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APA 117TH ANNUAL CONVENTION • AUGUST 6-9

# 2009

## Evaluation of PTSD in Elderly and Cognitively-Impaired Populations

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## Outline

- 
- Recognize the overlap in symptoms between PTSD and two types of cognitive impairment: Alzheimer's dementia and Traumatic Brain Injury (TBI)
  - Provide practical information for the evaluation of PTSD in cognitively-impaired populations
  - Introduction of a novel PTSD measure for cognitively-impaired populations



## Why study PTSD in cognitively impaired populations?

- 
- Cognitive deficits are part of diagnostic criteria!
  - Cognitive impairment is considered to be a bidirectional component of PTSD– i.e. both a cause & consequence
  - Cognitively-impaired populations have increased vulnerability for PTSD
  - Cognitive impairment will affect treatment goals and interventions

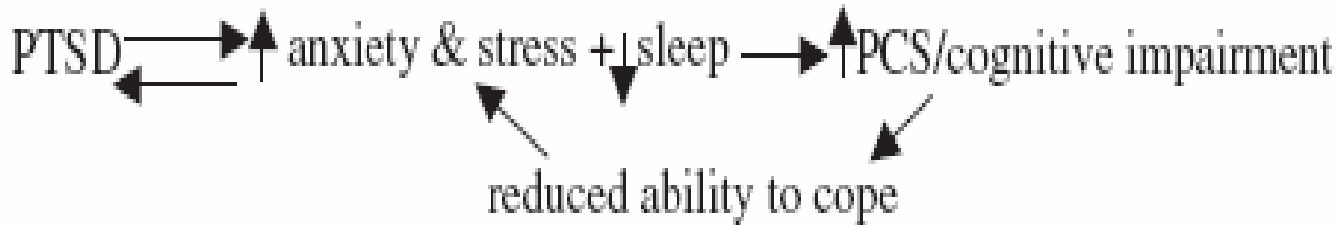


## Impact of cognitive impairment on PTSD


- Decreased inhibition of intrusive memories & disengagement from the present (van der Kolk, 1996)
- Increased exposure to environmental stressors & decreased utilization of community resources such as social support (Vasterling and Brailey, 2005)



## Vicious cycle of symptoms



## Methodological limitations

- 
- Wide range of criteria used to study PTSD and cognitive impairment
  - Co-morbid psychiatric and medical diagnoses complicate assessment
  - Predominance of non-empirical and case studies
  - Many PTSD measures are not standardized for use with cognitive impairment




## Etiologies of cognitive impairment in PTSD

- Pre-morbid cognitive impairment (i.e. learning disability, ADHD)
- Impaired cognitive functioning as a result of trauma itself (i.e. biological insult in POW camp or TBI)
- Deficits in cognitive functioning as a result of PTSD
- Impaired cognitive functioning attributed to co-morbidities or other variables (substance abuse, depression)
- Interaction of PTSD and other variables (co-morbidities, substance use, aging, etc...)



## Recommendation #1

# Evaluate pre-morbid risk factors for PTSD

- 
- Low educational attainment (Ullman & Siegel, 1994)
  - Presence of a learning disability in childhood (Udwin et al., 2000)
  - Lower pre-morbid IQ is predictive of subsequent PTSD, regardless of trauma severity (Macklin et al., 1998)
  - Higher IQ may serve as protective factor (Hart et al. 2008)





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## Recommendation #2

### Identify specific cognitive deficits associated with PTSD

- Cognitive deficits in learning and memory are most common in PTSD
- Deficits are greater when accompanied by co-morbid disorders such as depression or substance abuse



## Cognitive deficits associated with PTSD

### Learning/Attention

- Less proficient initial registration of information and heightened interference

### Memory

- Diminished short-term verbal memory

### Executive Functioning

- Mixed results, some evidence for impaired working memory

### Intellectual Functioning

- Higher IQ is associated with resiliency



The logo for the Toronto 2009 event, featuring the word "TORONTO" in a bold, white, sans-serif font with a red-to-white gradient. To its right, the year "2009" is written in a white, stylized, brush-stroke font. The background is a light blue with a pattern of white maple leaves.

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## Evaluate cognitive domains not expected to be impaired in PTSD

- visual-spatial functioning
- speech production or language comprehension
- Basic motor functioning that does not involve executive control (finger tapping and pegboard)
- simple attention (e.g. digit repetition) and basic attention scanning (e.g. cancellation tasks)
- Long-term (delayed) memory





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## Why are there deficits in cognition with PTSD?

- Activation of the affective and somatic stress response in limbic structures, the sympathetic nervous system, and the hypothalamic-pituitary-adrenal structures
- The adrenergic hyperactivity in PTSD disrupts learning and memory processes of the septo-hippocampal structures.
- Cognitive sensitivity to threat deregulates the frontal and cingulate cortical areas





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## Recommendation #3

# Consider overlap in symptoms with other disorders

- Dementia of the Alzheimer's type
- Traumatic Brain Injury (TBI)





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## PTSD in Older Adults

- Many case studies have documented PTSD following onset of a neurological condition in older adults (Johnston, 2000; Mittal, Torres, Abashidze, and Jimerson, 2001; van Achterberg, Rohrbaugh, and Southwick)
- There may be an interaction effect on cognitive decline between PTSD and aging (Golier et al., 2002)





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## Dementia of the Alzheimer's type is associated with:

- Delusions of sexual abuse
- Paranoia
- Hallucinations
- Mood and personality changes
- Memory loss
- Behaving impulsively
- Aggression
- Difficulty concentrating



## TBI & PTSD

- Once believed that TBI & PTSD were mutually exclusive
- Although still controversial, research has demonstrated that PTSD & TBI can exist simultaneously despite absence of traumatic memory
- Increased prevalence of TBI & PTSD
  - IEDs in Afghanistan & Iraq war
  - Higher co-morbid rates of PTSD & TBI (17-56%)
- May show false positives on brief PTSD screens for severe TBI due to overlap in symptoms



## Overlap of symptoms between PTSD and TBI

- sleep disturbances
- Irritability
- memory and concentration difficulties
- Fatigue
- Co-morbid depression
- Reduced speed of information processing
- Avoidance of tasks due to cognitive incapacity or emotional reasons
- 'intrusive' thoughts due to gaps in their memory





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## Unique symptoms of PTSD & TBI

TBI = headaches,  
dizziness/vertigo/balance problems,  
reduced alcohol tolerance, sensitivity to  
light

PTSD = flashbacks/intrusive memories,  
increased startle response,  
hyperarousal, nightmares/night terrors



## Recommendation #4

# Evaluate amnesia for the event

- Conscious memories for all or parts of the traumatic event.
- One or more 'islands' of memory. A person can consequently have conscious memory for part of the event in an otherwise amnesic period.
- Where there is no conscious/explicit memory of the event due to organic amnesia but the trauma is re-experienced by a non-conscious/implicit fear response.
- 'Pseudomemories' are generated based on what the patient believes has happened or has been told has happened.





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## Amnesia for the event

- Will affect treatment recommendations!
  - psychogenic: Treatment that focuses exposure will emphasize recalling the event
  - organic: Treatment will focus on impossibility of regaining memories/using generic stimuli to treat PTSD
- Are more distressing parts of the event forgotten and less distressing parts remembered?
  - More likely to be a psychogenic etiology



## Recommendation #5

- Evaluate medical illnesses and medications which could mask or resemble symptoms
  - i.e. arrhythmia, chronic obstructive pulmonary disease (COPD), and hyperthyroidism could resemble anxiety
  - Urinary tract infection, tumors, or medications such as Antiepileptics, Benzo's, Statins, Anxiolytics could be related to cognitive impairment



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## Recommendation #6 Adapt testing protocol for cognitive impairment

- Frustration with lengthy tests
- Poor comprehension
- Lack of familiarity with testing
- Choose measures which have been validated for use with cognitively-impaired populations
- Rely on observations and collateral information for more severe cognitive impairment





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## Introduction of the Simplified PTSD Screen

- The feasibility of PTSD screens has never been tested in individuals with mild or moderate levels of cognitive impairment
- Existing measures may be too lengthy or contain jargon or complex directions
- High rates of false positives in brief PTSD screens in individuals with severe TBI, but structured clinical interviews may be too lengthy



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PUT AN X IN THE CIRCLE THAT SAYS HOW OFTEN THIS HAS HAPPENED TO YOU IN THE LAST 30 DAYS.

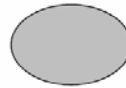
*I AM UPSET BY THINGS THAT REMIND ME OF THE EVENT.*



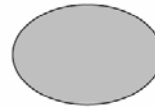
NEVER



ONCE



2 - 3 TIMES



4 - 6 TIMES



7 OR MORE

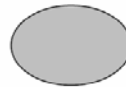
*MY BODY GETS WORKED UP WHEN I THINK ABOUT THE EVENT.  
(FOR EXAMPLE, MY HEART BEATS FASTER OR MY HANDS GET SWEATY)*



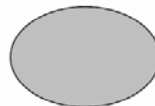
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ONCE



2 - 3 TIMES



4 - 6 TIMES



7 OR MORE

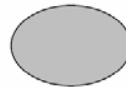
*I AVOID THINGS THAT REMIND ME OF THE EVENT.*



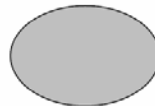
NEVER



ONCE



2 - 3 TIMES



4 - 6 TIMES



7 OR MORE

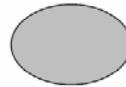
*I TRY NOT TO HAVE THOUGHTS OR FEELINGS ABOUT THE EVENT.*



NEVER



ONCE



2 - 3 TIMES



4 - 6 TIMES



7 OR MORE



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PUT AN "X" IN THE CIRCLE THAT SAYS HOW OFTEN THIS HAS HAPPENED TO YOU IN THE LAST 30 DAYS.

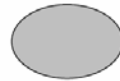
*I FEEL DETACHED OR DISTANT FROM OTHER PEOPLE SINCE THE EVENT.*



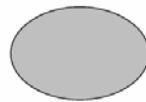
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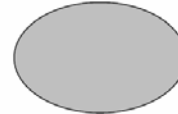
ONCE



2 - 3 TIMES



4 - 6 TIMES



7 OR MORE

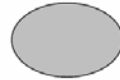
*IT'S HARD FOR ME TO HAVE HAPPY OR LOVING FEELINGS SINCE THE EVENT.*



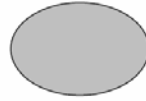
NEVER



ONCE



2 - 3 TIMES



4 - 6 TIMES



7 OR MORE

*I HAVE TROUBLE PAYING ATTENTION OR CONCENTRATING SINCE THE EVENT.*



NEVER



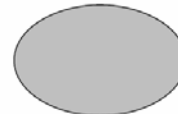
ONCE



2 - 3 TIMES



4 - 6 TIMES



7 OR MORE

*I AM "SUPER-ALERT" OR ON-GUARD SINCE THE EVENT.*



NEVER



ONCE



2 - 3 TIMES



4 - 6 TIMES



7 OR MORE

**THANK YOU!**





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## Recommendations summary

- Include both confirmatory & discriminatory measures
- Be aware of co-morbid mental disorders, medical conditions, and medications which may affect presentation of PTSD symptoms
- Adjust measures and interviews to compensate for cognitive deficits
- Rely on observations and collateral information for more severe cognitive impairment



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## Questions?



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