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## ASSESSMENT

### New moral injury measure shows promise

Efforts to assess moral injury across populations have been limited by measures that were developed for Veterans and that do not separate out exposure to potentially morally injurious events from their effects. A team led by National Center for PTSD investigators sought to address these barriers by developing a new self-report measure for use in Veteran and non-Veteran samples.

The team generated theory-informed items and refined them following feedback from subject matter and lived experience experts. The revised set was piloted among combat Veterans ( $n = 302$ ), healthcare workers ( $n = 356$ ), and first responders ( $n = 295$ ), who were recruited from probability-based national samples. Only participants endorsing exposure to a potentially morally injurious event responded to questions about its impact. A set of 18 optimally performing items was selected based on factor analysis. Initial psychometric evaluations suggested the scale performed comparably and reliably across the samples ( $\alpha = .94-.95$ ), showed test-retest stability, and converged with related moral injury and mental health measures.

The new Moral Injury and Distress Scale appears to address some key limitations that have impacted previous moral injury measures, although it is still subject to the limitations of self-report instruments. Critical next steps include testing the measure in clinical settings and examining its performance in response to change.

Read the article: <https://www.ptsd.va.gov/professional/articles/article-pdf/id1621948.pdf>

Norman, S. B., Griffin, B. J., Pietrzak, R. H., McLean, C., Hamblen, J. L., & Maguen, S. (2023). The Moral Injury and Distress Scale: Psychometric evaluation and initial validation in three high-risk populations. *Psychological Trauma*. Advance online publication. PTSDpubs ID: 1621948

### Culturally competent PTSD assessment with transgender and gender diverse individuals

Investigators from Boston University used content analysis to identify potential complications and culturally relevant contextual factors in the assessment of PTSD in a transgender and gender diverse population.

Forty-four transgender and gender diverse adults participated in CAPS-5 interviews. Once participants identified an index event, assessors probed its relation to participants' gender identity or expression. The research team identified threats to valid PTSD diagnosis, such as participants initially naming a noncriterion A discrimination event as the index event or describing experiences of familial rejection as linked to trauma symptoms. All 44 participants reported a Criterion A event, and 49% had PTSD. Over 40% identified that an index event involved discrimination, but only 18% did so without being asked about the event's relation to discrimination. Understanding the context of the trauma facilitated ability to validate stressful experiences while also assessing the trauma-relatedness of symptoms. This study highlights factors that may contribute to over- or under-detection of trauma-exposed transgender and gender-diverse individuals, as well as the importance of probing about the context of an event. Suggestions are offered for how to provide culturally competent and sensitive care when

assessing PTSD with the CAPS-5 (e.g., validating all impactful events and not over-pathologizing vigilance in the presence of actual risk for violence).

Read the article: <https://www.ptsd.va.gov/professional/articles/article-pdf/id1615204.pdf>

Valentine, S. E., Smith, A. M., Miller, K., Hadden, L., & Shipherd, J. C. (2023). Considerations and complexities of accurate PTSD assessment among transgender and gender diverse adults. *Psychological Assessment*, 35(5), 383-395. PTSDpubs ID: 1615204

Leighton, S. C., Rodriguez, K. E., Zhuang, R., Jensen, C. L., Miller, E. A., Sabbaghi, A., & O'Haire, M. E. (2023). Psychiatric service dog placements are associated with better daily psychosocial functioning for military veterans with posttraumatic stress disorder. *Psychological Trauma*. Advance online publication. PTSDpubs ID: 1622358

<https://www.ptsd.va.gov/professional/articles/article-pdf/id1621564.pdf>

Campbell, T. M., Pollack, S., & Schnurr, P. P. (2023). Service dogs for veterans with PTSD. *Psychiatric Services*, 74(6), Article 668. PTSDpubs ID: 1621564

## TREATMENT

### Service dogs to treat PTSD: An absence of evidence

The recently updated VA/DoD PTSD Clinical Practice Guideline for PTSD did not find sufficient evidence to recommend service dogs for PTSD. Despite broad popular interest, the current body of evidence does not point to a clear improvement in PTSD symptoms after PTSD service dog placement. The results of a new non-randomized study do not offer more clarity.

The study, led by investigators at the College of Veterinary Medicine at the University of Arizona, examined daily psychosocial functioning among 168 Veterans with PTSD who received a service dog trained in general obedience and PTSD specific tasks (e.g., anxiety interruption, environmental monitoring). The Veterans (75% male, 74% White, average age 37.8) received either an immediate placement with a dog or were placed on a wait list based on the expected timing of receiving a service dog. PTSD symptoms (PCL-5), overall activity, and a two-week period of ecological momentary assessment were collected at baseline and 3-month follow-up. Ecological momentary assessment occurred twice daily and included questions on social functioning, emotional functioning (Positive and Negative Affect Scale), and service dog interactions. Service dog assignment was related to higher positive affect, lower negative affect, and higher satisfaction but not higher quantity of social interactions. The authors did not report PCL-5 data at follow-up, so it is unknown if service dogs impacted PTSD symptoms.

A recent RCT of service dogs for PTSD found mixed results (see [February 2023 CTU-Online](#)). A newly published letter from investigators at the VA's Office of Mental Health and Suicide Prevention highlights some of the gaps in the reported results of that trial, emphasizing that the unreported outcome measure (CAPS-5) did not show a significant effect of service dogs. This RCT is one of the best-conducted trials of service dogs for PTSD, and the results suggest that service dogs for PTSD should not be a primary treatment for PTSD.

Service dog studies continue to be limited by methodological concerns, including non-randomized designs, self-rated or non-PTSD outcome measures, and unblinded assessment. Given the interest in service dogs, it is crucial to conduct well-designed RCTs to examine their effectiveness. Although the existing evidence does not point to any harms of PTSD service dogs, it is important from both an individual shared decision-making perspective and from a healthcare system resource perspective to understand whether service dogs improve PTSD symptoms.

Read the articles: <https://doi.org/10.1037/tra0001543>

### Evidence for brief treatment for PTSD delivered in VA primary care

Providing brief treatment for PTSD in primary care has the potential to increase access to care. A previous RCT found that Prolonged Exposure for Primary Care (PE-PC) delivered to active duty Servicemembers improved PTSD symptoms (see [February 2018 CTU-Online](#)). A team led by investigators at the Atlanta VA examined the effectiveness of PE-PC among Veterans in VA primary care.

The investigators used data from 737 PE-PC training cases treated by 155 VA providers who had participated in a PE-PC training (4-12 hours of didactics) and 4- to 6-month consultation program. PE-PC includes four to eight 30-minute sessions; 63.9% of Veterans completed at least four sessions. Self-reported PTSD improved ( $d = 0.6$ ; PCL-5 change from  $M = 46.8$  to 37.6), as did depression ( $d = 0.4$ ). Veterans were more likely to complete PE-PC when their providers had previous training in both CPT and PE ( $OR = 1.5$ ) and less likely to complete when their index trauma was military sexual trauma (vs. combat trauma;  $OR = 0.4$ ). There were no differences in symptom change based on these predictors. Findings provide preliminary support for PE-PC delivered by providers new to PE-PC. A future RCT could determine whether PE-PC is as effective when delivered outside of a training context.

Read the article: <https://www.ptsd.va.gov/professional/articles/article-pdf/id1621956.pdf>

Rauch, S. A. M., Venners, M. R., Ragin, C., Ruhe, G., Lamp, K. E., Burton, M., . . . Cigrang, J. A. (2023). Treatment of posttraumatic stress disorder with prolonged exposure for primary care (PE-PC): Effectiveness and patient and therapist factors related to symptom change and retention. *Psychological Services*. Advance online publication. PTSDpubs ID: 1621956

### Mifepristone ineffective for the treatment of PTSD

The hypothalamic-pituitary-adrenal axis controls release of glucocorticoids (stress hormones) and is likely dysregulated in PTSD. Mifepristone is a medication with antiglucocorticoid properties that has shown preliminary efficacy in treating PTSD using a 7-day dosing regimen. A multi-site team led by investigators from the Bronx VA conducted a randomized, placebo-controlled trial of mifepristone for the treatment of PTSD to determine whether a future pivotal trial was warranted.

Male participants with PTSD were randomized to receive 7 days of oral 600 mg/day of mifepristone ( $n=41$ ) versus placebo ( $n=39$ ). Only men were eligible due to mifepristone's antiprogesterone properties. The primary outcome was response defined as a  $\geq 30\%$  decrease in CAPS score from baseline to 4 weeks. Additionally, a responder rate difference of 15% was included as a metric for clinical

significance. Overall, the 7% response rate difference between mifepristone (38%) and placebo (31%) did not meet the 15% threshold for clinical significance. The difference in response rates in participants without TBI (23% difference) appeared greater than the difference in response rates in those with TBI (1% difference), but neither difference reached statistical significance. Mifepristone was generally safe and well-tolerated. These findings do not support further testing of mifepristone for PTSD generally.

Read the article: <https://doi.org/10.1001/jamanetworkopen.2023.10223>

Golier, J. A., Li, X., Bizien, M., Hurley, R. A., Bechard, B. W., Kimbrell, T., . . . Reda, D. J. (2023). Efficacy and safety of mifepristone in the treatment of male US veterans with posttraumatic stress disorder: a phase 2a randomized clinical trial. *JAMA Network Open*, 6(5), Article e2310223. PTSDpubs ID: 1620832

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## Integrated behavioral activation and CPT intervention did not improve upon CPT alone

Depression comorbid with PTSD is associated with greater symptom severity and functional impairment and less response to PTSD treatment, suggesting that targeting depression along with PTSD may improve outcomes. One RCT with a mostly-female sample of non-Veterans found that adding behavioral activation (BA) following CPT resulted in greater symptom improvement and reduced dropout compared to CPT alone (See [December 2020 CTU-Online](#)). In a recent randomized trial, investigators from the Naval Health Research Center tested whether integrating BA into CPT would improve depression outcomes.

Ninety-four service members (52 women and 42 men; age  $M = 28.5$  years) with comorbid PTSD and MDD were randomized to receive weekly 60-minute individual sessions of CPT (12 sessions) or BA+CPT (14 sessions). BA+CPT consisted of two sessions of BA followed by BA integrated into CPT content. Clinician-rated and self-reported symptoms of depression and PTSD decreased in both conditions following treatment, with no differences between groups. Treatment satisfaction and dropout rate also did not differ between conditions. These findings provide evidence that adjunctive interventions may not enhance PTSD outcomes. When PTSD is primary, it may be preferable to treat PTSD first, and then assess both PTSD and depression to determine whether further treatment is needed.

Read the article: <https://doi.org/10.1016/j.psychres.2023.115330>

Walter, K. H., Hunt, W. M., Otis, N. P., Kline, A. C., Miggantz, E. L., Thomsen, C. J., & Glassman, L. H. (2023). Comparison of behavioral activation-enhanced cognitive processing therapy and cognitive processing therapy among U.S. service members: A randomized clinical trial. *Psychiatry Research*, 326, Article 115330. PTSDpubs ID: 1622357

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## Lack of efficacy for neurofeedback in treating PTSD

Neurofeedback involves training an individual to modulate brain activity by relaying this activity to them in real time and providing mental strategies to help them control it. Preliminary studies suggest neurofeedback, especially focused on amygdala activity, may treat PTSD. A team led by investigators at Yale conducted a randomized, sham-controlled study using functional magnetic resonance imaging (fMRI) neurofeedback to train participants to decrease amygdala activity during recall of their trauma.

Participants were randomized to receive three sessions of active fMRI neurofeedback ( $n=14$ ) versus sham neurofeedback ( $n=11$ ). For the active group, real-time fMRI was used to show amygdala activity to participants while they listened to a narrative of their trauma. They were instructed to reduce the activity using personalized mental strategies developed prior to the intervention. For the sham condition, participants were given the same instructions, but they were shown another patient's amygdala activity, which they would not be able to control. Participants in the active group demonstrated greater ability to decrease amygdala activity compared to those in the sham group. Groups did not differ in CAPS-5 PTSD symptom improvement. This study was likely underpowered due to small sample size. While these findings provide further support for the concept of amygdala neurofeedback in PTSD patients, more research in larger samples will be needed to clarify potential clinical benefit.

Read the article: <https://www.ptsd.va.gov/professional/articles/article-pdf/id1621286.pdf>

Zhao, Z., Duek, O., Seidemann, R., Gordon, C., Walsh, C., Romaker, E., . . . Harpaz-Rotem, I. (2023). Amygdala downregulation training using fMRI neurofeedback in post-traumatic stress disorder: A randomized, double-blind trial. *Translational Psychiatry*, 13(1), Article 177. PTSDpubs ID: 1621286

# Take NOTE

## Increasing evidence for mediators and mechanisms of change in PTSD treatment

A systematic review included 62 studies that explicitly studied mediators or mechanisms of symptom change in guideline-recommended treatments for PTSD. The most commonly studied were change in negative cognitions and between-session fear extinction.

Read the article: <https://www.ptsd.va.gov/professional/articles/article-pdf/id1622359.pdf>

Alpert, E., Shotwell Tabke, C., Cole, T. A., Lee, D. J., & Sloan, D. M. (2023). A systematic review of literature examining mediators and mechanisms of change in empirically supported treatments for posttraumatic stress disorder. *Clinical Psychology Review*, 103, Article 102300. PTSDpubs ID: 1622359

## Case examples and clinical suggestions for PTSD and obsessive-compulsive disorder

An article integrated existing literature with clinical insight to offer evidence-informed suggestions for assessment and exposure-based treatment when patients have comorbid PTSD and obsessive-compulsive disorder.

Read the article: <https://doi.org/10.1037/cps0000143>

Pinciotti, C. M. (2023). Adapting and integrating exposure therapies for obsessive-compulsive disorder and posttraumatic stress disorder: Translating research into clinical implementation. *Clinical Psychology: Science and Practice*, 30(2), 190-203. PTSDpubs ID: 1620951

## Systematic review of pharmacological augmentation of trauma-focused exposure therapy

A systematic review included studies in which exposure-based psychotherapy was augmented by pharmacological treatments

aiming to enhance either memory extinction or reconsolidation. Thirteen studies found mixed effects.

Read the article: <https://doi.org/10.1038/s41398-023-02495-2>

Meister, L., Dietrich, A. C., Stefanovic, M., Bavato, F., Rosi-Andersen, A., Rohde, J., . . . Kleim, B. (2023). Pharmacological memory modulation to augment trauma-focused psychotherapy for PTSD: A systematic review of randomised controlled trials. *Translational Psychiatry*, 13(1), Article 207. PTSDpubs ID: 1622256

## Meta-analysis of internet-based CBT for military and veteran populations

A meta-analysis of 20 studies of internet-based CBT in military or veteran populations found that these interventions were more effective than waitlist or treatment as usual, but not more effective than active alternative treatments.

Read the article: <https://doi.org/10.1186/s12888-023-04668-1>

Liu, J. J., Ein, N., Forchuk, C., Wanklyn, S. G., Ragu, S., Saroya, S., . . . Richardson, J. D. (2023). A meta-analysis of internet-based cognitive behavioral therapy for military and veteran populations. *BMC Psychiatry*, 23(1), Article 223. PTSDpubs ID: 1619253

## Meta-analysis of few existing ECT studies for PTSD

A meta-analysis of electroconvulsive therapy (ECT) for PTSD found only 5 studies including 110 participants, none with a no-ECT control group, with an overall small effect size.

Read the article: <https://doi.org/10.1016/j.jpsychires.2023.05.080>

Zhong, M., Liu, Q., Li, L., Tang, V. M., Wong, A. H. C., & Liu, Y. (2023). Evaluating the effect of electroconvulsive therapy (ECT) on post-traumatic stress disorder (PTSD): A systematic review and meta-analysis of five studies. *Journal of Psychiatric Research*, 164, 37-45. PTSDpubs ID: 1622052



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