- Penetrating: 4%
- Moderate: 8%

Anatomy and Functional Areas of the Brain

Visual Area:
1. Cortex
2. Visual perception
3. Higher visual functions
4. Visual pathways

Association Area:
5. Frontal lobe
6. Motor cortex
7. Premotor cortex

Motor Function Area:
8. Motor cortex
9. Basal ganglia
10. Cerebellum

Sensory Association Area:
11. Sensory cortex
12. Somatosensory association area

Frontal Lobe:
13. Broca's area
14. Motor cortex
15. Prefrontal cortex

Parietal Lobe:
16. Posterior parietal cortex
17. Precuneus

Temporal Lobe:
18. Auditory cortex
19. Memory and language functions

Cerebellum:
20. Motor control
21. Balance and coordination

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Severity Rating of TBI

- Even a mild TBI can affect brain function, especially if recurrent, because effects are cumulative.
- Severity is determined by consequences at the time of injury.

Glasgow Coma Scale

<table>
<thead>
<tr>
<th>Severity</th>
<th>Glasgow Coma Scale</th>
<th>Alteration in Consciousness</th>
<th>Loss of Consciousness</th>
<th>Post-traumatic Amnesia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mild/Concussion</td>
<td>13-15</td>
<td>≤24 hrs</td>
<td>0-30 min</td>
<td>≤24 hrs</td>
</tr>
<tr>
<td>Moderate</td>
<td>9-12</td>
<td>&gt;24 hrs</td>
<td>&gt;30min</td>
<td>&gt;24hrs</td>
</tr>
<tr>
<td>Severe</td>
<td>3-8</td>
<td>&gt;24hrs</td>
<td>≥24 hrs</td>
<td>≥7 days</td>
</tr>
</tbody>
</table>

Glasgow Coma Scale

- **Eye opening**
  - Spontaneously: 4
  - To speech: 3
  - To pain: 2
  - Do not open: 1

- **Motor response**
  - Obeys commands: 6
  - Localizes to pain: 5
  - Withdraws from pain: 4
  - Abnormal flexion: 3
  - Extension: 2
  - No motor responses: 1

- **Verbal response**
  - Oriented: 5
  - Confused: 4
  - Inappropriate: 3
  - Unintelligible: 2
  - No verbalization: 1
mTBI Screening

- Sideline
  - Standardized Assessment of Concussion (SAC)
- Military
  - DVBIC 3 Question Screen
  - MACE
- Gold standard: A clear and thorough clinical interview / record review

mTBI Symptoms

<table>
<thead>
<tr>
<th>Cognitive Problems</th>
<th>Affective / Behavioral Problems</th>
<th>Somatic Complaints</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tr>
<tr>
<td>Memory</td>
<td>Frustration or irritability</td>
<td>Headache</td>
</tr>
<tr>
<td></td>
<td>Concentration, attention and focusing</td>
<td>Fatigue</td>
</tr>
<tr>
<td></td>
<td>Learning and understanding new things</td>
<td>Poor balance</td>
</tr>
<tr>
<td></td>
<td>Processing and understanding information including following complicated directions</td>
<td>Dizziness</td>
</tr>
<tr>
<td></td>
<td>Language problems</td>
<td>Changes in vision, hearing, or touch</td>
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<td></td>
<td>Problem-solving, organization, decision-making</td>
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<td></td>
<td>Impulse control</td>
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<td>Slowed or cloudy thinking</td>
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<td>Sexual problems</td>
</tr>
</tbody>
</table>

- Memory
- Concentration, attention and focusing
- Learning and understanding new things
- Processing and understanding information including following complicated directions
- Language problems
- Problem-solving, organization, decision-making
- Impulse control
- Slowed or cloudy thinking

- Frustration or irritability
- Depression
- Anxiety & symptoms of PTSD
- Reduced tolerance for stress
- Sleep problems
- Numbing out or flipping out
- Inflexibility
- Feeling less compassionate or warm towards others
- Feeling guilty
- Denial of problems
- Social appropriateness

- Headache
- Fatigue
- Poor balance
- Dizziness
- Changes in vision, hearing, or touch
- Sexual problems
Shared Symptoms / Difficulty in Differential Diagnosis

**mTBI**
- Speech and language deficits
- Extreme mood lability / disinhibition
- Impulsivity
- Poor balance
- Dizziness
- Changes in perception and increased sensitivity (vision, hearing, touch)

**PTSD**
- Intrusive memories
- Nightmares
- Reliving the trauma
- Psychological/physiological distress with exposure to cues
- Avoidance of trauma-related thoughts, feelings, reminders, conversations
- Hypervigilance
- Exaggerated startle
- Impaired concentration and decision making
- Learning difficulties
- Memory impairment and confusion
- Inability to recall trauma
- Slower processing speed
- Being "overwhelmed"
- Impulsivity
- Reduced insight
- Rigid thinking
- Amotivation
- Interpersonal conflict
- Social withdrawal / isolation / agoraphobia
- Reduced intimacy / feeling less compassionate or warm towards others
- Impaired work and school performance
- Depressed mood
- Irritability / aggression
- Sleep disturbance
- Anxiety symptoms
- Substance misuse/abuse/dependence
- Guilt
- Lowered frustration tolerance
- Being socially inappropriate*
- Fatigue
- Insomnia
- Headaches**
- Cardiovascular, gastrointestinal, musculoskeletal disorders
- Sexual problems
- Noise sensitivity

Natural History of mTBI

- **Injury**
- **Onset of symptoms**
- **Duration of symptoms**
  - Minutes – weeks
  - Majority of cases resolve in 4-12 weeks.
  - If greater than 3 months consider post-concussive syndrome or co-morbidities
Post-Concussive Syndrome

- Seen more often in patients with comorbid psychological issues
  - Acute Stress Reaction/Post-traumatic Stress Disorder
  - Depression

- International Classification of Disease (ICD-10)
  - (F07.2)
  - Proposed 1992

- Diagnostic and Statistical Manual of Mental Disorders 4\textsuperscript{th} ed (DSM-IV)
  - Differentiates from Dementia due to Head Trauma

Impact of TBI

- Role demands
- Using skills to manage
- Severity of injury
- Focused vs. diffuse injury
- Age at the time of injury
- Time since the injury
- Stress of injury and deployment
- Lifestyle before the injury
- History of concussion
- Personality and thinking style
- Resources and services available
Veteran with mTBI

Veteran with mTBI
Relationship Between PTSD and mTBI

- Various psychological and biological theories have been proposed to explain the relationship between PTSD and mTBI
  - Cyclical and transactional symptom maintenance (King, 2008; DVBIC, 2008)
  - Biological mechanisms
    - Genetic contributions
    - Structural changes
    - Endocrine findings
    - Neurochemical and neurotransmitter changes

Confounded Definitions of Required Traumatic Event

- A TBI event is almost certainly emotionally traumatic (unless the survivor is unconscious prior to the incident)
  - Therefore, we should see the same incidence rates for PTSD as we do in the trauma-exposed population: 8% for women and 20% for men
- Experiences of fear, horror, and helplessness are ubiquitous in combat (Kennedy, Jaffee, Leskin, et al., 2007)
Is it possible for my patient to have mTBI and PTSD?

Traumatic event occurs: a person experiences, witnesses, or is confronted by an event involving death or serious injury, or a threat to the physical integrity of self or others.

The individual experiences fear, helplessness, or horror at the time of the event.

The following symptoms must last one month or more and must cause significant distress or impairment:

**Reexperiencing (≥ 1)**
- distressing recollections of the trauma in the form of thoughts or perceptions
- distressing trauma-related dreams
- acting or feeling as if the trauma were recurring
- distress on exposure to trauma-related cues (internal or external cues) aka triggers
- physiological arousal on exposure to trauma-related cues.

**Avoidance (≥ 3)**
- avoidance of trauma-related thoughts, feelings, and conversations
- avoidance of activities, places, or people related to the trauma
- an inability to recall an aspect of the trauma
- loss of interest in typical activities
- a feeling of detachment or estrangement from others
- restricted affect
- lowered hope in and expectation from the future

**Hyperarousal (≥ 2)**
- sleeping difficulties
- irritability
- concentration problems
- hypervigilance
- exaggerated startle

(The individual experiences fear, helplessness, or horror at the time of the event. Traumatic event occurs: a person experiences, witnesses, or is confronted by an event involving death or serious injury, or a threat to the physical integrity of self or others. (DSM; American Psychiatric Association, 1994)

Possible Overattribution of Symptoms to mTBI

Of the 4.9% reporting loss of consciousness
- Met criteria for PTSD 44%
- No PTSD 56%

Of the 10.3% reporting altered mental status
- Met criteria for PTSD 27%
- No PTSD 73%

Of the 17.2% reporting other injuries
- Met criteria for PTSD 16%
- No PTSD 84%

Of the 67.6% reporting no injury
- Met criteria for PTSD 9%
- No PTSD 91%

N = 2525 OIF Soldiers 3-4 months postdeployment

(Hoge, et al, 2008)
Consequences of Overattribution of Symptoms to mTBI

- May unnecessarily increase patient’s anxieties about their symptoms

- Limited empirical support for mTBI screening/assessment procedures will result in a large number of referrals for evaluation of nonspecific health symptoms with potential iatrogenic consequences
  - May prevent clinicians from considering an appropriate PTSD dx
  - Underdiagnosis of PTSD and other psychiatric conditions leads to lack of treatment
  - There are effective treatments available for PTSD, which could reduce patient’s suffering but may not be made available

- Continuation of stigma for psychiatric disorders

- Conversely: inaccurate to suggest that mTBI is not a serious medical concern

Recommendations for Clinical Practice with mTBI
**RECOVER Model for Patients**

- Resolve to get better
- Educate yourself and your family
- Cope with symptoms
- Observe healthy habits
- Value your safety
- Engage your support system
- Reach out for help for yourself and your family

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**What are the best ways for me to help my patient?**

- Confirm diagnosis as possible
- Screen every patient for both disorders
- Identify most troublesome symptoms and prioritize needs
- Identify appropriate referrals/resources
  - Collaborate with other treatment team members to provide a wrap-around approach
- Provide education and create positive expectancies; balance supportive care with pressure toward maximum recovery
  - Monitor language and terminology (mTBI = concussion)
  - Validate patient and provide alternative framework for understanding symptoms
- Strongly encourage healthy and safe behaviors
- Train compensatory strategies / treat symptoms
**Tips for Managing PTSD/mTBI Patients**

- Create a language ahead of time for discussing TBI symptoms
- Discuss consequences of problematic behavior
- Avoid being punitive
- Ask! Patient may be able to give you critical information on environmental issues that make engaging easier for him/her.
- Be flexible as possible to accommodate special needs (but set personal limits as necessary)
- Use language and graphical aids in psychotherapy:
  - Use concrete language
  - High frequency words
  - Analogies
  - Diagrams
  - Written summaries
  - Mini-reviews (at the beginning, middle, and end of session)
- Try behavioral interventions in lieu of cognitive ones where appropriate
- Anticipate unsafe or ineffective decision making
- Make and share reasonable goals
  - Punctuate small successes
- Get consultation! High risk of clinician burnout.

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**How can I tell if symptoms are due to PTSD or mTBI (differential diagnosis)?**

- Often, you may not be able to tell for sure
- Differential dx requires
  - understanding etiology of PTSD/TBI symptoms
  - Obtaining accurate information to account for presenting neurological and psychological factors (thorough clinical interview and record review – the gold standard assessment for mTBI)
- Use brief questionnaires for PTSD symptoms such as Posttraumatic Checklist - Civilian (PCL-C) or PC-PCL
- Gold standard assessment to obtain PTSD diagnosis is Clinician Administered PTSD Scale (Weathers, Keane, & Davidson, 2001)
- Treatment should be symptom-focused, rather than diagnosis focused
What are the empirically-supported treatments for comorbid PTSD / mTBI?

- Very few studies have addressed treatment of co-occurring TBI and PTSD
- Bryant et al. (2003) compared a CBT regimen versus supportive counseling for the treatment of Acute Stress Disorder and mTBI
- See VA and DoD clinical practice guidelines for EBP of each of the disorders

Should I send the PTSD/mTBI patient for a neuropsychological workup? Imaging?

- No clear answer
- Consider the value of positive expectancies
Are certain pharmacological agents indicated or contraindicated in a PTSD/mTBI population?

- For medical staff:
  - “Start low and go slow”
  - Avoid medications that can worsen cognition
- For all clinicians with patient interaction:
  - Monitor for drug compliance
  - Monitor for evidence of worsening symptoms/drug interactions and report to medical staff

Is it preferable to provide sequential treatment or cotreatment? Is there an accepted treatment hierarchy?

- Do cognitive problems need to be resolved before PTSD treatments can be used?
- Is it necessary to teach distress tolerance to decrease hypervigilance and suspiciousness before cognitive or PTSD interventions can be used?
- There is no generally accepted hierarchy.
- Some argue:
Can I still do PTSD treatments in the presence of TBI? Is there some need for modification?

- CBT is widely accepted as a treatment for PTSD (Foa, Keane, & Friedman, 2000)
- Case studies support a use of CBT for patients with PTSD after TBI (McGrath, 1997; McMillan, 1991; McNeil & Greenwood, 1996; Middleboe et al., 1992).
- Mild TBI patients are able to do CBT treatments and benefit from these beyond supportive treatment (Bryant et al, 2003)
- CBT may be of particular value to people with cognitive impairments because it is structured, educative, and interactive (Manchester & Wood, 2001; Ponsford, Sloan, & Snow, 1995; Williams, Evans & Wilson, 2003)
- PTA does not seem to reduce effectiveness of CBT
- Post-TBI depression appears to be resistant to both CBT and supportive counseling
- Modifications may be necessary to accommodate cognitive or physical deficits associated with mTBI

Can treatment for comorbid mTBI and PTSD occur in group settings?

- This has not yet been studied
- Clinical experience suggests that co-occurring mTBI can be treated in group settings but may increase the risk of disruption of group
Resources for Student Veterans and Health Care Providers

http://www.mentalhealth.va.gov/College/

Counseling Veteran Students

VA Training for College & University Staff

While most veterans return from deployment without problems, some have exhibited Mental Health issues. This website is to help campus professionals learn more about the challenges and problems our veteran students are facing and how you can help them with the available VA resources and services.

We also encourage university and college staff to reach out to the staff of their local VA facility or community-based outpatient clinic, to explore local resources and to identify opportunities for further training. Every VA facility offers numerous local training events, conferences, and other opportunities for counselors to learn more about Veterans' mental health issues.

Counseling Veteran Students Topics

Mental Health Services

VA provides a variety of psychiatric services at medical centers and outpatient clinics. Use the quick links to jump to a specific center to find out what service they focus on.
Three primary missions:

- Develop student veteran groups on college and university campuses and coordinate by region between existing groups.
- Connect student groups with resources.
- Advocate on behalf of student veterans at the state and national level.

Yesterday’s Warriors
Today’s Scholars
Tomorrow’s Leaders

Afterdeployment.org
Suggested Reading


Questions?

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