

**VA**



U.S. Department  
of Veterans Affairs



National Center for  
**PTSD**

POSTTRAUMATIC STRESS DISORDER

# The Connection between PTSD and Audiology: What to Know and How You Can Help

**Sadie Larsen, PhD**

PTSD Consultation Program Consultant, National Center for PTSD  
Associate Professor, Medical College of Wisconsin

**Elissa McCarthy, PhD**

PTSD Consultation Program Consultant, National Center for PTSD

**Melissa Papesh, Ph.D., Au.D.**

Research Investigator, National Center for Rehabilitative Auditory Research  
Assistant Professor, Oregon Health and Science University

May 13, 2021



# OBJECTIVES

1. Understand how Posttraumatic Stress Disorder (PTSD) may affect common audiology concerns and vice versa.
2. Outline treatment options for patients with PTSD and how to talk with patients about them.
3. Know when and how to contact the National Center for PTSD Consultation Program and understand available materials.



# Why Discuss PTSD in an Audiology Seminar?

- High prevalence of PTSD in the Veteran population
  - Estimated 23% of OEF/OIF Veterans (Fulton et al., 2015)
  - Between 26% (women) to 30.9% (men) in Vietnam Veterans (Weiss et al., 1992)
  - 24% overall prevalence for those serving in WWII, Korean War, and Vietnam (Blake et al. 1990)
- Associations between PTSD and auditory concerns including:
  - Tinnitus
  - sound tolerance disorders
  - auditory processing concerns
- PTSD may affect how we test and treat patients in Audiology clinics



# NATIONAL CENTER FOR PTSD (NCPTSD) MISSION

The mission of the National Center for PTSD is to advance the clinical care and social welfare of America's Veterans and others who have experienced trauma, or who suffer from PTSD, through research, education, and training in the science, diagnosis, and treatment of PTSD and stress-related disorders.

[www.ptsd.va.gov](http://www.ptsd.va.gov)



# What is PTSD?

**PTSD 101: PTSD Overview and Treatment**

**[www.ptsd.va.gov/professional/continuing\\_ed/ptsd\\_overview\\_tx.asp](http://www.ptsd.va.gov/professional/continuing_ed/ptsd_overview_tx.asp)**



# TRAUMA in DSM-5

**The person was exposed to actual or threatened death, serious injury, or sexual violence:**

- Direct personal experience
- Witnessed
- Learned about it happening to close family or friend (violent or accidental)
- Repeated or extreme exposure at work (e.g., first responders, medics)





# WHAT IS TRAUMATIC STRESS?

## Daily hassles

Can include:

- Car breaking down
- Paying bills

## Major life events

Can include:

- Losing a job
- Divorce
- Buying a new home
- Getting married

## Serious traumatic events

Can include:

- War zone exposure
- Physical or sexual assault
- Serious accidents
- Child sexual or physical abuse
- Natural disasters
- Torture



# PTSD SYMPTOM CLUSTERS

PTSD

## **1. Intrusions/re-experiencing**

✓ 1 of 5 symptoms required

## **2. Avoidance**

✓ 1 of 2 symptoms required

## **3. Neg. alterations in cognitions and mood**

✓ 2 of 7 symptoms required

## **4. Alterations in arousal and reactivity**

✓ 2 of 6 symptoms required





# PTSD SYMPTOM CLUSTERS

- **Intrusion** (or re-experiencing, “flashbacks”)
  - Recurrent distressing dreams or memories of the event; acting/feeling as if the event is happening again
- **Avoidance**
  - Avoiding memories, thoughts, feelings, people, places or activities that are reminders of the event



# PTSD SYMPTOM CLUSTERS

- **Negative alterations in cognitions and mood**
  - Diminished interest in activities, feeling detached, inability to feel positive emotions, negative emotions, distorted blame of self or others
- **Alterations in arousal and reactivity**
  - Irritable behavior, outbursts of anger, reckless or self-destructive behavior, problems concentrating, hypervigilance, exaggerated startle, sleep disturbance



# AGING AND PTSD

- People may (re)engage with trauma memories in an effort to find meaning and build coherence
- Normative life review processes can lead to meaning-making, self-acceptance, posttraumatic growth, and wisdom
- These same processes can also lead to (re-)emergence of PTSD symptoms in late life
- Distress from memories that may have been avoided for years (e.g., through work or family obligations)

Davison et al., 2016

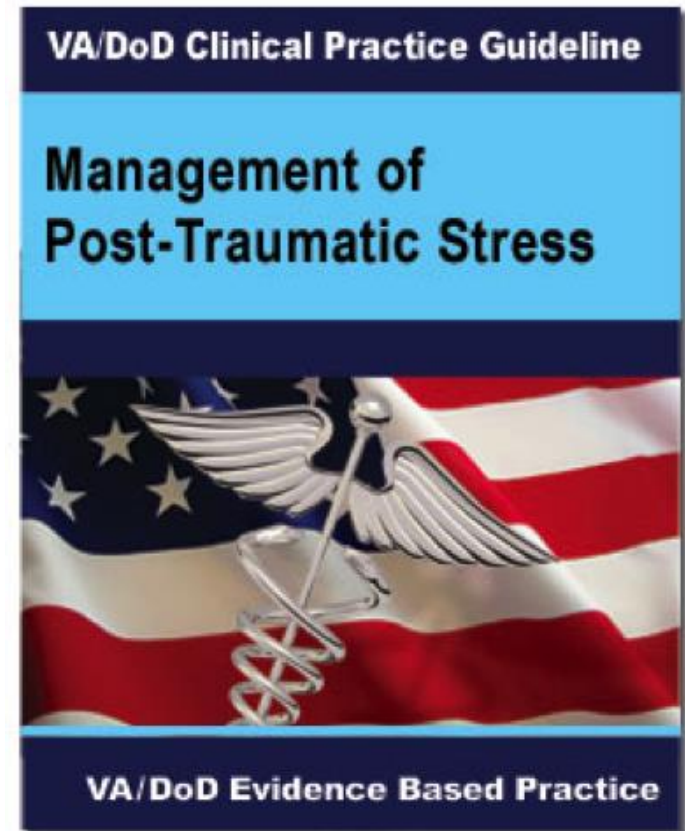


# Management and Treatment of PTSD



# 2017 VA/DoD CLINICAL PRACTICE GUIDELINE

- Keeping up with the rapidly expanding evidence base for PTSD treatment represents a difficult challenge for most clinicians.
- The VA/DoD PTSD guideline is designed to **support clinical decision making with evidence-based recommendations**, not to define VA/DoD standards of care or policy.



[www.healthquality.va.gov/guidelines/MH/PTSD](http://www.healthquality.va.gov/guidelines/MH/PTSD)



# PTSD SCREENING AND MEASUREMENT-BASED CARE

***We suggest periodic screening of PTSD using validated measures such as the Primary Care PTSD Screen or the PTSD Checklist.***

## PC-PTSD-5

- 5 item
- Self-report
- Screen for PTSD in Primary Care
- Positive if 3 or more YES responses

## PCL-5

- 20 item
- 5-10 minutes
- Self-report
- Screen and monitor PTSD
- 31-33 cut-point score

**PC-PTSD-5:** <https://www.ptsd.va.gov/professional/assessment/screens/pc-ptsd.asp>

**PCL-5:** [www.ptsd.va.gov/professional/assessment/adult-sr/ptsd-checklist.asp](http://www.ptsd.va.gov/professional/assessment/adult-sr/ptsd-checklist.asp)

**CAPS-5:** <https://www.ptsd.va.gov/professional/assessment/adult-int/caps.asp>





# HOW EFFECTIVE ARE THE BEST TREATMENTS?



Trauma-focused  
Psychotherapy

**53** OUT OF **100**

people who receive trauma-focused psychotherapy will no longer have PTSD after about 3 months of treatment.



Medication

**42** OUT OF **100**

people who take medication will no longer have PTSD after about 3 months of treatment.



No Treatment

**BUT ONLY 9** OUT OF **100**

people who don't get treatment will no longer have PTSD after about 3 months.



[www.ptsd.va.gov/publications/print/PTSD\\_Best\\_Treatment.pdf](http://www.ptsd.va.gov/publications/print/PTSD_Best_Treatment.pdf)



# WHAT DO THESE TREATMENTS ENTAIL?

	<b>Cognitive Processing Therapy (CPT)</b>	<b>Prolonged Exposure (PE)</b>	<b>Eye Movement Desensitization &amp; Reprocessing (EMDR)</b>
<b>How does it work?</b>	Teaches you to reframe negative thoughts about the trauma	Teaches you how to gain control by facing your fears	Helps you process and make sense of your trauma
<b>What will I do?</b>	<ul style="list-style-type: none"><li>• Talk about your thoughts</li><li>• Writing assignments &amp; worksheets</li></ul>	<ul style="list-style-type: none"><li>• Talk about the trauma</li><li>• Start doing safe things you've been avoiding</li></ul>	Call the trauma to mind while focusing on an external motion or sound



# TRAUMA INFORMED CARE PRINCIPLES

Trauma  
awareness

Safety

Trustworthiness

Choice and  
collaboration

Empowerment  
and strengths-  
based approach

Cultural,  
historical, and  
gender issues

<https://www.ptsd.va.gov/professional/treat/care/>

SAMHSA: [TIP 57 PDF 3.7 MB](#) (Raja et al., 2017, Gerber, 2019; Gerber et al 2020, Currier et al., 2017)



# Up Next:

- Neurological background of PTSD
- Auditory deficits and PTSD
- Tips for working with Veterans with PTSD

Melissa Papesh, Au.D. Ph.D.  
[Melissa.Papesh@va.gov](mailto:Melissa.Papesh@va.gov)



# PTSD: An example of maladaptive neural plasticity

- PTSD results in measurable changes in brain morphology, physiology, and neurochemistry
- Well-established neurological changes include those affecting areas controlling and regulating the autonomic nervous system → reflexive survival behaviors



# PTSD: An example of maladaptive neural plasticity

- integral system for relating information to **emotion**, forming motivations of behavior, regulating autonomous and endocrine functions, and consolidating memories

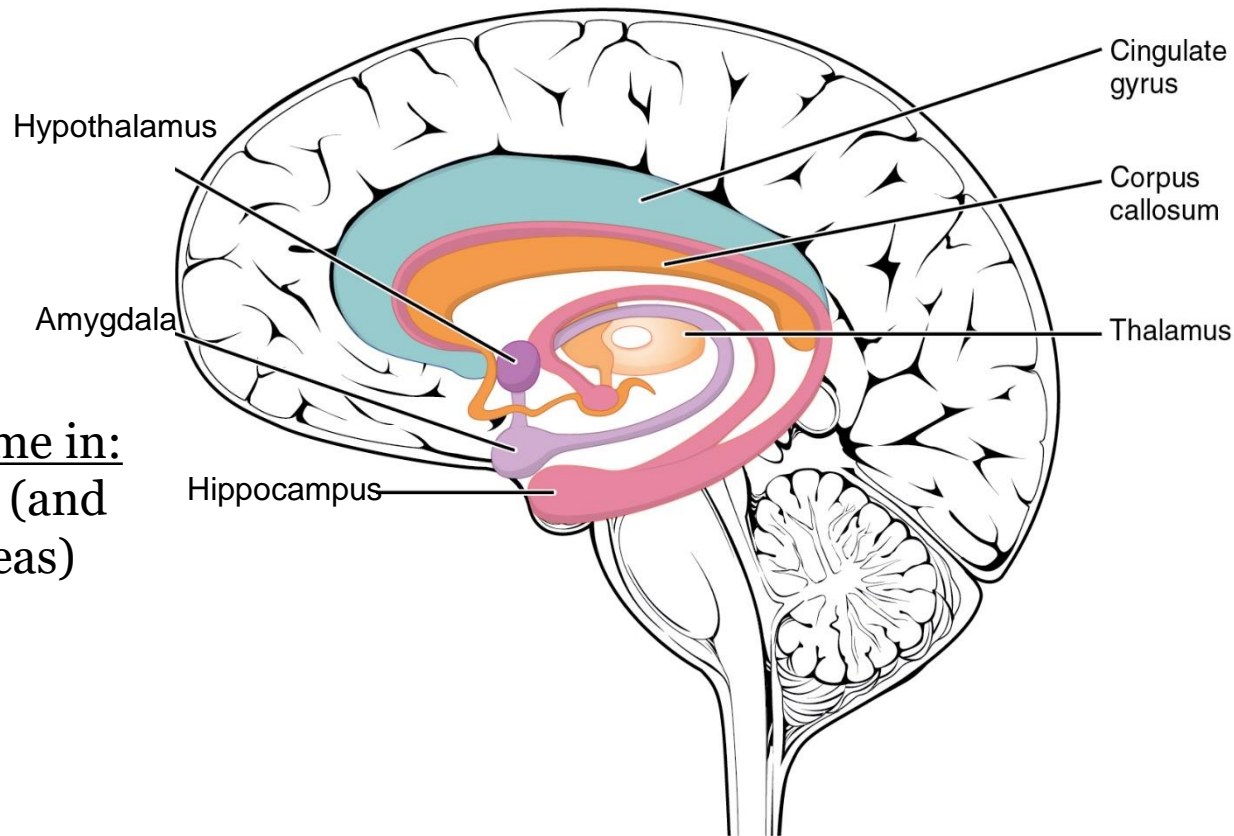
## PTSD leads to Reduced volume in:

- Anterior Cingulate Cortex (and other prefrontal cortex areas)
- Hippocampus

## And increased activation of:

- Amygdala
- Hypothalamus

## The Limbic System

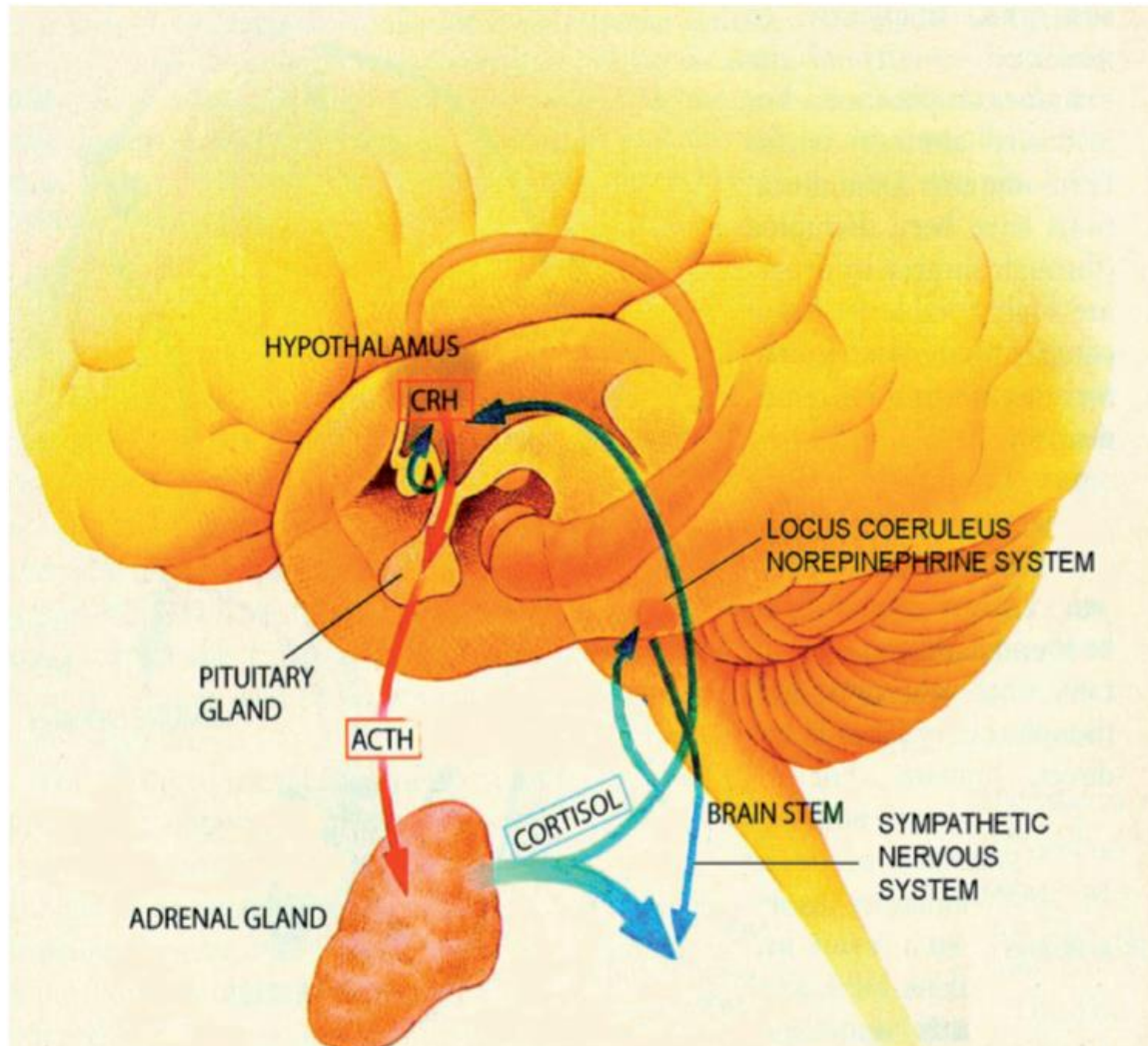






# PTSD: An example of maladaptive neural plasticity

## Hypothalamic–Pituitary–Adrenal (HPA) axis



- The body's major response system for stress
- Hippocampus and prefrontal cortex inhibit HPA axis, while amygdala and aminergic brainstem areas stimulate it
- Negative feedback mechanisms regulating the HPA are disrupted in patients with PTSD



# Synopsis of PTSD-related changes in Neuroendocrine, Neurochemical, and Neuroanatomic properties of the CNS:

Sherin, J. E., & Nemeroff, C. B. (2011). Post-traumatic stress disorder: the neurobiological impact of trauma. *Dialogues in clinical neuroscience*, 13(3), 263.

Feature	Change
A. Neuroendocrine	
Hypothalamic-pituitary-adrenal axis	Hypocortisolism  Sustained, increased level of CRH
Hypothalamic-pituitary-thyroid axis	Abnormal T3:T4 ratio
B. Neurochemical	
Catecholamines	Increased dopamine levels Increased norepinephrine levels/activity
Serotonin	Decreased concentrations of 5HT in: Dorsal raphe Median raphe Dorsal/median raphe
Amino acids	Decreased GABA activity Increased glutamate
Peptides	Decreased plasma NPY concentrations Increased CSF $\beta$ -endorphin levels
C. Neuroanatomic	
Hippocampus	Reduced volume and activity
Amygdala	Increased activity
Cortex	Reduced prefrontal volume Reduced anterior cingulate volume Decreased medial prefrontal activation



# PTSD and Auditory Evoked Potentials

- P50: Poorer sensory gating
  - Increased MMN amplitudes
  - Increased theta band power
  - Decreased alpha band power
  - Reduced P300<sub>b</sub> amplitude
- Enhanced ***involuntary*** control of attention to auditory stimuli
- decreased ***voluntary*** control of attention

\*Note: not all studies have shown these results in all PTSD patients

- Some indications that specific symptom clusters may be more associated with these patterns than others. (e.g. Bae et al., 2011; Karl et al., 2006)



# What does this mean for Auditory Processing?

- First the bad news: Despite several AEP studies in those with PTSD, few have examined behavioral auditory processing correlates
- Results indicate the following:
  - Poor habituation to sounds (Rothbaum et al., 2001; Papesh et al., 2019)
  - Exaggerated startle reflex to auditory stimuli (Butler et al., 1990; Morgan et al., 1996)
  - Poorer performance on tests such as time compressed speech associated with poor sensory gating (Papesh et al. 2019)
  - Reduced working memory and auditory recall (Ventmeyer et al., 2006; Bangel et al., 2017)





# Common auditory complaints of patients with PTSD

- Greater sensitivity to noise (Callahan & Storzbach, 2019)
- Easily startled by sounds
- Emotions triggered by sounds (misophonia, phonophobia)
- Difficulty focusing on listening
- Difficulty attending to, concentrating on, and processing speech
- May report hearing loss despite normal hearing sensitivity
- Greater distress from perception of tinnitus



# PTSD and Tinnitus

- Best-studied relationship to auditory symptoms
- High comorbidity between PTSD and tinnitus among Veterans (Folmer et al., 1999; Fagelson et al., 2007; Fagelson et al., 2016; Clifford et al., 2019)
- Perceived tinnitus loudness and distress are closely tied to PTSD-related anxiety





# PTSD and Tinnitus

- Onset of tinnitus may coincide with traumatic event (Kreuzer et al., 2012)
  - 2x's as likely to have sudden onset tinnitus
  - Causes may include blow to head, whiplash, noise trauma, or blast exposure
  - Perception of tinnitus may trigger memories of traumatic event (Hinton et al., 2008)
- Tinnitus in PTSD patients is 3x's more likely to be reactive (e.g. exacerbated by other sounds)
- Patients also more like have sound tolerance disorders (phonophobia, misophonia, hyperacusis)



# PTSD and Tinnitus

- PTSD patients may develop and employ “inaccurate, illogical, negative appraisals of events and situations” that then produce “cognitive distortions or misinterpretations of events including sensory experiences” (Henry & Wilson, 2001)
- Bidirectional nature of tinnitus and PTSD:

*Presence of tinnitus leads to higher stress and anxiety*



*High levels of stress and anxiety exacerbate tinnitus symptoms*



# Treatment for PTSD can help reduce tinnitus symptom severity

- Recent study by Moring and colleagues (2020)
- Veterans with comorbid bothersome tinnitus and PTSD received Cognitive Processing Therapy (CPT)
  - PTSD symptoms, tinnitus-related distress, and depression were measured at baseline and at 1-month post-treatment
- At follow up, patients demonstrated significant reductions in PTSD symptoms as well as decreased tinnitus-related distress
  - Not totally surprising as CBT is known to be an effective management strategy for tinnitus!
  - Excellent candidates for Progressive Tinnitus Management (Henry et al., 2010)



# Clinical Audiology & PTSD: Factors to Consider

- Sound booths may be a difficult environment for patients with PTSD
  - Ensure patient knows what's going to happen next
  - Ensure patient knows they can be heard outside booth
  - Consider positioning patients to face the door of sound booth
- More likely to have hyperacusis and other sound tolerance disorders
  - When assessing LDLs, ensure a bottom-up approach
  - Consider skipping acoustic reflex testing unless absolutely necessary
  - If AR testing is necessary, hold off until end of appointment



# Clinical Audiology & PTSD: Factors to Consider

- PTSD may be triggered by some sounds commonly used in Audiology
  - Examples: Speech with background babble, ABR stimuli, etc.
  - Ensure patient knows what to expect with each test
  - Don't require patients to complete procedures that make them uncomfortable
- Hearing aids can help those with PTSD better interact with the environment around them
  - Better awareness of what's happening around them
  - Can also employ various maskers to help calm patients in stressful environments
  - May even benefit those with auditory processing deficits and/or tinnitus, even when hearing loss is mild
- A multidisciplinary approach is key!



# RESOURCES



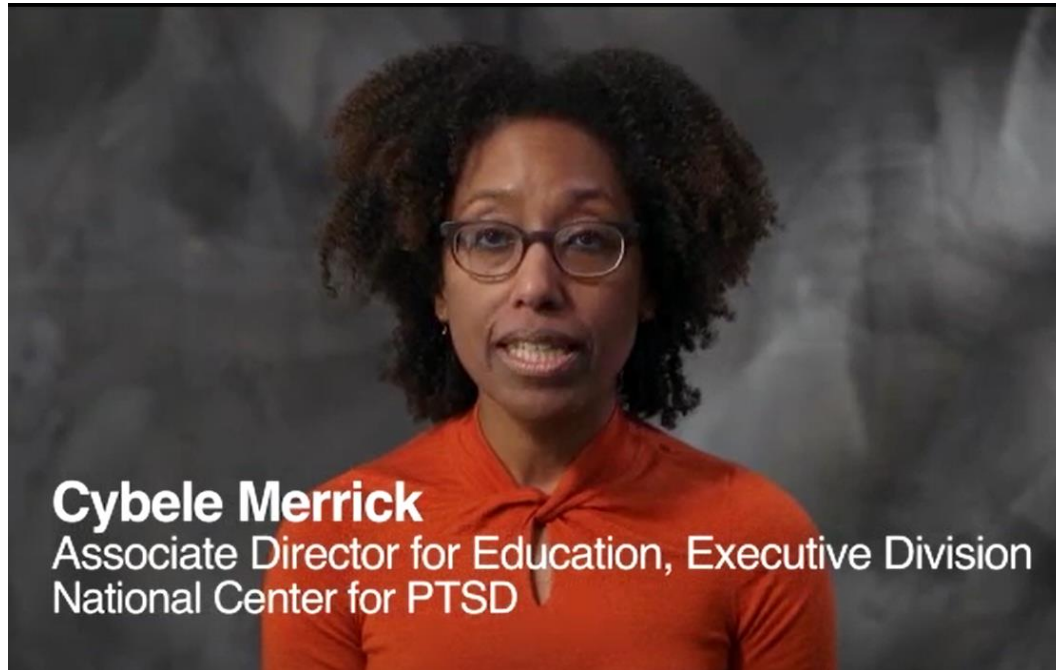
**All resources are free  
and publicly available.**

**Unless otherwise noted, you  
can find them at  
[www.ptsd.va.gov](http://www.ptsd.va.gov)**





## PTSD Awareness in Health Care Settings



- This 15-minute video for medical center staff shows how patients' PTSD symptoms may come into play in health care settings.
- Facilitator's guide for PTSD Awareness in Health Care Settings



# AboutFace VIDEO GALLERY

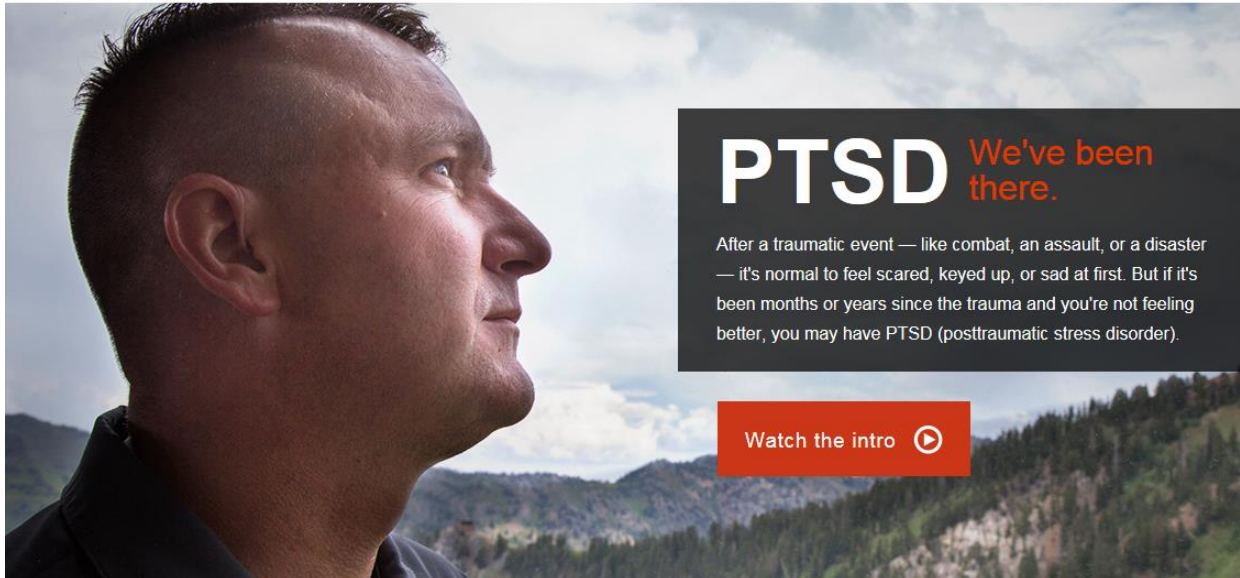
ABOUTFACE

Home

Watch ▼


Learn More ▼


Get Help



**PTSD** We've been there.

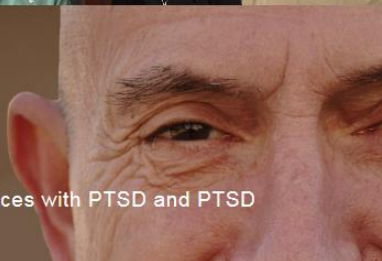
After a traumatic event — like combat, an assault, or a disaster — it's normal to feel scared, keyed up, or sad at first. But if it's been months or years since the trauma and you're not feeling better, you may have PTSD (posttraumatic stress disorder).

Watch the intro 



**This is AboutFace**

In these videos, Veterans, family members, and clinicians share their experiences with PTSD and PTSD treatment. Choose a topic below to hear what they have to say.

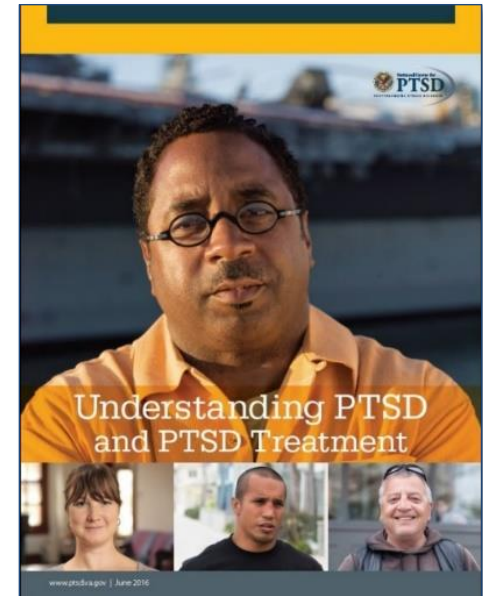
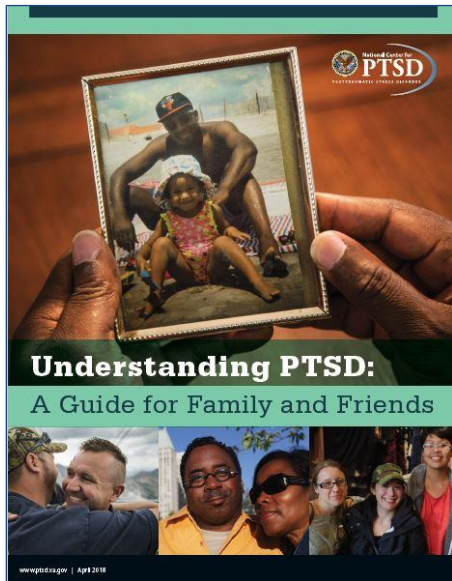


[www.ptsd.va.gov/aboutface](http://www.ptsd.va.gov/aboutface)



# UNDERSTANDING PTSD BOOKLETS

- Aging Veterans and Posttraumatic Stress Symptoms
  - [www.ptsd.va.gov/understand/what/aging\\_veterans.asp](http://www.ptsd.va.gov/understand/what/aging_veterans.asp)
- Understanding PTSD Educational Booklets



All booklets are also available in Spanish.  
[www.ptsd.va.gov/publications/print/index.asp](http://www.ptsd.va.gov/publications/print/index.asp)





# WHITEBOARD VIDEOS

- NCPTSD created a series of whiteboards, including one for professionals about PTSD and effective treatments.
- Short (~3 minute), engaging videos that are easily shared via email or Facebook.

## Whiteboards

Watch these short animated videos to learn about PTSD and effective treatments.



# PTSD

## TREATMENT DECISION AID: THE CHOICE IS YOURS

### LEARN

Learn about PTSD and how this decision aid can help

### COMPARE

Compare effective PTSD treatment options

### ACT

Take action to start treatment

[www.ptsd.va.gov/decisionaid](http://www.ptsd.va.gov/decisionaid)






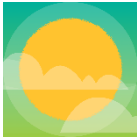













































National Center for  
**PTSD**  
POSTTRAUMATIC STRESS DISORDER





# PRESCRIPTION FOR BEHAVIORAL HEALTH

## *Mobile & Web Resources*

<input type="checkbox"/>		ACT Coach  	<input type="checkbox"/>		COVID Coach  	<input type="checkbox"/>		PE Coach  
<input type="checkbox"/>		AIMS for Anger Management <a href="http://www.veterantraining.va.gov">www.veterantraining.va.gov</a>   	<input type="checkbox"/>		Insomnia Coach/ Path to Better Sleep <a href="http://www.veterantraining.va.gov">www.veterantraining.va.gov</a>   	<input type="checkbox"/>		PTSD Coach/Online <a href="https://go.usa.gov/xN9Hb">https://go.usa.gov/xN9Hb</a>   
<input type="checkbox"/>		Beyond MST  	<input type="checkbox"/>		Mindfulness Coach  	<input type="checkbox"/>		PTSD Family Coach  
<input type="checkbox"/>		CBT-i Coach  	<input type="checkbox"/>		Moving Forward <a href="http://www.veterantraining.va.gov">www.veterantraining.va.gov</a> 	<input type="checkbox"/>		STAIR Coach 
<input type="checkbox"/>		CPT Coach  	<input type="checkbox"/>		Parenting <a href="http://www.veterantraining.va.gov">www.veterantraining.va.gov</a> 	<input type="checkbox"/>		VetChange <a href="http://www.ptsd.va.gov/apps/change">www.ptsd.va.gov/apps/change</a>   
<input type="checkbox"/>		Couples Coach  	<div>RECOMMENDATION:</div>					



More info on mobile apps:  
[www.ptsd.va.gov/appvid/mobile](http://www.ptsd.va.gov/appvid/mobile)

Question about the Rx pads?  
[MobileMentalHealth@va.gov](mailto:MobileMentalHealth@va.gov)





# MOBILE MENTAL HEALTH

at VA National Center for PTSD, Dissemination & Training Division | [MobileMentalHealth@va.gov](mailto:MobileMentalHealth@va.gov)

**April 8, 2020**

Using Mobile Mental Health Apps in Audiology (recording)

*Tara Zaugg, AuD, CCC-A, Audiologist and Research Investigator, National Center for Rehabilitative Auditory Research/VA Portland Health Care System*

[www.myvaapps.com/pbi-network-ce-lecture-series](http://www.myvaapps.com/pbi-network-ce-lecture-series)





# PTSD COACH APP



- App provides:
  - Education about PTSD and PTSD treatment
  - A self-assessment tool
  - Portable skills to address acute symptoms
  - Direct connection to crisis support
- Used as stand-alone education and symptom management tool, or with face-to-face care
- Tools are easily accessible when they are needed most

[www.ptsd.va.gov/appvid/mobile/ptsdcoach\\_app.asp](http://www.ptsd.va.gov/appvid/mobile/ptsdcoach_app.asp)



# PTSD COACH ONLINE



skip to content

**National Center for PTSD**  
Posttraumatic Stress Disorder

## PTSD COACH ONLINE

**VA**

**U.S. Department of Veterans Affairs**  
Veterans Health Administration  
National Center for PTSD

Home FAQs

### I want to work on my

Choose a problem to work on from the list or [view all tools](#)

- worry or anxiety
- anger
- sadness or hopelessness
- sleep problems
- trauma reminders
- avoidance of stressful situations
- disconnection from people
- disconnection from reality
- problem solving skills
- direction in life

Welcome to PTSD Coach Online.  
Tools to help you manage stress.

**VA** PTSD Coach Online: Intr...

Cybele Morlock, MA, MS  
Education Specialist  
Behavioral Health for PTSD

Meet a coach

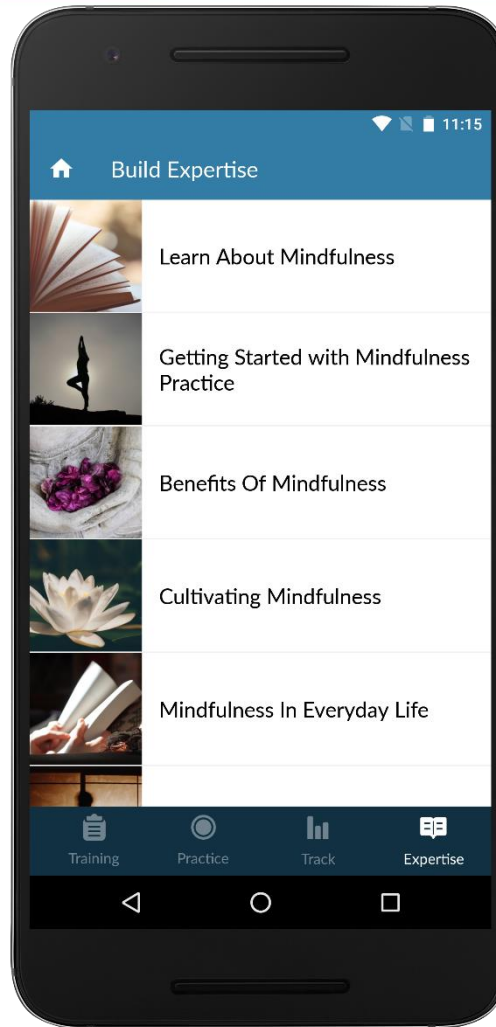
PTSD Coach Online is for anyone who needs help with upsetting feelings. Trauma survivors, their families, or anyone coping with stress can benefit.

[www.ptsd.va.gov/apps/ptsdcoachonline](http://www.ptsd.va.gov/apps/ptsdcoachonline)





# MINDFULNESS COACH APP



- Education about the benefits of mindfulness
- Mindfulness exercises to practice on your own or with guidance
- Strategies to help overcome challenges to mindfulness practice
- Log of mindfulness exercises to track your progress
- Reminders to support your mindfulness practice

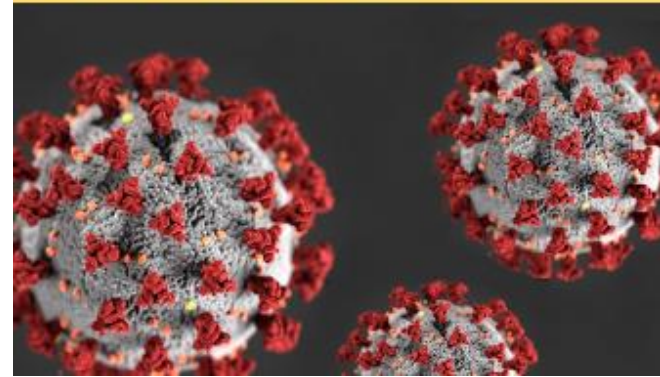
[https://www.ptsd.va.gov/appvid/mobile/mindfulcoach\\_app.asp](https://www.ptsd.va.gov/appvid/mobile/mindfulcoach_app.asp)



## Resources from the National Center for PTSD

[www.ptsd.va.gov/COVID](http://www.ptsd.va.gov/COVID)

COVID-19: Resources for Managing Stress



Coronavirus (COVID-19): Resources for Managing Stress



### INCLUDES A VARIETY OF RESOURCES FOR

- Everyone (including veterans, their families, and the general public)
- Health Care Workers and Responders
- Employers and Community Leaders



# COVID-19 COACH

***A mobile application for Veterans, Servicemembers,  
and anyone affected by the COVID-19 pandemic***

## **Features:**

- Education to help you improve your well-being during this global pandemic
- Tools for coping and self-care
- Trackers for mental health and personal goals
- Resources for additional support

**Developed by the Mobile Mental Health Apps Team at the  
VA's National Center for PTSD.**

Contact our team with feedback to help us improve this app:

[MobileMentalHealth@va.gov](mailto:MobileMentalHealth@va.gov)

Learn more at the National Center for PTSD website:

[https://www.ptsd.va.gov/appvid/mobile/COVID\\_coach\\_app.asp](https://www.ptsd.va.gov/appvid/mobile/COVID_coach_app.asp)







# ORDER FREE PRINTABLE MATERIALS

## ORDER FREE NATIONAL CENTER FOR PTSD MATERIALS AT:

<https://orders.gpo.gov/PTSD>





# CONTINUING EDUCATION COURSES

Over 50 hours of web-based courses aimed at professionals.

All courses are free and most offer continuing education for multiple disciplines.

Courses can be viewed without intention to seek certification credits.

## Continuing Education

This section brings together free in-depth Continuing Education resources for the Professional community concerned with trauma.

[Featured](#)[Find a Course](#)[Authors](#)[How to Get Credit](#)[Help](#)

Learn from the experts and get  
CE/CME Credit!

Research-based courses at your convenience  
(24/7).

[Find a Course](#)

[www.ptsd.va.gov/professional/continuing\\_ed/index.asp](http://www.ptsd.va.gov/professional/continuing_ed/index.asp)



# STAY UP TO DATE AND CONNECT WITH US

VOLUME 30/NO. 4 • ISSN: 1050-1835 • 2019



## PTSD Research Quarterly

ADVANCING SCIENCE AND PROMOTING UNDERSTANDING OF TRAUMATIC STRESS

**Published by:**  
National Center for PTSD  
VA Medical Center (116D)  
215 North Main Street  
White River Junction  
Vermont 05009-0001 USA  
(802) 296-5132  
FAX (802) 296-5135  
Email: [nctrptsd@va.gov](mailto:nctrptsd@va.gov)  
All issues of the PTSD Research Quarterly are available online at: [www.ptsd.va.gov](http://www.ptsd.va.gov)

**Editorial Members:**  
Editorial Director  
Matthew J. Friedman, MD, PhD  
Bibliographic Editor  
Cybele Merrick, MA, MS  
Managing Editor  
Heather Smith, BA Ed

**National Center Divisions:**  
Executive  
White River Jct VT  
Behavioral Science  
Boston MA  
Dissemination and Training  
Marino Park CA  
Clinical Neurosciences  
West Haven CT  
Evaluation  
West Haven CT  
Pacific Islands  
Honolulu HI  
Women's Health Sciences  
Boston MA



U.S. Department  
of Veterans Affairs

### PTSD and Aging

Population aging is a key demographic trend characterizing the United States (U.S.) and many industrialized countries, and an important consideration for research aiming to improve public health. Despite significant scientific advances in understanding the etiology and treatment of posttraumatic stress disorder (PTSD) since it became a formal diagnostic entity in the third edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-III; American Psychiatric Association [APA], 1980), PTSD and aging remains a largely understudied area. This issue of PTSD Research Quarterly provides a guide to some of the most important and well-conducted studies on this topic.

Population trends provide a context for understanding the lives of the aging population. Between 2016 and 2060, the proportion of the U.S. population aged 65+ is expected to rise from 15% (49 million) to 23% (96 million), and individuals aged 85+ will increase from 2% to 5% (19 million). Illustrating the female advantage in life expectancy, women comprised 50%, 56%, and 65% of the U.S. population under age 65, 65+, and 85+, respectively, in 2018 (United States Census Bureau, 2018). The social ecology of men and women appears to diverge in older ages: While men and women have similar marital status in midlife, among those aged 85+, 70% of women were widowed and 18% were married, compared to 33% and 58% men who were widowed or married, respectively (United States Census Bureau, 2018). The gender gap in poverty also widens with age: 9% of men and 11% of women aged 55-59 live in poverty, compared to 9% of men and 14% of women aged 85+ (United States Census Bureau, 2018). As discussed more fully below, it is important to note that age effects and cohort differences are confounded in these cross-sectional estimates. While military Veterans only made up 6% of the overall U.S. population in 2016,

**Lewina Lee, PhD**  
National Center for PTSD, Behavioral Science Division  
and Boston University School of Medicine

nearly one-fifth (19%) of those aged 65+ are Veterans. Gulf War (including post 9/11) and Vietnam era Veterans each comprise about one-third of the current U.S. Veteran population (National Center for Veterans Analysis and Statistics, 2016). Vietnam era Veterans are currently in their 60s, and the number of deaths in this cohort is expected increase linearly and peak between 2030 and 2035 (National Center for Veterans Analysis and Statistics, 2016).

#### A. Epidemiology of PTSD in Older Populations

Epidemiologic studies have generally reported lower prevalence of PTSD in older relative to younger adults. Lifetime prevalence of DSM-IV PTSD was estimated cross-sectionally to be 6% in ages 18-29, 8% in ages 30-44, 9% in ages 45-59, and 3% in ages 60 and older in the U.S. nationally representative National Comorbidity Survey Replication (NCS-R; Kessler et al., 2005). PTSD was assessed in NCS-R using the World Health Organization Composite International Diagnostic Interview (WMH-CIDI), a structured interview administered face-to-face by lay interviewers. Twelve-month prevalence of DSM-IV PTSD in the U.S. was estimated to be 4% in ages 20-34, 5% in ages 35-64, and 3% in ages 65-90 in Wave 2 of the nationally representative National Epidemiologic Survey on Alcohol and Related Conditions (NESARC-2; Reynolds et al., 2016). PTSD was assessed face-to-face by lay interviewers using the Alcohol Use Disorders and Associated Disabilities Interview Schedule IV (AUDADIS-IV). As for DSM-5 PTSD, a similar pattern of lower lifetime and 12-month prevalence in older than younger adults was found in NESARC-3 (Goldstein et al., 2016). Of note, these estimates are an underestimation because NESARC-3 used higher diagnostic thresholds for Criteria D and E than those in DSM-5.

*Continued on page 2*

Author's Address: Lewina Lee, PhD is affiliated with the National Center for PTSD (116B-2) Behavioral Science Division, VA Boston Healthcare System, 150 South Huntington Avenue, Boston, MA 02130 and with the Boston University School of Medicine, 72 E Concord St, Boston, MA 02116. Email Address: [lee@bu.edu](mailto:lee@bu.edu)

### CLINICIAN'S TRAUMA UPDATE

CTU ONLINE | [www.ptsd.va.gov](http://www.ptsd.va.gov)

ISSUE 10(1)  
FEBRUARY 2016

CTU Online contains a mix of clinically relevant research articles.

Articles authored by staff of the National Center for PTSD are available in full text just click the link. For other articles we provide a link to where you might be able to view or download the full text and a PDF of the abstract.

If you have trouble accessing the full article, see the bottom of the link page for help.

We welcome feedback from readers about content and format. Please email us at [ctut@ptsd.va.gov](mailto:ctut@ptsd.va.gov).

Subscribe to the Online Update

Editor  
Falk Stewer, PhD

Senior Associate Editor  
Juliana A. Roberts, PhD

Associate Editor  
Steven R. Clark, PhD



CTU Online is published 6 times per year by the National Center for PTSD, Executive Division.

CTU Online Issue 10(1) February 2016

[www.ptsd.va.gov](http://www.ptsd.va.gov)

Page 1



### PTSD Monthly Update

News relevant to the issues of trauma and PTSD

Advancing Science and Promoting Understanding of Traumatic Stress

#### In This Issue

- Feature Topic
- For Providers
- For VA Providers
- Research at the Center
- PTSD in the News

November 2012 Issue

#### Subscribe

Forward this to others so they can subscribe to the PTSD Monthly Update or other products by the VA's National Center for PTSD.

#### Feature Topic

Honoring Them: Veterans Day 2012

November 11th marks Veterans Day, a celebration in honor of America's Veterans for their patriotism, love of country, and willingness to serve and sacrifice for the common good. On this day and always, we give our respect and sincere appreciation to our Veterans, fallen heroes, and their families.

View 30 sec video PTSD treatment can turn your life around.



To honor them, please work with the VA National Center for PTSD to raise Veterans' awareness that PTSD treatment can help. These men and women tell their stories in AboutFace, an online video gallery of Veterans who turned their lives around with PTSD treatment.

See the AboutFace Media Kit to help us spread the word.

- Understand the traumas of war. Also know that returning from war involves readjustment for many Service Members and their families. Learn about common reactions and problems to watch out for, like PTSD.
- Help for Veterans with PTSD answers questions about PTSD and service-connected disability that are often asked by Veterans.



Family and friends can talk to someone about finding the right words to encourage their Veteran to get needed care by contacting VA's Coaching Into Care program. [CoachingIntoCare@va.gov](mailto:CoachingIntoCare@va.gov) or call 1-888-823-7458

Each of our publications are free e-subscriptions.  
[www.ptsd.va.gov/publications/subscribe.asp](http://www.ptsd.va.gov/publications/subscribe.asp)





**PTSD AWARENESS • J U N E 2021**

**Learn**

**Connect**

**Share**



National Center for  
**PTSD**

POSTTRAUMATIC STRESS DISORDER

**[www.ptsd.va.gov](http://www.ptsd.va.gov)**



# PTSD CONSULTATION PROGRAM LECTURE SERIES

- Monthly one-hour webinar for providers
- Free continuing education credits
- Register and sign up for notifications at [www.ptsd.va.gov/consult](http://www.ptsd.va.gov/consult)

***SAVE THE DATE: Third Wednesday of the Month from 2-3PM (ET)***

## UPCOMING TOPICS INCLUDE

May 19	<b>Treating PTSD When Common Comorbidities are Present</b>	Sonya Norman, PhD and Matthew Jeffreys, MD
June 16	<b>Using CogSMART with Veterans with PTSD and Traumatic Brain Injury</b>	Elizabeth Twamley, PhD
July 21	<b>Supported Employment for Veterans with PTSD</b>	Lori Davis, MD
August 18	<b>Trauma, PTSD, and Perinatal Health</b>	Yael Nillni, PhD



# PTSD Consultation Program

## We are here to help

### HEALTHCARE PROVIDERS:

- Are you treating Veterans with PTSD? **We can help**
- Do you have questions about the mental health effects of the COVID-19 pandemic? **We can help**
- Are you looking for ways to care for yourself and your colleagues? **We can help**



PTSDconsult@va.gov



866-948-7880



[www.ptsd.va.gov/consult](http://www.ptsd.va.gov/consult)







# VETERANS CRISIS LINE

**24 HOURS A DAY, 7 DAYS A WEEK**



U.S. Department  
of Veterans Affairs

**Veterans  
Crisis Line**



1-800-273-8255  
PRESS 1



**Your actions  
could save a life.**

Showing you care can make a big  
difference to someone in crisis.

[VeteransCrisisLine.net](http://VeteransCrisisLine.net)

**800-273-8255 (then press 1)  
or send a text message to 838255**



# SUICIDE RISK MANAGEMENT Consultation Program

FOR PROVIDERS WHO SERVE VETERANS

The Suicide Risk Management Consultation Program provides free consultation for any provider, community or VA, who serves Veterans at risk for suicide.

## **Common consultation topics include:**

- Risk Assessment
- Conceptualization of Suicide Risk
- Lethal Means Safety Counseling
- Strategies for How to Engage Veterans at High Risk
- Best Practices for Documentation
- Provider Support after a Suicide Loss (Postvention)

*#NeverWorryAlone*

**To arrange a consultation email: [SRMconsult@va.gov](mailto:SRMconsult@va.gov)**

**For more information visit: [www.mirecc.va.gov/visn19/consult](http://www.mirecc.va.gov/visn19/consult)**



## KEY POINTS

- There is a high comorbidity between PTSD and tinnitus in Veterans.
- Screen for PTSD and offer/encourage treatment
- The National Center for PTSD has **LOTS** of resources to help support you and the care you provide [www.ptsd.va.gov](http://www.ptsd.va.gov)
- Questions? Contact the PTSD Consultation Program:  
**PTSDconsult@va.gov** or **866-948-7880**



THANK YOU FOR YOUR TIME TODAY

# Questions?



The PTSD Consultation Program consultants are available any time to answer your questions about Veterans and PTSD.

**PTSDconsult@va.gov** or **866-948-7880**



PTSD Consultation Program  
FOR PROVIDERS WHO TREAT VETERANS

[www.ptsd.va.gov/consult](http://www.ptsd.va.gov/consult)



## REFERENCES

- Davison, E. H., Kaiser, A. P., Spiro, A., Moye, J., King, L. A., & King, D. W. (2016). Later adulthood trauma reengagement (LATR) among aging combat veterans. *The Gerontologist*, 56, 14-21.
- Department of Veterans Affairs and Department of Defense. (2017). *VA/DOD clinical practice guideline for the management of posttraumatic stress disorder and acute stress disorder*. Washington DC: Author. Retrieved from <https://www.healthquality.va.gov/guidelines/MH/ptsd/>
- Foa, E. B., Hembree, E. A., Rothbaum, B. O., & Rauch, S. A. M. (2019). *Prolonged exposure therapy for PTSD: Emotional processing of traumatic experiences, therapist guide. (2nd ed.)*. New York, NY: Oxford University Press.
- Gerber, M.R. (2019). *Trauma-Informed Healthcare Approaches : A Guide for Primary Care*. Springer.
- Kaiser, A. P., Cook, J. M., Glick, D. M., & Moye, J. (2019). Posttraumatic stress disorder in older adults: A conceptual review. *Clinical Gerontologist*, 42, 359-376.
- Resick, P. A., Monson, C. M., & Chard, K. M. (2017). *Cognitive processing therapy for PTSD: A comprehensive manual*. New York, NY: The Guilford Press.
- Rothbaum, B. O., Foa, E. B., Hembree, E. A., & Rauch, S. A. M. (2019). *Reclaiming your life from a traumatic experience: A prolonged exposure treatment program. (2nd ed.)*. New York, NY: Oxford University Press.
- Shapiro, F. (2017). *Eye movement desensitization and reprocessing (EMDR) therapy: Basic principles, protocols and procedures. (3rd ed.)*. New York, NY: Guilford Press.
- Currier, J. M., Stefurak, T., Carroll, T. D., & Shatto, E. H. (2017). Applying trauma-informed care to community-based mental health services for military veterans. *Best Practices in Mental Health*, 13(1), 47-65.





## REFERENCES CONT.

- Hallam R, McKenna L. Tinnitus habituation therapy. In: Tyler R, editor. *Tinnitus Treatment: Clinical Protocols*. New York, NY: Thieme (2006). p.187–97.
- McKenna, L., Handscomb, L., Hoare, D. J., & Hall, D. A. (2014). A scientific cognitive-behavioral model of tinnitus: novel conceptualizations of tinnitus distress. *Frontiers in Neurology*, 5, 196.
- Fagelson, M. A. (2007). The association between tinnitus and posttraumatic stress disorder. *American journal of audiology*.
- Hinton, D. E., Chhean, D., Pich, V., Hofmann, S. G., & Barlow, D. H. (2006). Tinnitus among Cambodian refugees: relationship to PTSD severity. *Journal of Traumatic Stress*, 19(4), 541-546.
- Hinton, D. E., Hinton, S. D., Loeum, R. J. R., Pich, V., & Pollack, M. H. (2008). The Multiplex Model of Somatic Symptoms: Application to Tinnitus among Traumatized Cambodian Refugees. *Transcultural psychiatry*, 45(2), 287-317.
- Gerber, M. R., Elisseou, S., Sager, Z. S., & Keith, J. A. (2020). Trauma-Informed Telehealth in the COVID-19 Era and Beyond. *Federal Practitioner*, 37(7), 302.
- Raja, S., Hasnain, M., Hoersch, M., Gove-Yin, S., & Rajagopalan, C. (2015). Trauma informed care in medicine. *Family & community health*, 38(3), 216-226.





## REFERENCES CONT.

- Bae, K. Y., Kim, D. W., Im, C. H., & Lee, S. H. (2011). Source imaging of P300 auditory evoked potentials and clinical correlations in patients with posttraumatic stress disorder. *Progress in Neuro-Psychopharmacology and Biological Psychiatry*, 35(8), 1908-1917.
- Bangel, K. A., van Buschbach, S., Smit, D. J., Mazaheri, A., & Olff, M. (2017). Aberrant brain response after auditory deviance in PTSD compared to trauma controls: An EEG study. *Scientific reports*, 7(1), 1-9.
- Blake, D. D., Keane, T. M., Wine, P. R., Mora, C., Taylor, K. L., & Lyons, J. A. (1990). Prevalence of PTSD symptoms in combat veterans seeking medical treatment. *Journal of Traumatic Stress*, 3(1), 15-27.
- Butler, R. W., Braff, D. L., Rausch, J. L., Jenkins, M. A., Sprock, J., & Geyer, M. A. (1990). Physiological evidence of exaggerated startle response in a subgroup of Vietnam veterans with combat-related PTSD. *Am J Psychiatry*, 147(10), 1308-1312.
- Callahan, M. L., & Storzbach, D. (2019). Sensory sensitivity and posttraumatic stress disorder in blast exposed veterans with mild traumatic brain injury. *Applied Neuropsychology: Adult*, 26(4), 365-373.
- Clifford, R. E., Baker, D., Risbrough, V. B., Huang, M., & Yurgil, K. A. (2019). Impact of TBI, PTSD, and hearing loss on tinnitus progression in a US marine cohort. *Military medicine*, 184(11-12), 839-846.
- Fagelson, M. A. (2007). The association between tinnitus and posttraumatic stress disorder. *American journal of audiology*.
- Fagelson, M. A., & Smith, S. L. (2016). Tinnitus self-efficacy and other tinnitus self-report variables in patients with and without post-traumatic stress disorder. *Ear and hearing*, 37(5), 541-546.
- Folmer, R. L., Griest, S. E., Meikle, M. B., & Martin, W. H. (1999). Tinnitus severity, loudness, and depression. *Otolaryngology—Head and Neck Surgery*, 121, 48–51.
- Fulton, J. J., Calhoun, P. S., Wagner, H. R., Schry, A. R., Hair, L. P., Feeling, N., ... & Beckham, J. C. (2015). The prevalence of posttraumatic stress disorder in Operation Enduring Freedom/Operation Iraqi Freedom (OEF/OIF) veterans: A meta-analysis. *Journal of anxiety disorders*, 31, 98-107.



## REFERENCES CONT.

- Henry, J., Zaugg, T., Myers, P., & Kendall, C. (2010). Progressive Tinnitus Management. *Clinical Handbook for Audiologists Appendixes; VA Employee Education System: Long Beach, CA, USA*, 59, 97.
- Henry, J. L., & Wilson, P. H. (2001). *The psychological management of chronic tinnitus: A cognitive-behavioral approach*. New York: Allyn and Bacon.
- Hinton, D. E., Chhean, D., Pich, V., Hofmann, S. G., & Barlow, D. H. (2006). Tinnitus among Cambodian refugees: relationship to PTSD severity. *Journal of Traumatic Stress: Official Publication of The International Society for Traumatic Stress Studies*, 19(4), 541-546.
- Hinton, D. E., Hinton, S. D., Loeum, R. J. R., Pich, V., & Pollack, M. H. (2008). The Multiplex Model of Somatic Symptoms: Application to Tinnitus among Traumatized Cambodian Refugees. *Transcultural psychiatry*, 45(2), 287-317.
- Karl, A., Malta, L. S., & Maercker, A. (2006). Meta-analytic review of event-related potential studies in post-traumatic stress disorder. *Biological psychology*, 71(2), 123-147.
- Kreuzer, P. M., Landgrebe, M., Schecklmann, M., Staudinger, S., & Langguth, B. (2012). Trauma-associated tinnitus: audiological, demographic and clinical characteristics. *PLoS One*, 7(9), e45599.
- Morgan III, C. A., Grillon, C., Southwick, S. M., Davis, M., & Charney, D. S. (1996). Exaggerated acoustic startle reflex in Gulf War veterans with posttraumatic stress disorder. *American Journal of Psychiatry*, 153(1), 64-68.
- Moring, J., Resick, P., Peterson, A., Husain, F., Esquivel, C., Young-McCaughan, S., ... & Fox, P. (2020). Treatment of Posttraumatic Stress Disorder Alleviates Tinnitus-related Distress Among Veterans: a Pilot Study.
- Papesh, M. A., Elliott, J. E., Callahan, M. L., Storzbach, D., Lim, M. M., & Gallun, F. J. (2019). Blast exposure impairs sensory gating: Evidence from measures of acoustic startle and auditory event-related potentials. *Journal of neurotrauma*, 36(5), 702-712.



## REFERENCES CONT.

- Rothbaum, B. O., Kozak, M. J., Foa, E. B., & Whitaker, D. J. (2001). Posttraumatic stress disorder in rape victims: autonomic habituation to auditory stimuli. *Journal of Traumatic Stress: Official Publication of The International Society for Traumatic Stress Studies*, 14(2), 283-293.
- Veltmeyer, M. D., McFarlane, A. C., Bryant, R. A., Mayo, T., Gordon, E., & Clark, C. R. (2006). Integrative assessment of brain function in PTSD: brain stability and working memory. *Journal of integrative neuroscience*, 5(01), 123-138.
- Weiss, D. S., Marmar, C. R., Schlenger, W. E., Fairbank, J. A., Kathleen Jordan, B., Hough, R. L., & Kulka, R. A. (1992). The prevalence of lifetime and partial post-traumatic stress disorder in Vietnam theater veterans. *Journal of traumatic stress*, 5(3), 365-376.



# Additional Resources





**SPEAK**  
with expert  
PTSD clinicians



**E-MAIL**  
PTSDconsult@  
va.gov



**CALL**  
(866) 948-7880



**ACCESS**  
free clinical  
resources



**PTSD Consultation Program**  
FOR PROVIDERS WHO TREAT VETERANS

## About the Consultants

- Experienced senior psychologists, psychiatrists, social workers, pharmacists, and other health professionals who treat Veterans with PTSD
- Available to consult on everything from your toughest cases to general PTSD questions

## Ask about:

- Evidence-based treatment
- Medications
- Clinical management
- Resources
- Assessment
- Referrals
- Collaborating with VA on Veterans' care
- Developing a PTSD treatment program

## Available Resources - [www.ptsd.va.gov/consult](http://www.ptsd.va.gov/consult)

- Free continuing education
- PTSD-related publications
- Videos, educational handouts, and manuals
- PTSD and trauma assessment and screening tools
- Mobile apps, and more



[WWW.PTSD.VA.GOV](http://WWW.PTSD.VA.GOV)





## 2017 Clinical Practice Guideline for the Management of PTSD

The updated VA/DoD CPG includes objective, evidence-based information on the management of PTSD and related conditions, including diagnosis, treatment, and follow-up recommendations.

### PTSD 101 courses:

- 2017 Revised Clinical Practice Guideline for PTSD: How it Impacts Primary Care
  - [www.ptsd.va.gov/professional/continuing\\_ed/2017cpg\\_primary\\_care.asp](http://www.ptsd.va.gov/professional/continuing_ed/2017cpg_primary_care.asp)
- 2017 Revised Clinical Practice Guideline for PTSD: Recommendations for Medications
  - [www.ptsd.va.gov/professional/continuing\\_ed/2017cpg\\_medications.asp](http://www.ptsd.va.gov/professional/continuing_ed/2017cpg_medications.asp)
- 2017 Revised Clinical Practice Guideline for PTSD: Recommendations for Psychotherapy
  - [www.ptsd.va.gov/professional/continuing\\_ed/2017cpg\\_psychotherapy.asp](http://www.ptsd.va.gov/professional/continuing_ed/2017cpg_psychotherapy.asp)



# PROVIDER SELF-CARE TOOLKIT

## Provider Toolkit

[Home](#)[Working with Trauma Survivors](#)[Self-Assessment](#)[Self-Help Strategies](#)[Resources](#)

### Provider Self-Care Toolkit

This toolkit is for providers who work with those exposed to traumatic events, to help reduce the effects of job-related stress, burnout, and secondary traumatic stress. Working with trauma survivors is rewarding, yet such work can create challenges. Hearing trauma survivors' stories can be difficult and some providers may find they experience burnout or secondary traumatic stress as a result. In this toolkit you will find assessment tools, strategies, and resources to help you care for yourself while working with those who have experienced trauma or have posttraumatic stress disorder (PTSD).



[www.ptsd.va.gov/professional/treat/care/toolkits/provider/](http://www.ptsd.va.gov/professional/treat/care/toolkits/provider/)





# MAKE THE CONNECTION



U.S. Department  
of Veterans Affairs

*I'm a Veteran.  
I know what it's like.*

**MAKE THE  
CONNECTION**

[www.MakeTheConnection.net](http://www.MakeTheConnection.net)



Hear my story at  
***MakeTheConnection.net***

[www.maketheconnection.net](http://www.maketheconnection.net)