PTSD and Other Invisible Wounds affecting our Service Members and Veterans

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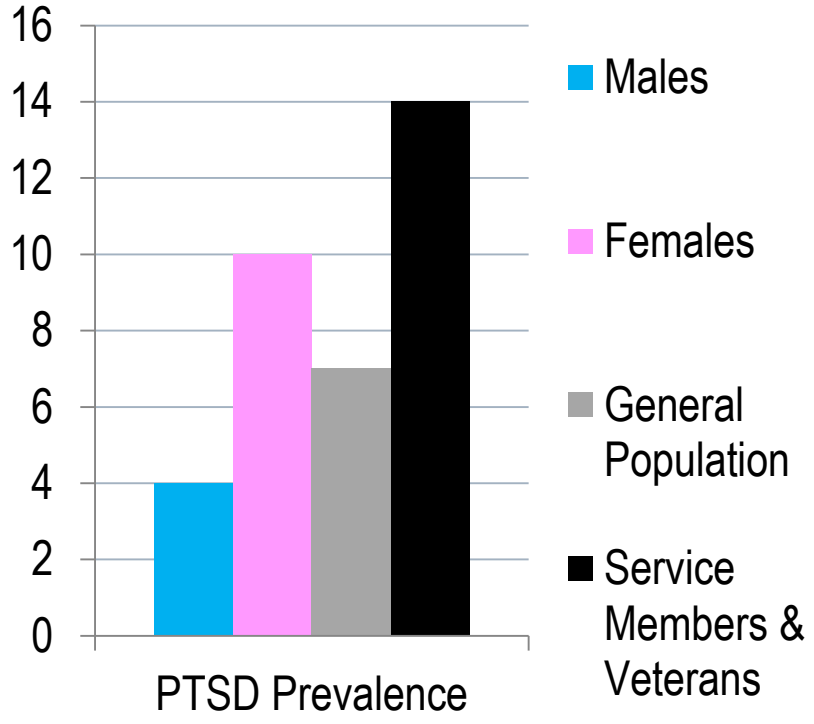
Signature Injuries of OEF/OIF/OND

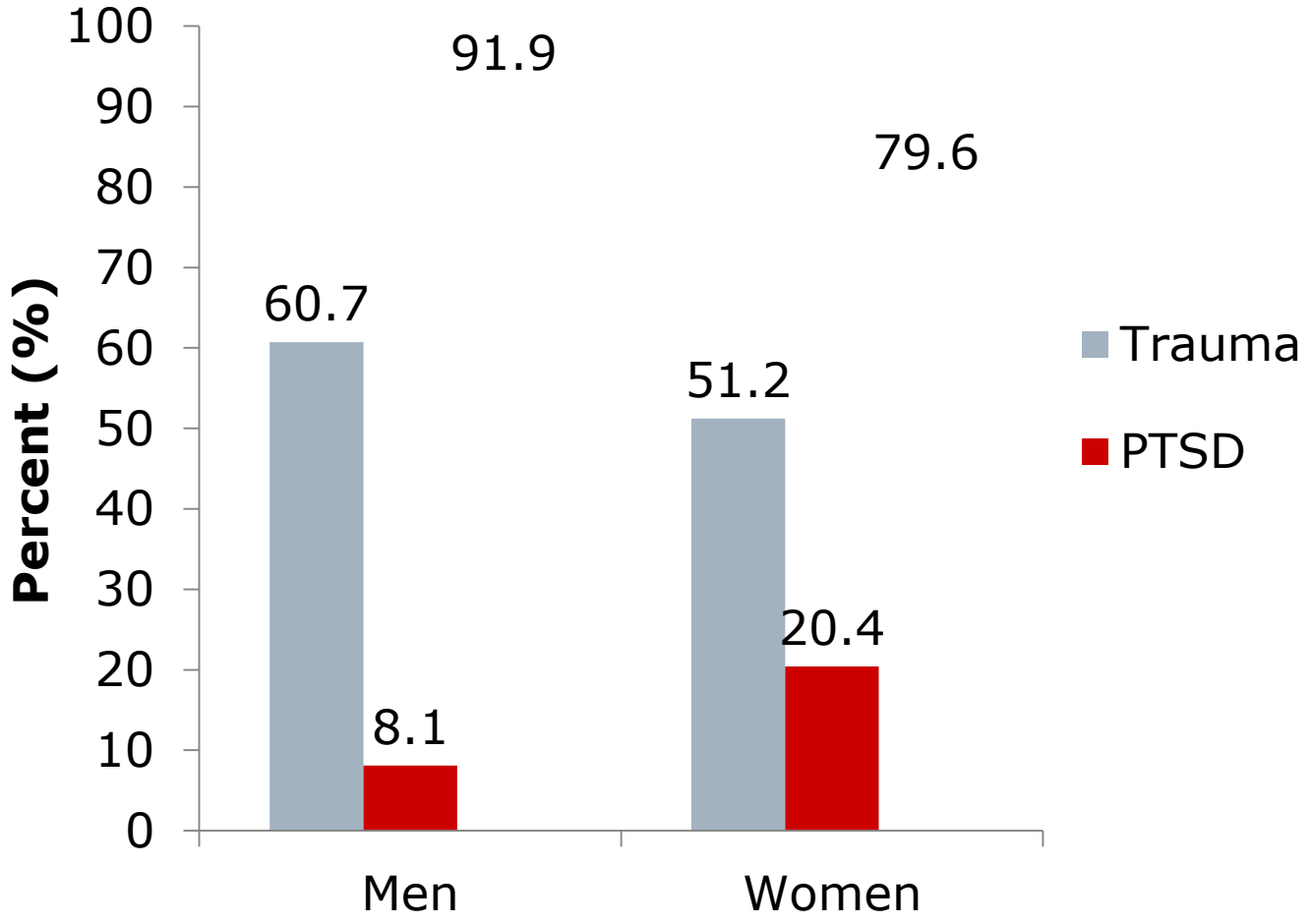
- Amputations
- Burns
- Posttraumatic Stress Disorder (PTSD)
- Traumatic Brain Injury (TBI)

How Common is PTSD?

- Affects 7% of Americans
  - 4% adult males
  - 10% adult females
- Percentage is twice as high in military service members and veterans (14%)

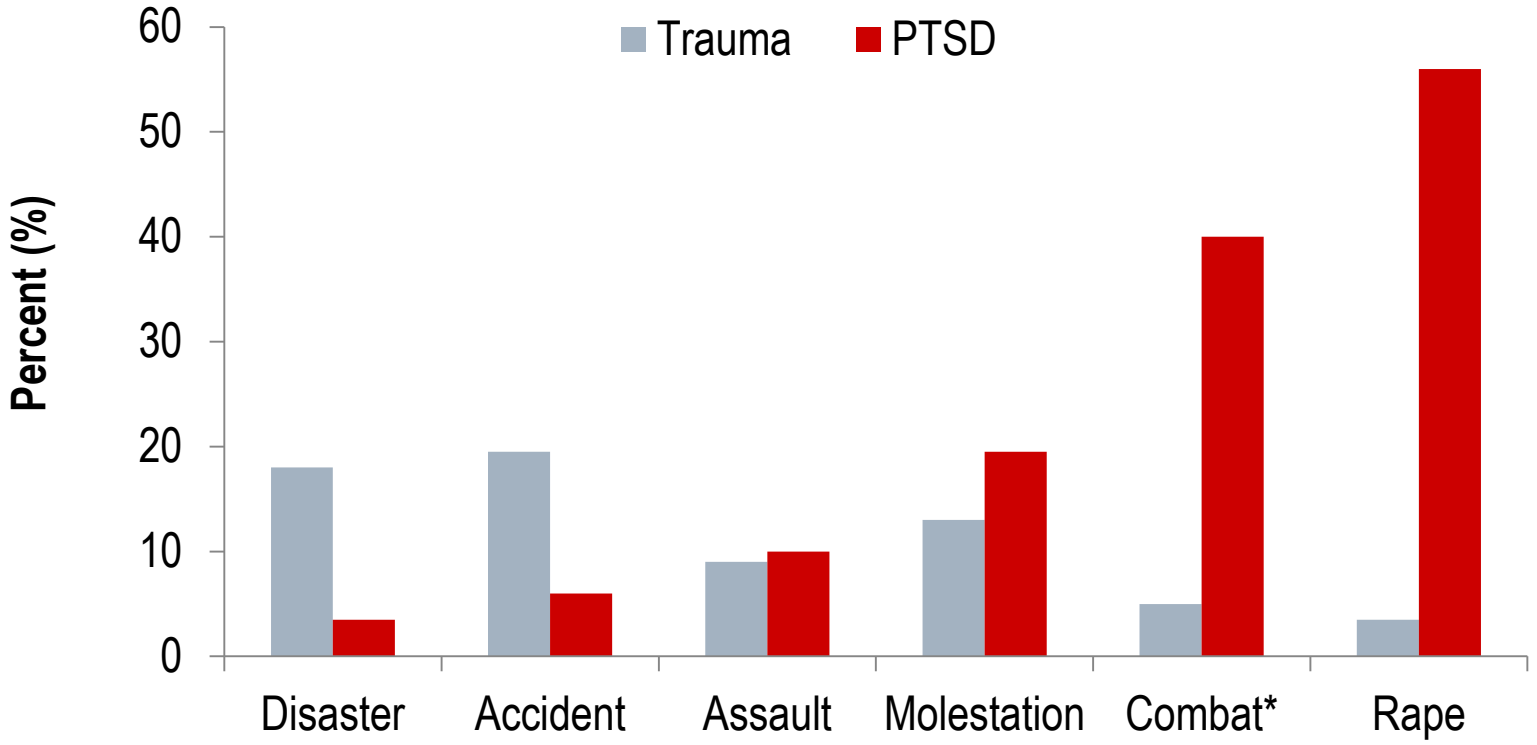


Prevalence of Trauma and PTSD in the US



Kessler (1995)

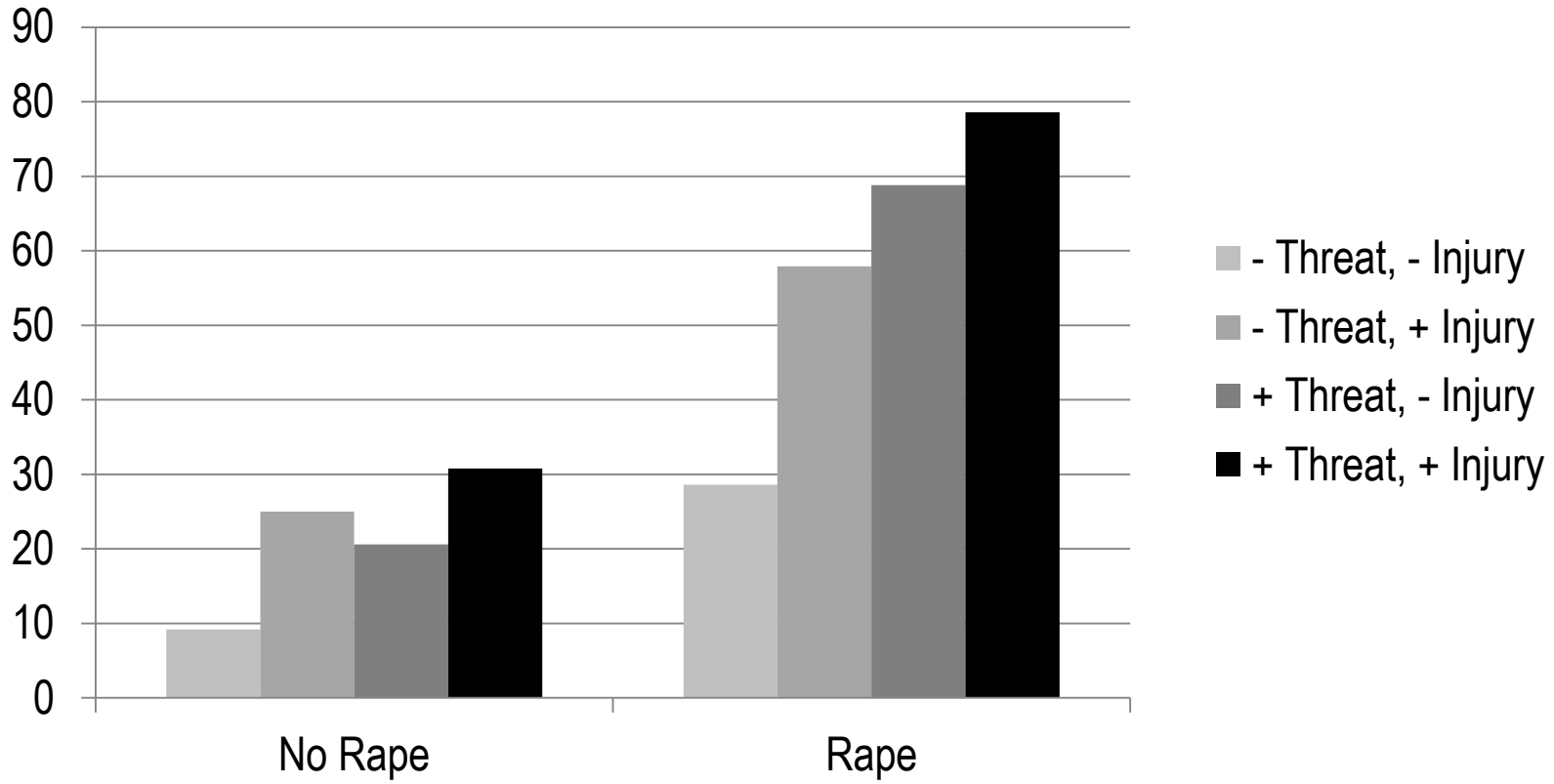
Rate of PTSD is Influenced by the Type of Trauma



Kessler (1995)

Rate of PTSD is Influenced by the Type of Trauma

Percentage of Crime Victim Groups With and Without Rape, Life Threat, and Physical Injury that Developed Crime-Related PTSD



Kilpatrick et al., (1989)

Who is at Greatest Risk for PTSD?

- Those with most significant or frequent traumas
- Tip-of-the spear military warriors
- Those in blast explosions resulting in horrific and mutilating injuries and death

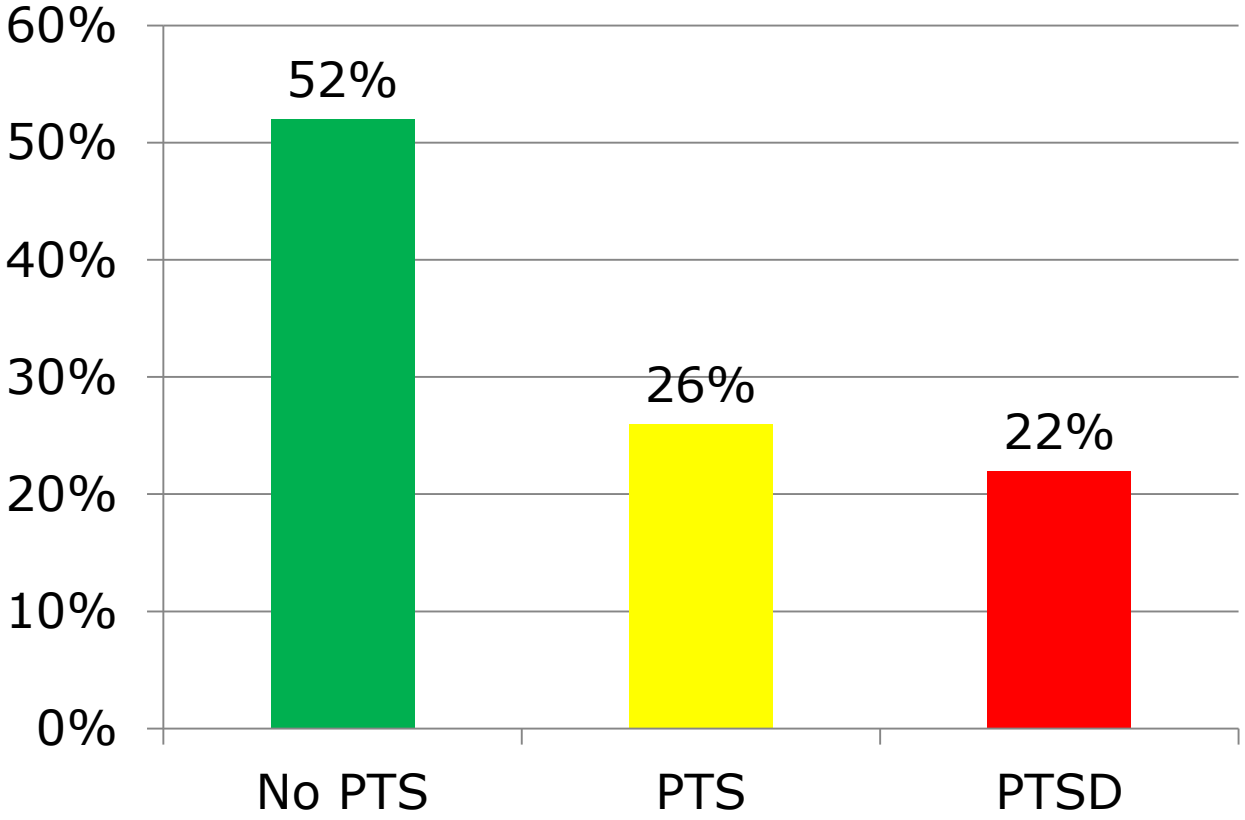
- Those who experience significant risk of personal injury or death
- Those who experience things no humans should have to experience

PTSD, PTS(D), or PTS?

- Former Army Vice Chief of Staff Gen Chiarelli opposed the term “disorder”
- Suggested calling it posttraumatic stress (PTS)
- Others have suggested using the terms:
  - Combat stress injury
  - Combat and operational stress reaction
- Currently accepted term is PTSD
  - Important to differentiate PTSD from PTS
- Perhaps most important point is that civilian research has shown PTSD can be treated into remission and in most cases there is no relapse

Postdeployment PTSD & PTS in Ft Hood Soldiers

- N = 1416 Soldiers evaluated postdeployment
- PTSD diagnosis using PCL-M plus DSM-IV-TR algorithm



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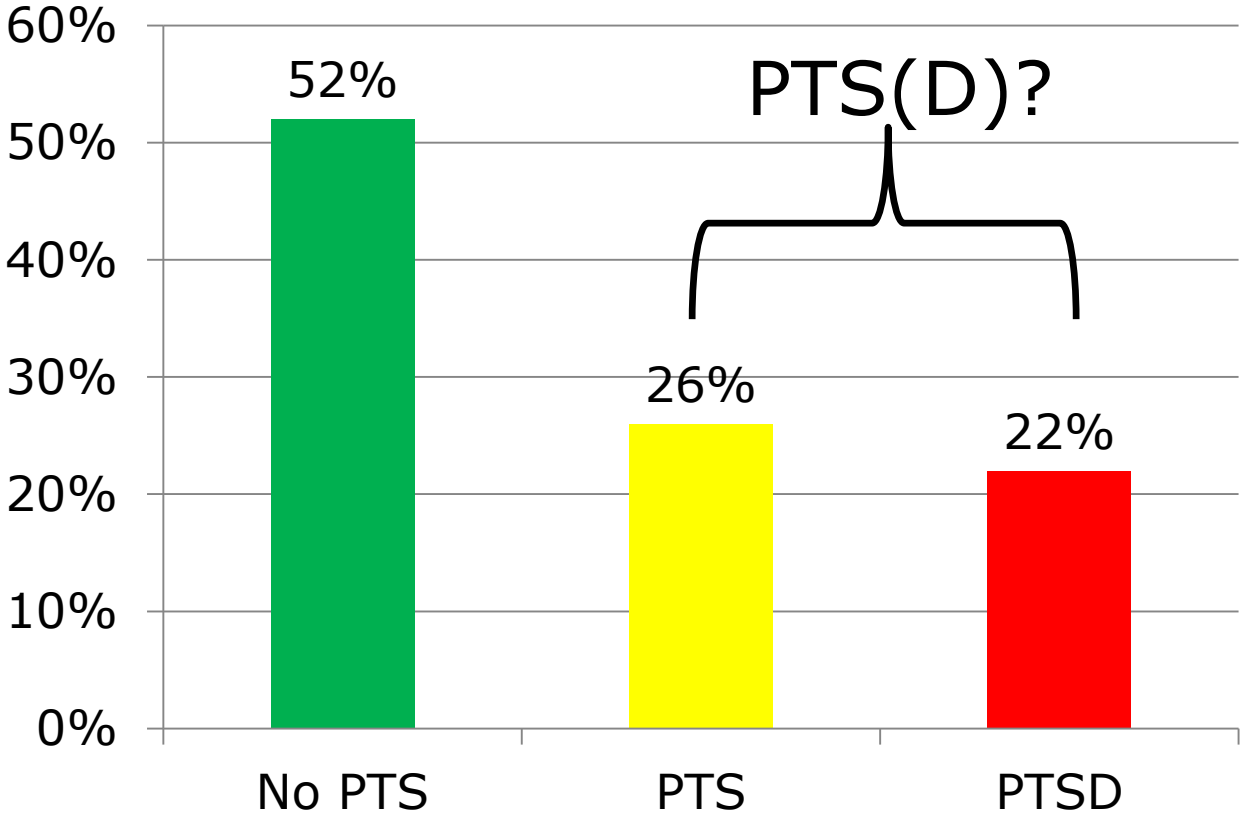


Comorbidities of PTSD

- PTSD has many related or comorbid conditions
  - Depression
  - Sleep Disorders
  - Chronic Pain
  - Traumatic Brain Injury
  - Substance Use Disorders
  - Suicide

Need for Military-Relevant PTSD Research

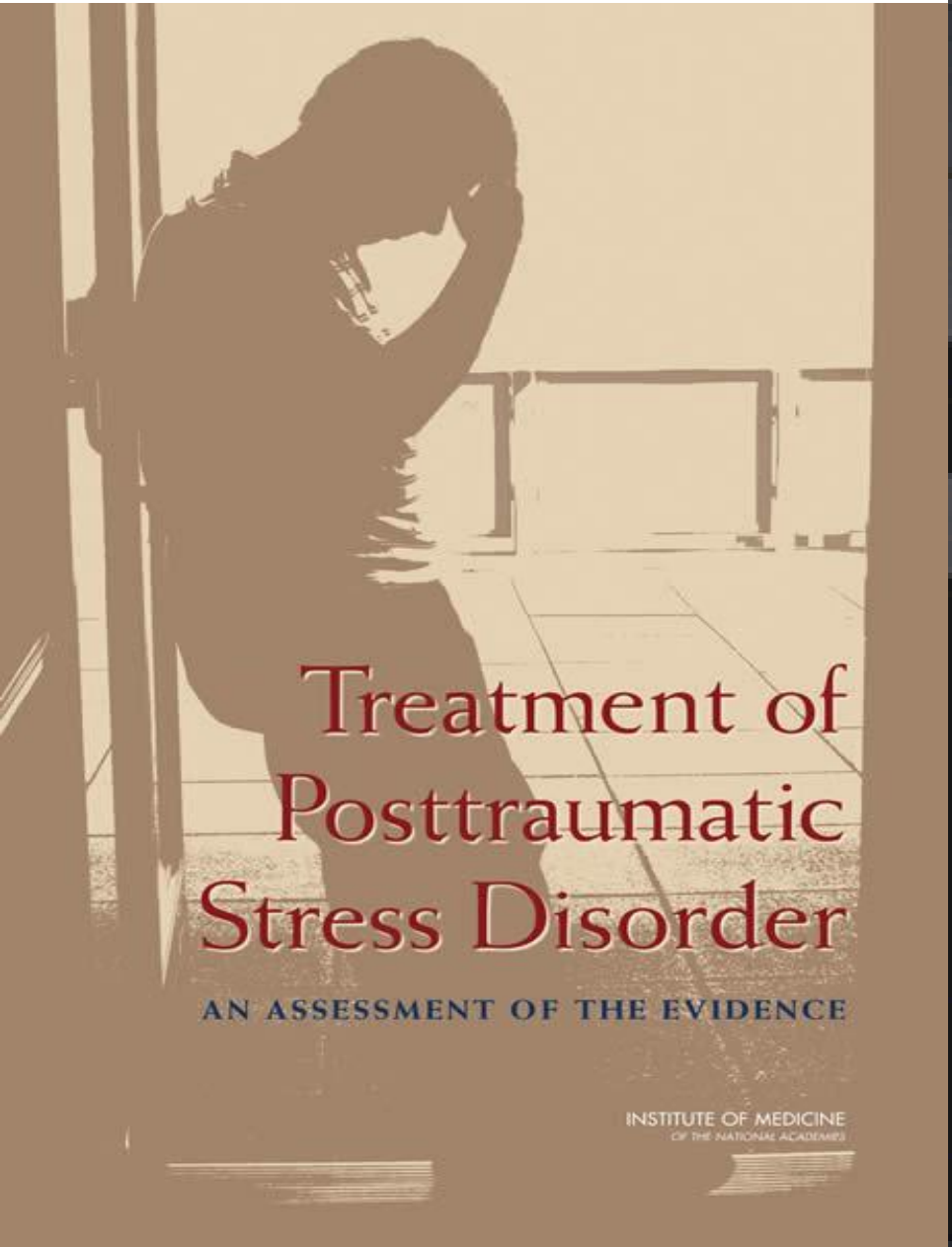
- U.S. facing potential national health crisis
- Current need for treatment may exceed capacity
- Few studies to guide treatment of PTSD in military
- Medical discharge for post-9/11 veteran for PTSD:
  - $500K estimated cost for lifetime disability
  - Imperative not to repeat Vietnam scenario

What is the most common myth about PTSD?

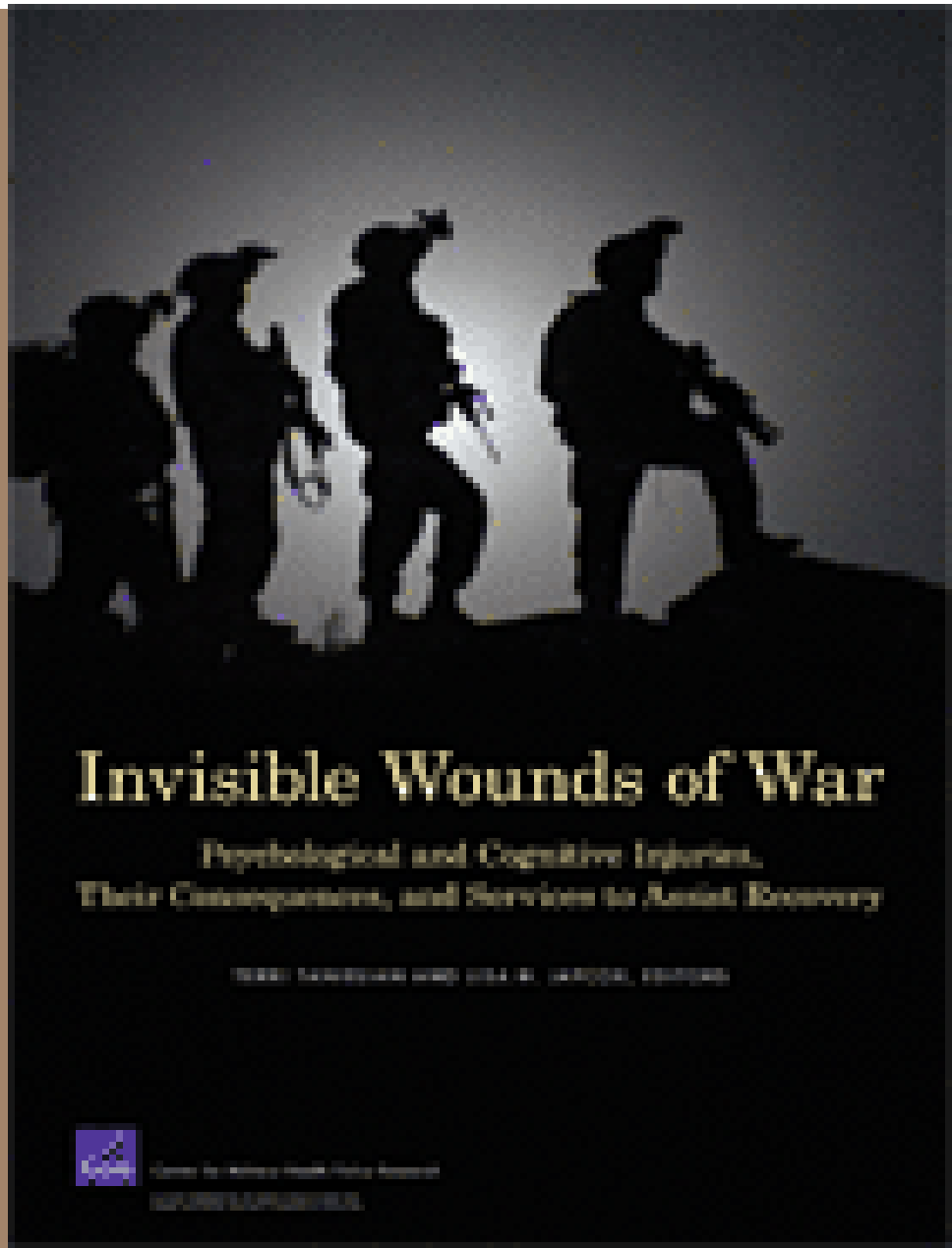
What is the most common myth about PTSD?

PTSD is a chronic, lifelong condition that is very difficult to treat

Institute of Medicine (2008)



RAND Report (2008)



Institute of Medicine (2008)

- The committee concludes that the current scientific evidence for the treatment of PTSD is:
  - Sufficient to conclude the efficacy of exposure therapies
  - Inadequate to determine the efficacy of EMDR, cognitive restructuring, coping skills training, and group format psychotherapy
  - Inadequate to determine the efficacy of PTSD treatment with pharmacotherapy

Evidence-based Treatment of PTSD in Civilian Populations

Prolonged Exposure (PE): (Edna Foa, PhD)

Involves repeated exposure to:

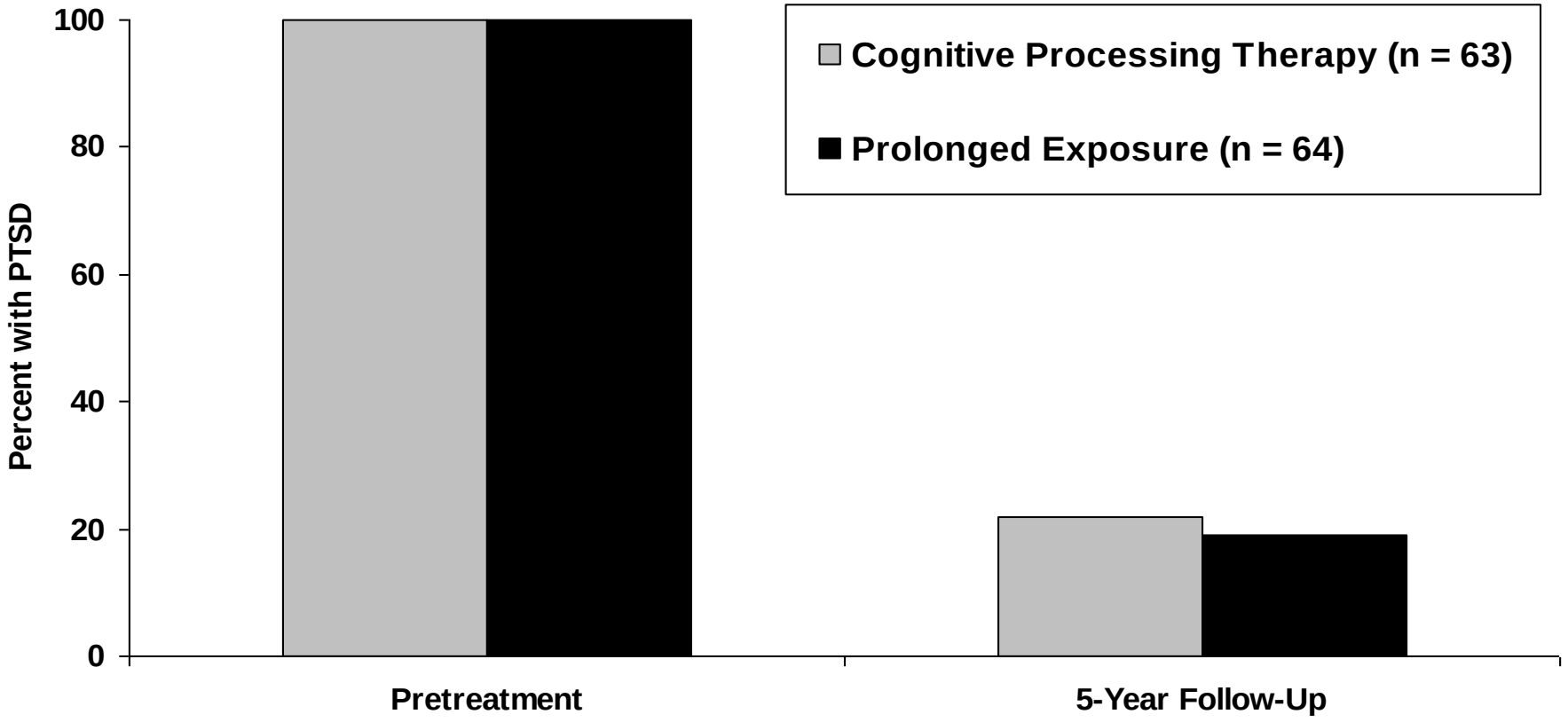
- Memories of the trauma
- Trauma-related situations

Cognitive Processing Therapy (CPT): (Patricia Resick, PhD)

Reduces PTSD symptoms through:

- Writing/reading accounts of the trauma
- Challenging/modifying trauma-related cognitions

Loss of PTSD Diagnosis in Civilians after Treatment with PE and CPT



Resick et al., 2012

Unanswered Questions

- What treatments are most effective for combat- or deployment-related PTSD in active duty military?
- How must civilian treatments be tailored for military populations?
- What percentage of service members can remain on active duty and deploy again after treatment?
- What is the impact of redeployment/re-exposure to combat trauma after treatment for PTSD?

Unanswered Questions

- What is the impact of comorbid conditions on the treatment of PTSD and
  - TBI
  - Insomnia
  - Substance Use Disorders
  - Chronic Pain
  - Suicide Risk

Unanswered Questions

- How does the brain change after effective treatment for PTSD?
- Are there genetic factors that determine who develops combat-related PTSD?
- Can PTSD be prevented by using prophylactic medications?
- What factors are related to risk and resiliency?

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"Building Strong, *Resilient Warriors*"

STRONG STAR: South Texas Research Organizational Network Guiding Studies on Trauma And Resilience
CAP: Consortium to Alleviate PTSD

- Headquartered at UT Health San Antonio
- World's leading research consortia for diagnosis, prevention & treatment of combat PTSD and related conditions (sleep disorders, chronic pain, suicide, TBI, substance use disorders)
- 40 collaborating universities, hospitals, & institutions
- 52 peer-reviewed funded research projects
  - 28 active research projects
- 140 collaborating investigators and clinicians
- Over $150 million in peer-reviewed research funding

STRONG STAR-CAP

- **Vision**: To reduce or eliminate combat-related PTSD in active-duty military and recently discharged veterans
- **Mission**: To support multi-disciplinary & multi-institutional research collaboration with the synergy to develop new PTSD prevention & treatment programs that could not be achieved independently

Brief Summary of STRONG STAR Findings

- Resick (2015), Group CPT vs Group PCT for PTSD
  - PTSD can be effectively treated with group CPT
- Rudd (2015), Brief CBT for Suicide
  - Suicide attempts reduced by 60%
- Resick (2016), Individual vs Group CPT for PTSD
  - Individual CPT is more effective than Group CPT
- Taylor (2017), CBTi for insomnia
  - In-Person CBTi more effective than Web-Based CBTi
- Cigrang (2017), Brief PE in Primary Care
  - Brief treatment by behavioral consultants is effective
- Foa (2018), Massed vs Spaced PE for PTSD
  - Both are effective for combat-related PTSD


TBI

Traumatic Brain Injury (TBI)

- A traumatically induced structural injury and/or a physiologic disruption of brain function
  - as a result of an external force
  - that is indicated by new onset or worsening of
  - at least 1 of 5 clinical signs immediately following the event

VA/DOD Definition of TBI

- At least one of the following clinical signs immediately following the event:
  - Loss of consciousness
  - Loss of memory for events immediately before or after injury
  - Alteration in mental state at the time of injury
  - Neurologic deficits
  - Intracranial lesion

How is TBI Diagnosed?

- Interview
- Physical Examination
- Neurobehavioral Symptom Inventory
- Notes:
  - TBI is a historical event
  - It is most often retrospectively diagnosed

Severity Classification of TBI

Criteria	Mild	Moderate	Severe
LOC	0 - 30 mins	31 mins - 24 hrs	>24 hours
AOC	Moment - 24 hrs	>24 hours. Severity based on other criteria	
PTA	0 - 1 Day	2 – 7 Days	>7 Days
GCS	13 - 15	9 – 12	<9
Structural Imaging	Normal	Normal or Abnormal	Normal or Abnormal

How is TBI Treated?

- Mild TBI (concussion)
- Over 30 randomized clinical trials have been conducted
- No evidence-based treatments have been identified
- Primary approaches:
  - Rest and inactivity
  - Clinical Symptom Management

TBI Diagnostic Challenges

- Diagnostic criteria are based largely on patient self-report, particularly for mild TBI
- Possible threats to diagnostic accuracy:
  - Recall bias
  - Cognitive difficulties
  - Overlap of symptoms in co-morbid conditions
  - Other factors

TBI and PTSD Symptom Overlap

TBI

- Insomnia
- Memory Problems
- Poor concentration
- Depression
- Anxiety
- Irritability
- Headache
- Dizziness
- Fatigue
- Noise/light intolerance

PTSD

- Insomnia
- Memory problems
- Poor concentration
- Depression
- Anxiety
- Irritability
- Re-experiencing
- Avoidance
- Emotional numbing

In Summary
Signature Injuries of OIF/OEF/OND

PTSD

TBI

Burns

Amputations

THE Signature Injury of OIF/OEF/OND

Blast Trauma

The Salute Seen Around the World

(1:36)

LINK

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