

VA/DVBIC TBI Clinical Grand Rounds

Posttraumatic Stress Disorder Treatment in Veterans with Traumatic Brain Injury

December 4, 2015, 12:00-1:15 p.m. (ET)

Presenters: Katie Ragsdale, Ph.D.

PTSD Postdoctoral Fellow, Salem VA Medical Center, Salem, VA

Sarah Voss Horrell, Ph.D.

Clinical Psychologist, Program RISE Coordinator, Center for Traumatic Stress
Salem VA Medical Center, Salem, VA

Moderator: Sherray Holland, PA-C

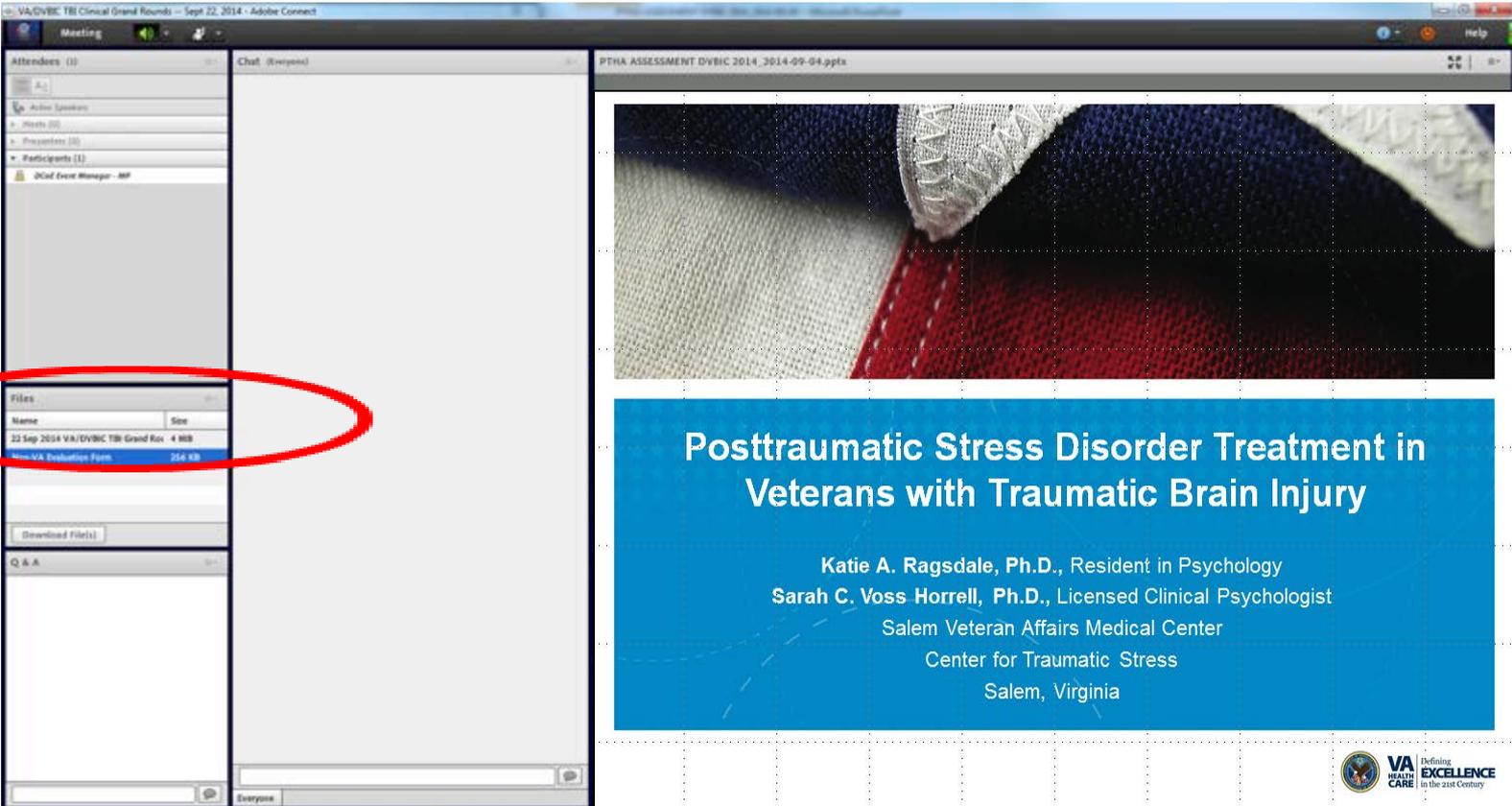
TBI Clinical Educator, Clinical Training and Education
Defense and Veterans Brain Injury Center
Silver Spring, MD

Webinar Details

- Audio for this webinar is **not** provided via Adobe Connect
 - Dial: VANTS **1-800-767-1750**
 - Use participant pass code: **49114#**
- This webinar session is being recorded
- Question-and-answer (Q&A) session
 - Submit questions via the Q&A box

Resources Available for Download

Today's presentation will be available for download at the end of the program in the "Files" box on the screen.



The screenshot displays an Adobe Connect meeting window. On the left, the 'Files' panel is circled in red, showing a list of files. The main area shows a presentation slide with the following text:

Posttraumatic Stress Disorder Treatment in Veterans with Traumatic Brain Injury

Katie A. Ragsdale, Ph.D., Resident in Psychology
Sarah C. Voss Horrell, Ph.D., Licensed Clinical Psychologist
Salem Veteran Affairs Medical Center
Center for Traumatic Stress
Salem, Virginia

At the bottom right of the meeting window, there is a logo for VA Health Care with the text 'Defining EXCELLENCE in the 21st Century'.

Name	Size
22 Sep 2014 VA/DVBC TBI Grand Ron	4 MB
Nov14 Evaluation Form	354 KB

Continuing Education Details

- All attendees are eligible for 1.0 credit hour of ACCME, ACCME-NP, ANCC and APA for 100% attendance.
- Participants will need to complete the evaluation process within 30 days to receive continuing education credit.

VHA Attendee Instructions:

- VHA participants **must be preregistered** to complete the evaluation in TMS.
- VHA staff should email Erica.Jackson2@va.gov if you were unable to register before the webinar started.
- Certificate of completion may be printed through TMS upon successful completion.

DoD and Non-VA Participant Instructions

- For DoD/Non-VA participants, you must pre-register for this course on the VHA TRAIN portal at <http://vha.train.org>.
- If this is your first visit select “Create Account” on the menu to register. If you already have a TRAIN account, please enter your login name and password on the main screen.
- **Participants will need to complete the evaluation process within 30 days to receive continuing education credit.**
- Your certificate will be available on the TRAIN site under “My Certificates”.
- Questions or concerns should be sent to VHA TRAIN help desk at VHATRAN@va.gov.

Webinar Overview

- While the prevalence of posttraumatic stress disorder (PTSD) in the veteran population presents a significant individual, societal, and healthcare concern, evidence-based interventions exist, and are strongly recommended by the Veteran Affairs (VA) and Department of Defense (2010). Notably, incidence of traumatic brain injury (TBI) is also high in this population, which results in a comorbid clinical presentation that may call for unique treatment. As such, it is critical to examine whether TBI status impacts the efficacy of gold standard PTSD treatments (Cognitive Processing Therapy [CPT] and Prolonged Exposure [PE] therapy) widely used within the VA system.
- This presentation will review the literature that has examined the impact of TBI history on the feasibility and effectiveness of PTSD treatment. Findings from a recent research study that examined the effectiveness of PE and CPT in a sample of veterans with and without history of TBI will also be described. Overall, results of this and previous studies suggest that TBI history should not be considered a rule out for trauma-focused PTSD treatment. Clinical implications of these findings will be discussed.

Webinar Overview

- By the conclusion of this educational presentation, learners will be able to:
 - explain the relationship between TBI and PTSD;
 - describe cognitive processing therapy and prolonged exposure therapy; and
 - explain the impact of TBI on PTSD treatment outcomes

Presenter: Katie Ragsdale, Ph.D.

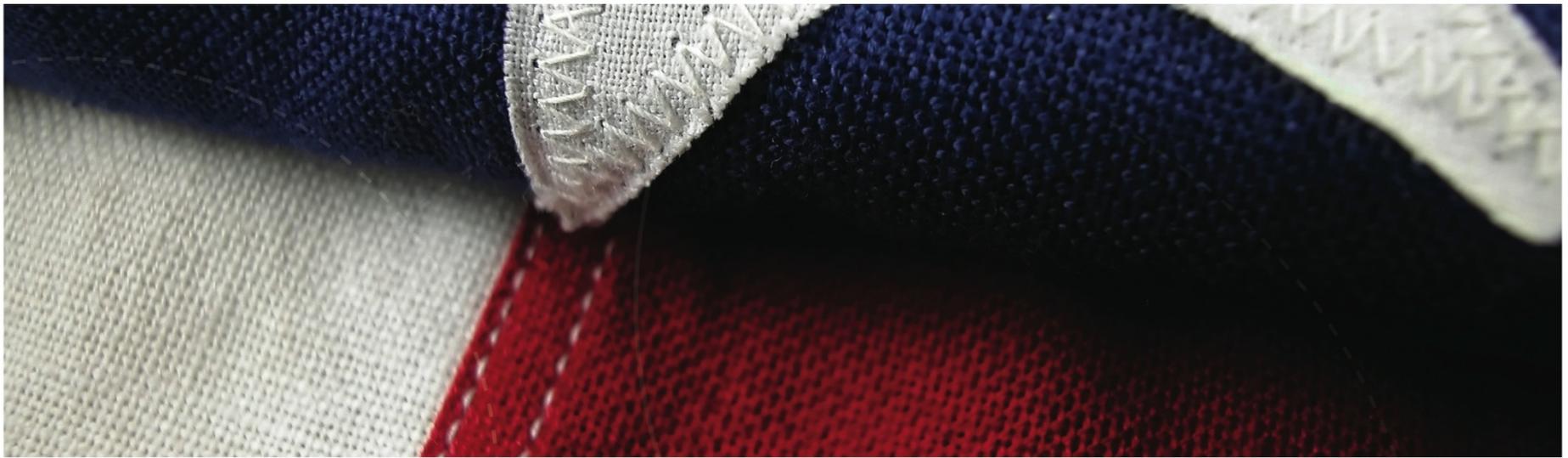


Katie A. Ragsdale received her Ph.D. in Clinical Psychology from the University of Central Florida in 2015. She is currently completing a postdoctoral fellowship focused on posttraumatic stress disorder at the Salem Veteran Affairs Medical Center in Salem, Virginia. Her clinical interests fall broadly in the assessment and evidence-based treatment of clinical psychopathology with an emphasis on posttraumatic stress disorder and anxiety disorders. Her research interests fall broadly in applied clinical research, including treatment outcome, cognitive-behavioral therapy effectiveness, and the relationship between posttraumatic stress disorder and traumatic brain injury.

Presenter: Sarah Voss Horrell, Ph.D.



Sarah Voss Horrell, received her Ph.D. in Clinical Psychology from the University of Wyoming in 2008. She completed a pre-doctoral internship at Eastern Virginia Medical School. She currently serves as a Clinical Psychologist in the Center for Traumatic Stress at the Salem VA Medical Center in Salem, Virginia. She is the Coordinator for Program RISE, a mental health program serving OEF/OIF/OND veterans. She serves as a supervisor for Salem's APA-accredited internship and post-doctoral residency programs and also provides training to psychiatry residents from Virginia Tech-Carilion Medical School in delivery of evidence-based therapies. She has published and presented research at national conferences related to PTSD, treatment effectiveness, patient factors impacting treatment outcome, and provider burnout.



Posttraumatic Stress Disorder Treatment in Veterans with Traumatic Brain Injury

Katie A. Ragsdale, Ph.D., Resident in Psychology

Sarah C. Voss Horrell, Ph.D., Licensed Clinical Psychologist

Salem Veteran Affairs Medical Center

Center for Traumatic Stress

Salem, Virginia

Disclosures

- The views expressed in this presentation are those of the presenters and do not reflect the official policy of the Department of Defense or the U.S. Government.
- Drs. Ragsdale and Voss Horrell have no relevant financial relationships to disclose.
- Drs. Ragsdale and Voss Horrell do not intend to discuss off-label/investigative (unapproved) use of commercial projects or devices.

Learning Objectives

1. Participants will be able to explain the relationship between traumatic brain injury (TBI) and posttraumatic stress disorder (PTSD).
2. Participants will be able to describe cognitive processing therapy (CPT) and prolonged exposure (PE) therapy.
3. Participants will be able to explain the impact of TBI on PTSD treatment outcomes.

Polling Question #1

What is your professional discipline?

- Physician (MD, DO)
- Psychologist
- Psychiatrist
- Rehabilitation Provider (PT, OT, SLP, Audio)
- Registered Nurse
- Nurse Practitioner/Physician Assistant
- Social Worker
- Case Manager
- Other

Polling Questions

1. What is your professional discipline?
(please use your template – please make sure it includes categories for psychologists, psychiatrists and social workers)

Presentation Outline

- PTSD
- PTSD treatments
 - PE and CPT
- TBI
- Brief review of PTSD + TBI treatment research
- Recent study
 - Does TBI differentially affect treatment outcome in CPT and PE?

PTSD

- An exposure to a life-threatening event or one that threatens your integrity (American Psychiatric Association, 2013)
 - Four symptom clusters
 - Intrusive thoughts/memories
 - Persistent negative thoughts and mood
 - Avoidance
 - Marked arousal or reactivity
 - 2.2 to 17.3% prevalence in OEF/OIF/OND veterans (Hermann, Shiner, & Friedman, 2012)
 - Closer to 30% in the VA population (Cifu et al., 2013)

PTSD

Intrusion

Avoidance

Negative
Alterations in
Cognition and
Mood

Alterations in
Arousal and
Reactivity

PTSD Treatments

- VA and DoD (2010) PTSD treatment guidelines strongly recommend evidence-based trauma-focused interventions for the treatment of PTSD, including:
 - PE (Foa, Hembree, & Rothbaum, 2007)
 - CPT (Resick, Monson, & Chard, 2014)

Polling Questions

- Do you have experience providing PE or CPT for individuals with PTSD?
 - No experience with either treatment
 - PE experience
 - CPT experience
 - Both

PE

- Promotes emotional processing: Learn new, corrective information – trauma memories and related situations are not dangerous.
- Discriminate trauma memories from trauma
- Reduce excessive fear and gain perspective on trauma
- PTSD commonly impacts core beliefs about self and world; negative beliefs that maintain PTSD are modified through exposure/new learning.

PE

- Two types of exposure
 - Imaginal exposure
 - Emotional processing of trauma memory
 - Learning – Memory is distressing but not dangerous.
 - In vivo exposure
 - Do real-life activities that are avoided.
 - Learning – Any situations are safer than I thought.

PE

- 9-15 sessions; averages 10 sessions
- 90-minute individual sessions
- Session 1: Assessment, treatment overview, PTSD psychoeducation, breathing retraining
- Session 2: In vivo exposure (continue throughout)
- Sessions 3-5: Imaginal exposure
- Sessions 6-9: “Hot Spot” exposure
- Session 10: Final imaginal exposure, wrap-up

CPT

Goals of CPT

- Accept that the trauma occurred
- Change your beliefs enough to accept it without going overboard
- Help you to feel your feelings about it
- Help you to recognize and modify what you are telling yourself about the trauma
- Help identify automatic thoughts (stuck points) and challenge these thoughts

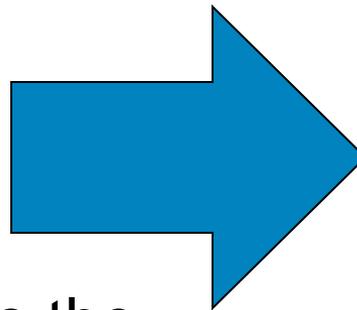
CPT

Assimilation

- Changing reality to fit prior beliefs
- Victim's self-blame

Overaccommodation

- Changes in beliefs to the extreme
- I am never safe, trust no one



Goal: Accommodate
new information,
change beliefs
appropriately

CPT

- Specific themes addressed in CPT
 - Safety – “The world is completely dangerous.”
 - Trust – “No one can be trusted.”
 - Power/Control – “I have no control over anything.”; “I must have total control or I will go crazy.”
 - Esteem – “I am a horrible person.”; “I am damaged.”
 - Intimacy – “I can’t let people get close to me.”

CPT

- 12 sessions
- 60 minutes
- Group or individual
- Focuses on thinking affected by the trauma
 - Identifying dysfunctional, erroneous thoughts and beliefs (cognitions)
 - Challenging these cognitions
 - Replacing these cognitions with functional, realistic cognitions

CPT and PE Effectiveness

- Research supports the efficacy of both
 - PE (Powers, Halpern, Ferenschak, Gillihan, & Foa, 2010)
 - CPT (Chard, Ricksecker, Healy, Karlin, & Resick, 2012)
- Few studies specifically examine the efficacy of PE and CPT in military-related populations
(Schnurr, Lunney, Bovin, & Marx, 2009, Steenkamp & Litz, 2013; Jeffreys, Reinfeld, Nair, Garcia, Mata-Galan, & Rentz, 2014; Watts et al., 2015)

Polling Question

- What is your level of expertise assessing TBI?
(1=no experience; 3=moderate experience;
5=significant experience)

TBI

- A TBI is the disruption of normal brain function caused by an external force including a jolt or blow to the head (Defense and Veterans Brain Injury Center, 2015)
- Historical event, not a disorder

TBI

- History of temporary or permanent neurological dysfunction following a head injury (Marshall, Holland, Meyer, Martin, Wilmore, & Grimes, 2012)
- Nearly 10% of Operation Enduring Freedom/Operation Iraqi Freedom/Operation New Dawn (OEF/OIF/OND) veterans utilizing VA services have diagnoses of TBI. (Cifu et al., 2013)
- Rates of positive TBI screens climb to 45% when examining mental health treatment seeking samples. (Brenner et al., 2013)

TBI

A traumatically-induced structural injury or physiological disruption of brain function as a result of external force , that is indicated by new onset or worsening of at least one of the following clinical signs immediately following the event:

- Loss of consciousness (LOC)
- Post-traumatic amnesia (PTA)
- Alteration of consciousness (AOC)
 - Alteration in mental state at the time of the injury (e.g., confusion, disorientation, slowed thinking, etc.)

TBI Severity

Criteria	Mild	Moderate	Severe
Structural Imaging	Normal	Normal or abnormal	Normal or abnormal
Loss of Consciousness (LOC)	0-30 min	> 30 min and < 24 hours	> 24 hours
Alteration of consciousness/mental state (AOC)	A moment up to 24 hours	> 24 hours. Severity based on other criteria	
Post-traumatic amnesia (PTA)	0-1 day	> 1 and < 7 days	> 7 days
Glasgow Coma Scale (best available score in first 24 hours)	13-15	9-12	<9

(Department of Veterans Affairs and Department of Defense, 2009)

TBI Severity

- Observed signs of neurological or neuropsychological dysfunction, such as:
 - Headache, dizziness, irritability, fatigue or poor concentration, when identified soon after injury, can be used to support the diagnosis of mild TBI.
 - However, such signs cannot be used to make the diagnosis in the absence of loss of consciousness or altered consciousness.

TBI and PTSD

- Individuals with a history of TBI endorse
 - **Higher rates of PTSD** (Carlson, Nelson, Orazem, Nugent, Cifu, & Sayer, 2010; Carlson et al., 2011; Hoge, McGurk, Thomas, Cox, Engel, & Castro, 2008; Morissette et al., 2011; Walker, Clark, & Sanders, 2010)
 - In some cases individuals with TBI are almost twice as likely to develop PTSD. (Bryant, Creamer, O'Donnell, Silove, Clark, & McFarlane, 2009)
 - And **more severe symptoms** of PTSD when compared to those with no comorbid TBI diagnosis (Barnes, Walter, & Chard, 2012; Davis, Walter, Chard, Parkinson, & Houston, 2013; Ragsdale, Neer, Beidel, Frueh, & Stout, 2013)
 - Symptoms overlap heavily with PTSD.

Overlapping Symptoms

Possible Symptoms of PTSD

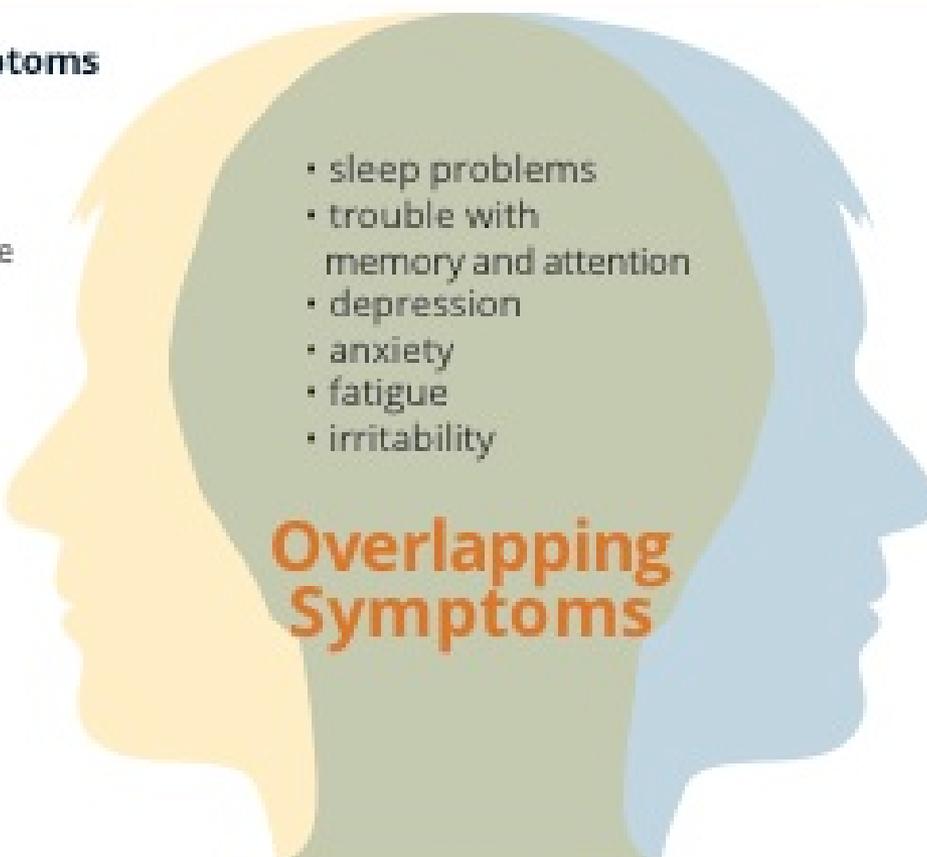
- flashbacks
- nightmares
- self-destructive behavior
- fearfulness
- startled easily
- guilty feelings
- on high alert

- sleep problems
- trouble with memory and attention
- depression
- anxiety
- fatigue
- irritability

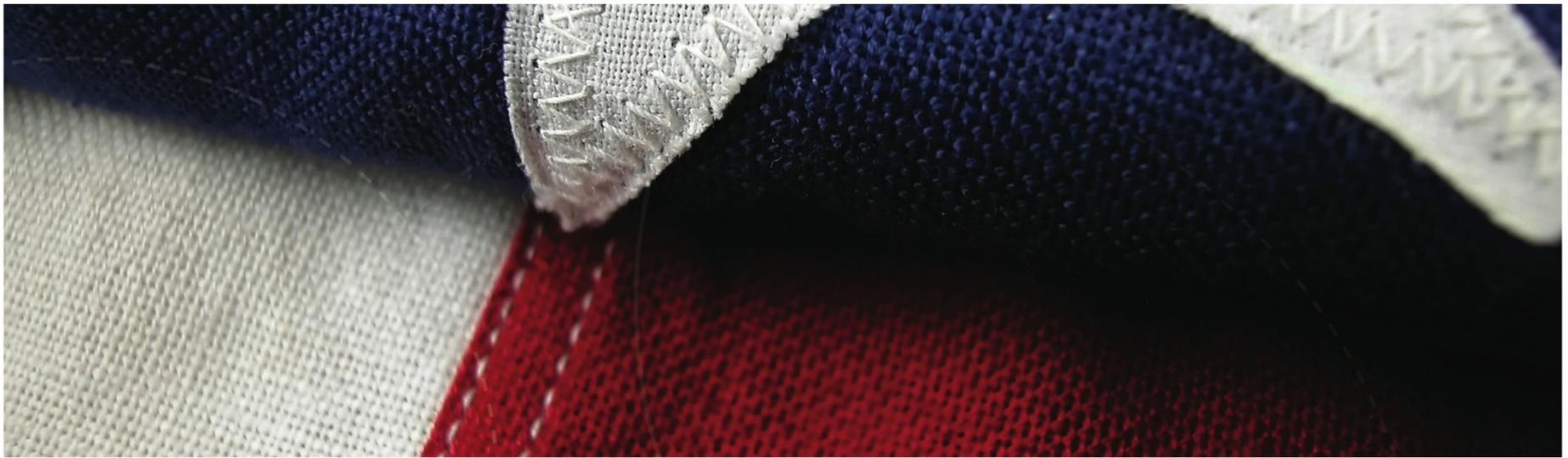
Possible Symptoms of Concussion

- headaches
- dizziness/balance problems
- nausea
- sensitivity to light and sound
- vision changes
- appetite changes
- mood changes

Overlapping Symptoms

The diagram features three overlapping silhouettes of human heads in profile, facing right. The leftmost silhouette is yellow, the middle one is olive green, and the rightmost one is light blue. The text 'Overlapping Symptoms' is written in orange across the bottom of the central green silhouette.

Source: DVBC's Concussion/Mild Traumatic Brain Injury and PTSD Fact Sheet



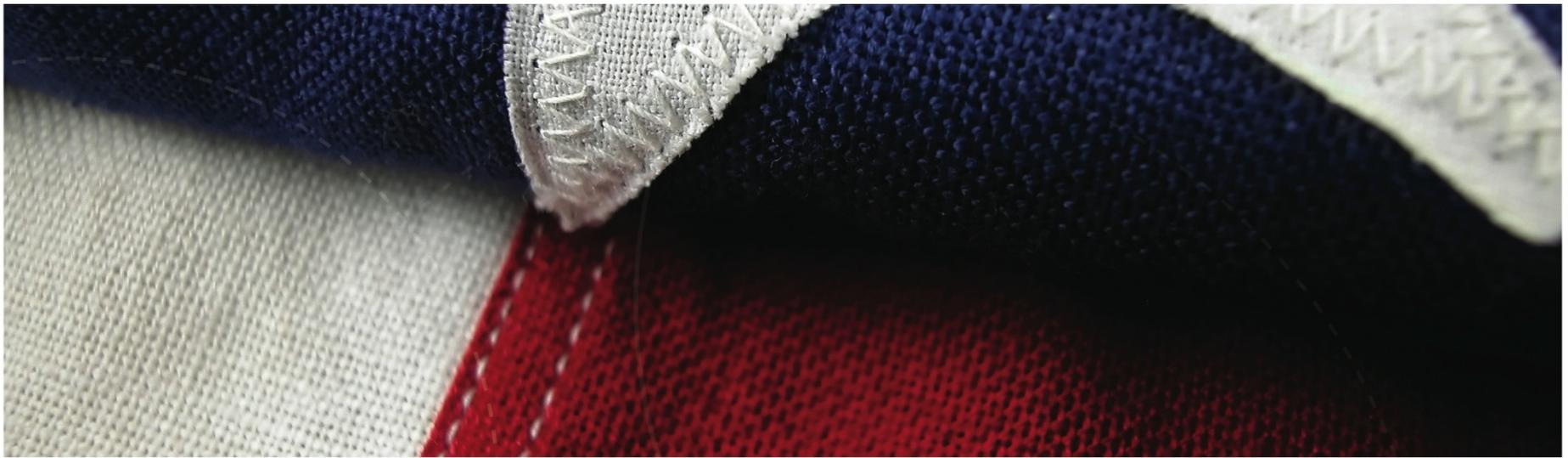
Are PTSD treatments appropriate for individuals with TBI history?

Treatment for PTSD + TBI

- Studies examining the feasibility and effectiveness of TBI history on PTSD treatment provide promising results (Chard, Schumm, McIlvain, Bailey, & Parkinson, 2011; Davis, Walter, Chard, Parkinson, & Houston, 2013; McIlvain, Walter, & Chard, 2012; Sripada et al., 2013; Strom, Wolf, Crawford, Blahnik, & Kretzmer, in press; Walter, Barnes, & Chard, 2012a; Walter, Dickstein, Barnes, & Chard, 2014; Walter, Kiefer, & Chard, 2012b; Wolf, Strom, Kehle, & Eftekhari, 2012; Wolf et al., 2015)
 - Residential, multifaceted treatment programs (e.g., speech pathology, cognitive rehabilitation, etc.)
 - Heterogeneous samples (e.g., various eras, traumatic events)
 - Lack of comparison groups (i.e., PTSD only)

Treatment for PTSD + TBI

- In general, trauma-focused PTSD treatments are feasible and effective for TBI population.
 - Suggests TBI history should not preclude trauma-focused treatment
- No study currently published that directly compares PE and CPT within a TBI + PTSD sample
 - Unclear whether either treatment may be more effective for this population



Does TBI differentially affect treatment outcome in CPT and PE?

Purpose

- **Purpose:** To compare the effectiveness of PE and CPT in veterans with and without TBI history
- Retrospective analysis of previously existing clinical data collected during routine pre- and post-treatment assessments within one VA PTSD Clinic

Hypotheses

1. Treatment type (PE vs. CPT), but not TBI status (+/-), will affect treatment outcome.
2. PE completers will experience significantly greater PTSD and depression symptom reduction compared to CPT completers.
3. Participants with and without TBI will respond similarly to treatment.

Participants

- 44 OEF/OIF/OND veterans

22 PE completers

- 10 PTSD + TBI
- 12 PTSD only

22 CPT completers

- 12 PTSD + TBI
- 10 PTSD only

- 88.6% male
- Mean age of 33.18 ($SD = 8.19$; range = 23-57)
- Most were married (29.5%) or never married (29.5%)
- 86.4% Caucasian

Participants

Worst trauma endorsed at intake:

72.7%	Combat
11.4%	Witness of death or serious injury
4.5%	Accident or disaster
4.5%	Childhood sexual trauma
2.3%	No response

Predominately combat-PTSD sample

Method

- PTSD diagnosed by semi-structured clinical interview
- TBI status diagnosed by chart review of veteran's computerized personal record system (CPRS)
 - Based on similar process used by Sripada and colleagues (2013)

Method

- TBI Criteria:

a) Screened positive for TBI via standard screening procedure **81.8%**

b) Confirmed TBI diagnosis via formal follow-up neuropsychological evaluation **86.4%**

c) Service-connection for TBI **13.6%**

d) Medical record delineates TBI diagnosis elsewhere (e.g., problem list) **72.7%**

77.3% satisfied > 1 Criteria

Outcome Measures

- **Beck Depression Inventory – Second Edition (BDI-II)** (Beck, Steer, & Brown, 1996)
 - 21 item self-report screening instrument was used to assess for the presence of depression symptoms within the past two weeks
 - Range = 0 – 63
 - Pre-post treatment change score was calculated and used in all analyses

Outcome Measures

- **Posttraumatic Stress Disorder Checklist – Specific (PCL-S)** (Weathers, Litz, Herman, Huska, & Keane, 1993)
 - 17-item self-report measure of PTSD symptom severity within past month
 - Range = 17-85
 - Cut-off score of 50 (Weathers et al., 1993)
 - Change of 10+ points is likely indicative of clinically significant change in functioning (Monson, Gradus, Young-Xu, Schnurr, Price, & Schumm, 2008)
 - A pre-post change score was calculated and used in all analyses

Data Analysis

- Does TBI differentially affect treatment outcome in CPT and PE?
- 2x2 between-subjects Multivariate Analysis of Variance (MANOVA)
 - **Independent Variables:** Treatment type and TBI status
 - PE vs. CPT
 - PTSD + TBI vs. PTSD only
 - **Dependent Variables:** PCL-S and BDI-II change scores

Results

- Combined dependent variables were NOT significantly affected by TBI status
 - No significant interaction between treatment type and TBI status
- Suggests that TBI history does NOT moderate the effectiveness of PE or CPT

Results

- Combined dependent variables were significantly affected by treatment type
- Suggests differential effectiveness of PE and CPT in military-related PTSD and depression
 - PE group had significantly greater PTSD and depression symptom reduction compared to CPT group

Pre-Treatment Scores

Variable	CPT (N = 22)			PE (N = 22)			Total Combined (N = 44)	
	PTSD+TBI (N = 12) M (SD)	PTSD Only (N = 10) M (SD)	Total CPT (N = 22) M (SD)	PTSD+TBI (N = 10) M (SD)	PTSD Only (N = 12) M (SD)	Total PE (N = 22) M (SD)	PTSD+TBI (N = 22) M (SD)	PTSD Only (N = 22) M (SD)
Pre PCL-S	60.50 (11.86)	55.30 (11.46)	58.14 (11.70)	60.50 (12.70)	63.75 (8.39)	62.27 (10.43)	60.50 (11.95)	59.91 (10.57)
Post PCL-S	44.92 (13.54)	43.80 (18.38)	44.41 (15.53)	32.60 (15.09)	29.17 (11.61)	30.73 (13.09)	39.32 (15.27)	35.82 (16.46)
PCL-S Change	15.58 (9.98)	11.50 (14.13)	13.73 (11.92)	27.90 (14.18)	34.58 (10.34)	31.55 (12.40)	21.18 (13.33)	24.03 (16.74)
Pre BDI-II	27.33 (10.62)	26.60 (7.35)	27.00 (9.08)	26.00 (16.14)	30.08 (11.86)	28.23 (13.77)	26.73 (13.08)	28.50 (10.00)
Post BDI-II	21.91 (15.87)	19.80 (12.64)	20.90 (14.12)	12.11 (14.56)	12.84 (13.84)	12.52 (13.80)	17.50 (15.71)	16.00 (13.47)
BDI-II Change	5.27 (8.25)	6.80 (10.04)	6.00 (8.94)	16.22 (8.65)	17.25 (10.38)	16.81 (9.46)	10.20 (9.93)	12.50 (11.32)

Groups did not differ on pretreatment scores (all $ps > 0.2$)

Post-Treatment Scores

Variable	PTSD+TBI (<i>N</i> = 22) <i>M</i> (<i>SD</i>)	PTSD Only (<i>N</i> = 22) <i>M</i> (<i>SD</i>)
Pre PCL-S	60.50 (11.95)	59.91 (10.57)
Post PCL-S	39.32 (15.27)	35.82 (16.46)
PCL-S Change	21.18 (13.33)	24.03 (16.74)
Pre BDI-II	26.73 (13.08)	28.50 (10.00)
Post BDI-II	17.50 (15.71)	16.00 (13.47)
BDI-II Change	10.20 (9.93)	12.50 (11.32)

$F(2, 37) = 0.09, p = 0.91$; Pillai's Trace = 0.01, partial $\eta^2 = 0.01$

Post-Treatment Scores

Variable	Total CPT (<i>N</i> = 22) <i>M</i> (<i>SD</i>)	Total PE (<i>N</i> = 22) <i>M</i> (<i>SD</i>)	
Pre PCL-S	58.14 (11.70)	62.27 (10.43)	
Post PCL-S	44.41 (15.53)	30.73 (13.09)	
PCL-S Change	13.73 (11.92)	31.55 (12.40)	$t(42) = 4.86, p = < .001$
Pre BDI-II	27.00 (9.08)	28.23 (13.77)	
Post BDI-II	20.90 (14.12)	12.52 (13.80)	
BDI-II Change	6.00 (8.94)	16.81 (9.46)	$t(40) = 3.80, p = < .001$

$F(2, 37) = 13.11, p < .001$; Pillai's Trace = 0.42, partial $\eta^2 = 0.42$

Clinical Implications

- TBI history did not affect treatment outcome in the two gold standard VA PTSD treatments
- Supports extant literature demonstrating feasibility of trauma-focused treatments
- Indicates veterans with TBI history respond to treatment similarly to veterans without TBI history
- Clinicians should not preclude veterans from being offered PE or CPT on basis of TBI status

Clinical Implications

- Both treatments improved PTSD symptoms
- PE was nearly 3x more effective than CPT in this sample
 - Replicates Jeffreys and colleagues' 2014 finding
(Jeffreys et al., 2014)
- PE nearly 4x more effective at reducing depression symptoms
- Regardless of TBI status

Limitations

- Inability to determine TBI severity
- Treatment outcome variables limited to self-report measures
- Small sample size
- Treatment fidelity was not measured
- Treatments were not randomized
- Treatment completers only

Future Directions

- Randomized controlled trial comparing PE and CPT within military sample
 - Examining impact of TBI of each severity
- Replication with veterans of other wars and eras

Take Home

History of TBI should not preclude veterans from being offered trauma-focused PTSD treatment

Summary

1. There is significant overlap between PTSD symptoms and TBI sequelae.
2. Two VA gold standard cognitive-behavioral, trauma-focused treatments, PE and CPT, are effective at treating PTSD.
3. TBI does not appear to impact PTSD treatment outcome and should not rule out PTSD treatment.

Acknowledgements

- Thanks to Drs. Dana Holohan, Brian Shenal, and Stacy Belkonen at Salem VAMC for slide/content contributions to this presentation.

References

- American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders: DSM-5*. Washington, D.C.
- Barnes, S. M., Walter, K. H., & Chard, K. M. (2012). Does a history of mild traumatic brain injury increase suicide risk in veterans with PTSD?. *Rehabilitation Psychology, 57*(1), 18-26.
- Beck, A. T., Steer, R. A., & Brown, G. K. (1996). *Beck Depression Inventory-II manual (2nd ed.)*. San Antonio, TX: Psychological Corp.
- Brenner, L. A., Homaifar, B. Y., Olson-Madden, J. H., Nagamoto, H. T., Huggins, J., Schneider, A. L., . . . Corrigan, J. D. (2013). Prevalence and screening of traumatic brain injury among veterans seeking mental health services. *The Journal of Head Trauma Rehabilitation, 28*(1), 21-30.
- Bryant, R. A., Creamer, M., O'Donnell, M., Silove, D., Clark, C. R., & McFarlane, A. C. (2009). Post-traumatic amnesia and the nature of post-traumatic stress disorder after mild traumatic brain injury. *Journal of the International Neuropsychological Society, 15* (6), 862-867.
- Carlson, K. F., Kehle, S. M., Meis, L. A., Greer, N., MacDonald, R., Rutks, I., . . . Wilt, T. J. (2011). Prevalence, assessment, and treatment of mild traumatic brain injury and posttraumatic stress disorder: A systematic review of the evidence. *The Journal of Head Trauma Rehabilitation, 26*(2), 103-115.

References

- Carlson, K. F., Nelson, D., Orazem, R. J., Nugent, S., Cifu, D. X., & Sayer, N. A. (2010). Psychiatric diagnoses among Iraq and Afghanistan war veterans screened for deployment-related traumatic brain injury. *Journal of Traumatic Stress, 23*(1), 17-24.
- Chard, K., Schumm, J., McIlvain, S., Bailey, G., & Parkinson, R. (2011). Exploring the efficacy of a residential treatment program incorporating cognitive processing therapy-cognitive for veterans with PTSD and traumatic brain injury. *Journal of Traumatic Stress, 24*(3), 347-351.
- Chard, K. M., Ricksecker, E. G., Healy, E. T., Karlin, B. E., & Resick, P. A. (2012). Dissemination and experience with cognitive processing therapy. *Journal of Rehabilitation Research & Development, 49*(6), 667-678.
- Cifu, D. X., Taylor, B. C., Carne, W. F., Bidelspach, D., Sayer, N. A., Scholten, J., & Hagel Campbell, E. (2013). Traumatic brain injury, posttraumatic stress disorder, and pain diagnoses in OEF/OIF/OND veterans. *Journal of Rehabilitation Research & Development, 50*(9), 1169-1176.
- Davis, J. J., Walter, K. H., Chard, K. M., Parkinson, R., & Houston, W. S. (2013). Treatment adherence in cognitive processing therapy for combat-related PTSD with history of mild TBI. *Rehabilitation Psychology, 58*(1), 36-42.

References

- Defense and Veterans Brain Injury Center. (2015). Concussion/Mild Traumatic Brain Injury and Posttraumatic Stress Disorder. Retrieved from:
https://dvbic.dcoe.mil/sites/default/files/DVBIC_MildTBI-PTSD_FactSheet_v1.0_September_2014.pdf
- Department of Defense. (2015). Memorandum for Assistant Secretary of Defense, Dr. Johnathan Woodson.
- Department of Veterans Affairs and Department of Defense. (2009). VA/DOD clinical practice guideline for management of concussion/mild traumatic brain injury. Retrieved from
http://www.healthquality.va.gov/guidelines/Rehab/mtbi/concussion_mtbi_full_1_0.pdf.
- Foa, E. B., Hembree, E. A., & Rothbaum, B. (2007). *Prolonged exposure therapy for PTSD: Emotional processing of traumatic experiences: Therapist guide*. New York, NY, US: Oxford University Press.
- Hermann, B., Shiner, B., & Friedman, M. (2012). Epidemiology and prevention of combat-related post-traumatic stress in OEF/OIF/OND service members. *Military Medicine*, 177(8), 1-6.
- Hoge, C. W., McGurk, D., Thomas, J. L., Cox, A. L., Engel, C. C., & Castro, C. A. (2008). Mild traumatic brain injury in U.S. soldiers returning from Iraq. *The New England Journal of Medicine*, 358(5), 453-463.

References

- Jeffreys, M. D., Reinfeld, C., Nair, P. V., Garcia, H. A., Mata-Galan, E., & Rentz, T. O. (2014). Evaluating treatment of posttraumatic stress disorder with cognitive processing therapy and prolonged exposure therapy in a VHA specialty clinic. *Journal of Anxiety Disorders, 28*(1), 108-114.
- Mcllvain, S. M., Walter, K. H., & Chard, K. M. (2012). Using cognitive processing therapy—cognitive in a residential treatment setting with an OIF Veteran with PTSD and a history of severe traumatic brain injury: A case study. *Cognitive and Behavioral Practice, 20*(3), 375-382.
- Marshall, K. R., Holland, S. L., Meyer, K. S., Martin, E. M., Wilmore, M., & Grimes, J. (2012). Mild traumatic brain injury screening, diagnosis, and treatment. *Military Medicine, 177*(8), 67-75.
- Monson, C. M., Gradus, J. L., Young-Xu, Y., Schnurr, P. P., Price, J. L., & Schumm, J. A. (2008). Change in posttraumatic stress disorder symptoms: Do clinicians and patients agree?. *Psychological Assessment, 20*(2), 131-138.
- Morissette, S. B., Woodward, M., Kimbrel, N. A., Meyer, E. C., Kruse, M. I., Dolan, S., & Gulliver, S. (2011). Deployment-related TBI, persistent postconcussive symptoms, PTSD, and depression in OEF/OIF veterans. *Rehabilitation Psychology, 56*(4), 340-350.

References

- Powers, M. B., Halpern, J. M., Ferenschak, M. P., Gillihan, S. J., & Foa, E. B. (2010). A meta-analytic review of prolonged exposure for posttraumatic stress disorder. *Clinical Psychology Review, 30*(6), 635-641.
- Ragsdale, K., Neer, S., Beidel, D., Frueh, B., & Stout, J. (2013). Posttraumatic stress disorder in OEF/OIF veterans with and without traumatic brain injury. *Journal of Anxiety Disorders, 27*(4), 420-426.
- Resick, P. A., Monson, C. M., & Chard, K. M. (2014). *Cognitive processing therapy veteran/military version: Therapist manual*. Washington, DC: Department of Veterans Affairs.
- Schnurr, P. P., Lunney, C. A., Bovin, M. J., & Marx, B. P. (2009). Posttraumatic stress disorder and quality of life: Extension of findings to veterans of the wars in Iraq and Afghanistan. *Clinical Psychology Review, 29*(8), 727-735
- Sripada, R. K., Rauch, S. M., Tuerk, P. W., Smith, E., Defever, A. M., Mayer, R. A., & ... Venners, M. (2013). Mild traumatic brain injury and treatment response in prolonged exposure for PTSD. *Journal of Traumatic Stress, 26*(3), 369-375.

References

- Steenkamp, M. M. & Litz, B. T. (2013). Psychotherapy for military-related posttraumatic stress disorder: Review of the evidence. *Clinical Psychology Review, 33*(1), 45-53.
- Strom, T. Q., Wolf, G. K., Crawford, E., Blahnik, M., & Kretzmer, T. (in press). Implementing prolonged exposure for veterans with comorbid PTSD and traumatic brain injury: Two case studies. *Cognitive and Behavioral Practice*.
- Walker, R. L., Clark, M. E., & Sanders, S. H. (2010). The “Postdeployment multi-symptom disorder”: An emerging syndrome in need of a new treatment paradigm. *Psychological Services, 7*(3), 136-147.
- Walter, K., Barnes, S., & Chard, K. (2012a). The influence of comorbid MDD on outcome after residential treatment for veterans with PTSD and a history of TBI. *Journal of Traumatic Stress, 25*(4), 426-432.
- Walter, K. H., Dickstein, B. D., Barnes, S. M., & Chard, K. M. (2014). Comparing the effectiveness of CPT to CPT-C among U.S. veterans in an interdisciplinary residential PTSD/TBI treatment program. *Journal of Traumatic Stress, 27*(4), 438-445.

References

- Walter, K. H., Kiefer, S. L., & Chard, K. M. (2012b). Relationship between posttraumatic stress disorder and postconcussive symptom improvement after completion of a posttraumatic stress disorder/traumatic brain injury residential treatment program. *Rehabilitation Psychology, 57*(1), 13-17.
- Watts, B.V., Schnurr, P.P., Mayo, L., Yinong, Y., Weeks, W.B., & Friedman, M.J. (2015). Meta-analysis of the efficacy of treatments for post-traumatic stress disorder. *Journal of Clinical Psychiatry, 74*, e541-e550.
- Weathers, F., Litz, B., Herman, D., Huska, J., & Keane, T. (1993). *The PTSD Checklist (PCL): reliability, validity, and diagnostic utility*. Paper presented at the annual convention of the International Society for Traumatic Stress Studies, San Antonio, TX.
- Wolf, G. K., Kretzmen, T., Crawford, E., Thors, C., Wagner, H. R., Strom, T. Q., . . . Vanderploeg, R. D. (2015). Prolonged exposure therapy with veterans and active duty personnel diagnosed with PTSD and traumatic brain injury. *Journal of Traumatic Stress, 28*, 1-9.
- Wolf, G. K., Strom, T. Q., Kehle, S. M., & Eftekhari, A. (2012). A preliminary examination of prolonged exposure therapy with Iraq and Afghanistan veterans with a diagnosis of posttraumatic stress disorder and mild to moderate traumatic brain injury. *The Journal of Head Trauma Rehabilitation, 27*(1), 26-32.

Questions?

- Please submit your questions now via the question box located on the left side of the screen.



Continuing Education Details

- **VHA** participants:
 - Must be preregistered to complete the evaluation in TMS.
 - Email Erica.Jackson2@va.gov if you were unable to register before the webinar started.
 - Certificate of completion may be printed through TMS upon successful completion.
- **Non-VA** participants:
 - For DoD/Non-VA participants, your certificate will be available on the TRAIN site under “My Certificates” after successful completion of the evaluation.

Save the Date

VA/DVBIC TBI Clinical Grand Rounds Webinar:

TBD

March 2016

12:00-1:15 p.m. (ET)

VA/DVBIC TBI Clinical Grand Rounds

POCs

- **DOD:**

Sherray Holland, Sherray.L.Holland.ctr@mail.mil

- **VHA and all other federal partners:**

Erica Jackson, Erica.Jackson2@va.gov