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## TREATMENT

### Consultation following PE training improves provider and patient outcomes

Receiving consultation following initial training in EBPs for PTSD can increase the likelihood of clinicians using these treatments. A study led by investigators from the University of Pennsylvania examined whether expert consultation following a PE workshop resulted not only in increased utilization but also better patient outcomes. In this randomized implementation trial, 103 providers at three U.S. Army installations received Standard PE training (4-day workshop,  $n = 60$ ) or Extended training (workshop + consultation,  $n = 43$ ). Consultation was delivered individually by telephone for 6-8 months and included session video review. Extended condition providers reported greater improvements in self-efficacy in delivering PE ( $d = .6$ ) and use of more components of PE per session ( $d = .7$ ) than Standard condition providers. Groups did not differ in provider expectations for patient improvement nor beliefs about PE. A greater proportion of patients of Extended condition providers received at least one session of PE compared to patients of Standard providers (44% vs. 27%). Additionally, a greater proportion of patients of Extended condition providers lost their diagnosis (77% vs. 44%) and had clinically significant change (50% vs. 24%) compared to patients of Standard providers. These findings add to the evidence that consultation following training increases implementation, and ultimately, in improved patient outcomes. Clinicians receiving training in EBPs are encouraged to attend regular consultation.

Read the article: <http://www.ptsd.va.gov/professional/articles/article-pdf/id1556736.pdf>

Foa, E. B., McLean, C. P., Brown, L. A., Zang, Y., Rosenfield, D., Zandberg, L. J., . . . Peterson, A. L. (2020). The effects of a prolonged exposure workshop with and without consultation on provider and patient outcomes: A randomized implementation trial. *Implementation Science*, 15, Article 59. PTSDpubs ID: 1556736

### Evidence for effectiveness of intensive, abbreviated CPT and PE

Investigators from the Home Base Program at Massachusetts General Hospital examined data from a PTSD treatment program that delivered intensive, abbreviated PE and CPT. Intensive CPT and PE are increasingly available, but their comparative effectiveness has never been studied. Veterans received 8 sessions of daily individual PE ( $n = 186$ ) or CPT ( $n = 90$ ) as part of a 2-week program that also included various group therapies. Dropout was low (7.2% for CPT, 6.5% for PE), as in reports of other intensive programs. Outcomes did not differ between those receiving CPT and PE, with large pre-post treatment effects for self-reported PTSD ( $d = 1.0$  for both) and depression ( $d = .9$  for PE and  $d = 1.0$  for CPT). At post-treatment, 50% of Veterans showed reliable improvement in PTSD (>16 points on the PCL-5). At 3- and 6-month follow-up, 34% and 30% respectively showed reliable improvement, but these findings should be interpreted cautiously because <35% of the sample participated in follow-up. Additionally, Veterans participated in groups that included interventions from both protocols (e.g., in vivo exposure, cognitive restructuring), making the treatments less distinct, which may limit the ability to test differences. A comparison between PE-only and CPT-only would be needed to determine true comparative effectiveness.

Read the article: <https://doi.org/10.1037/tra0000956>

Goetter, E. M., Blackburn, A. M., Stasko, C., Han, Y., Brenner, L. H., Lejeune, S., . . . Wright, E. C. (2020). Comparative effectiveness of prolonged exposure and cognitive processing therapy for military service members in an intensive treatment program. *Psychological Trauma: Theory, Research, Practice, and Policy*. Advance online publication. PTSDpubs ID: 1558735

## Take NOTE

### Effects of benzodiazepines on exposure therapies

Investigators at the Universidade Federal do Rio de Janeiro in Brazil carried out a systematic review of RCTs examining the effects of benzodiazepines on exposure treatments for PTSD and anxiety.

Read the article: <https://doi.org/10.1002/da.23078>

Melani, M. S., Paiva, J. M., Silva, M. C., Mendlowicz, M. V., Figueira, I., Marques Portella, C.,... Berger, W. (2020). Absence of definitive scientific evidence that benzodiazepines could hinder the efficacy of exposure based interventions in adults with anxiety or posttraumatic stress disorders: A systematic review of randomized clinical trials. *Depression and Anxiety*. Advance online publication. PTSDpubs ID: 1557733

### Social functioning in PTSD

A team led by investigators at the Bedford VA Medical Center conducted a systematic review of social functioning in PTSD, including the effects of EBPs for PTSD on social functioning.

Read the article: <https://doi.org/10.1177/1524838020946800>

Scoglio, A. A. J., Reilly, E. D., Girouard, C., Quigley, K. S., Carnes, S., & Kelly, M. M. (2020). Social functioning in individuals with posttraumatic stress disorder: A systematic review. *Trauma, Violence and Abuse*. Advance online publication. PTSDpubs ID: 1557584

### Treatments for PTSD following complex traumatic events

A team led by investigators at the University of York carried out a systematic review and network meta-analysis of studies of psychological and pharmacological interventions for PTSD resulting from complex traumatic events like childhood sexual abuse, domestic violence, armed conflict, and forced displacement.

Read the article: <http://www.ptsd.va.gov/professional/articles/article-pdf/id1557580.pdf>

Coventry, P. A., Meader, N., Melton, H., Temple, M., Dale, H., Wright, K., . . . Gilbody, S. (2020). Psychological and pharmacological interventions for posttraumatic stress disorder and comorbid mental health problems following complex traumatic events: Systematic review and component network meta-analysis. *PLoS Medicine*, 17, Article e1003262. PTSDpubs ID: 1557580

### Psychoactive drugs for PTSD

Investigators at the Phoenix Australia Centre for Posttraumatic Mental Health at the University of Melbourne systematically reviewed observational studies and RCTs examining the effects of MDMA, ketamine, LSD, and psilocybin on PTSD symptoms.

Read the article: <https://doi.org/10.1080/02791072.2020.1817639>

Varker, T., Watson, L., Gibson, K., Forbes, D., & O'Donnell, M. L. (2020). Efficacy of psychoactive drugs for the treatment of posttraumatic stress disorder: A systematic review of MDMA, ketamine, LSD and psilocybin. *Journal of Psychoactive Drugs*. Advance online publication. PTSDpubs ID: 1558537

### Network meta-analysis of studies of pharmacotherapy for PTSD

In a network meta-analysis of double-blind RCTs, a team led by investigators at the Federal University of Santa Maria in Brazil identified effects of 26 different medications on PTSD symptoms.

Read the article: <https://doi.org/10.1016/j.jpsychires.2020.07.046>

de Moraes Costa, G., Zanatta, F. B., Ziegelmann, P. K., Soares Barros, A. J., & Mello, C. F. (2020). Pharmacological treatments for adults with post-traumatic stress disorder: A network meta-analysis of comparative efficacy and acceptability. *Journal of Psychiatric Research*, 130, 412-420. PTSDpubs ID: 1558185

### More evidence for lack of benefit of preparatory groups before EBPs

Although it is often assumed that preparatory treatment improves readiness for trauma-focused psychotherapy, research suggests otherwise (see the [December 2018 CTU-Online](#)). In a new study, a team led by investigators at the Durham VAMC examined associations between engaging in preparatory treatment and outcomes in PE and CPT. The investigators examined data from 778 Veterans who were seeking treatment for PTSD between 2007-2018, 391 of whom initiated a preparatory treatment (i.e., psychoeducation, coping skills, sleep hygiene, and introduction to PTSD treatment options). A total of 575 Veterans engaged in an EBP; 94 (24%) of these Veterans had attended a preparatory group, whereas 481 (76%) did not. Veterans who did not attend

a preparatory group had similar levels of treatment completion (62%) and greater change in self-reported PTSD symptoms ( $d = .8$  for both PCL and PCL-5) than Veterans who attended a preparatory group ( $d$ 's = .2 for PCL, .3 for PCL-5). Notably, this was a naturalistic clinic-based study in which patients were not randomly assigned to the treatment groups. Nevertheless, these findings add to the emerging literature showing no added benefit of preparatory groups for Veterans seeking treatment for PTSD.

Read the article: <https://doi.org/10.1037/ser0000425>

Dedert, E. A., LoSavio, S. T., Wells, S. Y., Steel, A. L., Reinhardt, K., Deming, C. A., . . . Clancy, C. P. (2020). Clinical effectiveness study of a treatment to prepare for trauma-focused evidence-based psychotherapies at a Veterans Affairs specialty posttraumatic stress disorder clinic. *Psychological Services*. Advance online publication. PTSDpubs ID: 1557789

## Residual symptoms following PE, sertraline, and their combination

Patients can experience residual symptoms of PTSD even after a successful course of treatment (see the [February 2019 CTU-Online](#)). Most studies of residual symptoms of PTSD have focused on psychotherapy. Investigators at the VA San Diego Healthcare System examined which symptoms persisted among Veterans who were treated with PE, sertraline, or their combination. Data were from an RCT that found no treatment-related differences in outcomes for Veterans (see the [December 2018 CTU-Online](#)). In the new report, based on data from 149 Veterans, the investigators failed to detect differences in residual symptoms across the three treatments, but statistical power may have been inadequate. For example, 29.3% of Veterans in the sertraline group reported diminished interest in activities at post treatment compared to 52.8% of Veterans in the PE plus placebo group, yet the difference was not significant. Given the potential power problems, it is premature to conclude that PE, sertraline, and their combination have comparable effects on PTSD symptoms. In other analyses, the investigators compared the likelihood of residual symptoms in Veterans with and without a PTSD diagnosis at post treatment. Symptoms most likely to persist among Veterans who no longer had a PTSD diagnosis were sleep problems (63.0%), hypervigilance (47.3%), and nightmares (45.0%)—which is consistent with other studies showing the persistence of these symptoms following successful psychotherapy.

Read the article: <http://www.ptsd.va.gov/professional/articles/article-pdf/id1557051.pdf>

Tripp, J. C., Norman, S. B., Kim, H. M., Venners, M. R., Martis, B., Simon, N. M., . . . Rauch, S. A. M. (2020). Residual symptoms of PTSD following sertraline plus enhanced medication management, sertraline plus PE, and PE plus placebo. *Psychiatry Research*, 291, Article 113279. PTSDpubs ID: 1557051

## New findings for outcomes and potential biomarkers of 3MDR

Multi-modular motion-assisted memory desensitization and reconsolidation (3MDR) is a developing treatment for PTSD that provides exposure to trauma-related images via virtual reality during physical activity (walking on a treadmill). A group of investigators from the Netherlands recently published a randomized, wait-list controlled trial of 3MDR. Other investigators within this group assessed whether exposure-related cortisol levels were associated with changes in PTSD severity during 3MDR.

In the first study, 42 male British Veterans were randomized to 3MDR or a 12-week wait-list. 3MDR was delivered weekly over nine weeks and outcomes were measured at baseline, 12 weeks, and 26 weeks. Outcome data were available for 83% of participants at 12 weeks and 86% at 26 weeks. 3MDR was discontinued early in 11 of 21 participants (52%) randomized immediately to 3MDR and 6 of 21 participants (29%) randomized to receive 3MDR after wait-list, primarily due to poor tolerability or engagement. 3MDR was associated with a 9.6-point greater decrease in CAPS-5 scores over 12 weeks compared to wait-list. Improvements in PTSD were maintained at 26 weeks. In the

second study, using data from a previous RCT of 3MDR compared to a non-trauma-focused control treatment, investigators examined changes in salivary cortisol (a critical stress response hormone) during 6 sessions of exposure to trauma-related images. The original study included 43 Dutch Veterans with PTSD and showed greater benefit of 3MDR than the control condition. In this analysis based on 22 participants, average cortisol levels both before and after exposure sessions trended higher, and cortisol levels before and after treatment sessions were associated with greater PTSD symptom improvement. Together these studies suggest 3MDR may be an effective treatment for PTSD and that session-related cortisol may serve as a biomarker of response. However, larger studies are needed to confirm the efficacy of this treatment, and tolerability and engagement may need to be improved.

Read the article: <https://doi.org/10.1111/acps.13200>

Bisson, J. I., van Deursen, R., Hannigan, B., Kitchiner, N., Barawi, K., Jones, K., . . . Vermetten, E. (2020). Randomized controlled trial of multi-modular motion-assisted memory desensitization and reconsolidation (3MDR) for male military veterans with treatment-resistant post-traumatic stress disorder. *Acta Psychiatrica Scandinavica*, 142, 141-151. PTSDpubs ID: 1554186

Read the article: <https://doi.org/10.1016/j.jpsychires.2020.08.011>

van Gelderen, M. J., Nijdam, M. J., de Vries, F., Meijer, O. C., & Vermetten, E. (2020). Exposure-related cortisol predicts outcome of psychotherapy in veterans with treatment-resistant posttraumatic stress disorder. *Journal of Psychiatric Research*, 130, 387-393. PTSDpubs ID: 1558199

## No combined impact of gender and MST history on CPT, PE outcomes

Previous work has examined whether outcomes of trauma-focused treatments vary by gender or military sexual trauma (MST) history (see the [April 2016 CTU-Online](#)), but few studies have been large enough to examine their combined impact on treatment effectiveness. A team led by investigators at the San Francisco VA Healthcare System used VHA-wide data to assess whether CPT and PE outcomes among post-9/11 Veterans differed by gender and MST history. Analyses focused on Veterans treated at VHA facilities between October 2001 and September 2017 who had been diagnosed with PTSD, had completed at least 8 sessions of PE or CPT, and reported PTSD symptoms on the PCL at pre- and post-treatment ( $N = 9711$ , 11.8% women). MST history, reported by 9.3% of participants, was determined from responses to the VHA mandatory screen. PTSD symptoms decreased over time for Veterans in both treatments. There was a main effect of gender in CPT—specifically, women reported a 2.7-point greater PCL decrease than men, but no other differences due to MST or gender in either treatment. Given the extremely small advantage for women who received CPT, and the very large sample overall, the findings suggest that Veterans with MST histories, regardless of gender, can benefit from these evidence-based treatments.

Read the article: <http://www.ptsd.va.gov/professional/articles/article-pdf/id1557495.pdf>

Khan, A. J., Holder, N., Li, Y., Shiner, B., Madden, E., Seal, K., . . . Maguen, S. (2020). How do gender and military sexual trauma impact PTSD symptoms in cognitive processing therapy and prolonged exposure? *Journal of Psychiatric Research*, 130, 89-96. PTSDpubs ID: 1557495

## Emotion dysregulation and dropout from PE

Difficulty managing strong emotions could be a barrier to engaging in emotionally evocative treatments like PE. A team led by investigators at Georgia State University examined whether emotion dysregulation predicted dropout among women Veterans seeking PE for PTSD related to military sexual trauma. The sample included 136 women Veterans who participated in an RCT comparing outcomes of PE delivered in person versus telehealth. Treatment completion was defined as attending 12 sessions or demonstrating clinically meaningful reductions in PTSD symptoms (assessed via the PCL-5) on two consecutive weeks. Baseline emotion dysregulation was assessed via self-report using the Difficulties in Emotion Regulation Scale (DERS), which measures multiple aspects of emotion dysregulation. Scores range from 36

to 180, with higher scores reflecting greater dysregulation. Half of participants ( $n = 68$ ) dropped out of treatment. Each 1-point increase on the DERS was linked to a small but significant association with dropout ( $OR: 1.03$ ). Increased emotion dysregulation was not associated with discontinuing due to treatment-related distress. These seemingly disparate findings are not conclusive enough to suggest that greater emotion dysregulation increases risk of dropout from PE.

Read the article: <https://doi.org/10.1016/j.whi.2020.07.004>

Gilmore, A. K., Lopez, C., Muzzy, W., Brown, W. J., Grubaugh, A., Oesterle, D. W., & Acierno, R. (2020). Emotion dysregulation predicts dropout from prolonged exposure treatment among female veterans with military sexual trauma-related posttraumatic stress disorder. *Women's Health Issues*. Advance online publication. PTSDpubs ID: 1557832

## Take NOTE

THE COVID-19  
PANDEMIC

### Guidance on delivering PE via telehealth during the Covid-19 pandemic

Providers are using telehealth at unprecedented levels to ensure that Veterans have access to EBPs for PTSD during the Covid-19

pandemic. Experts recently prepared guidance on delivering CPT via clinical video teleconferencing (CVT; see the [June 2020 CTU-Online](#)), and in a new paper, a team led by investigators at the Durham VAMC shared similar guidance for PE. The investigators first give a brief overview of the literature supporting delivery of PE via CVT. Then they discuss many practical considerations for carrying out PE using CVT, some of which are general for CVT (e.g., promoting safety and privacy, managing technology challenges, exchanging documents) and many that are specific to PE. For example, the authors identify strategies for recording imaginal exposures and for monitoring engagement and safety behaviors during imaginal exposure. They prepared detailed lists of in vivo exposures that can be completed inside and outside of the home, including those that are specific to Covid-19-related concerns. Finally, the authors offer guidance for providers working with patients who are confronting barriers and inequities to accessing CVT. Of note, there are several helpful supplementary materials such as example documentation of CVT sessions and guidelines for engaging in PE via CVT. Providers can use these resources to be better equipped to effectively deliver PE during the Covid-19 pandemic.

Read the article: <http://www.ptsd.va.gov/professional/articles/article-pdf/id1558227.pdf>

Wells, S. Y., Morland, L. A., Wilhite, E. R., Grubbs, K. M., Rauch, S. A. M., Acierno, R., & McLean, C. P. (2020). Delivering prolonged exposure therapy via videocon-

ferencing during the COVID-19 pandemic: An overview of the research and special considerations for providers. *Journal of Traumatic Stress*, 33, 380-390. PTSDpubs ID: 1558227

### When, and how, to deliver PE and CPT during the Covid-19 Pandemic

Investigators at the Palo Alto VA Healthcare System outline considerations for whether, and how, to deliver PE and CPT during the Covid-19 pandemic, with exploration of patient-level, provider-level, and system-level factors.

Read the article: <http://www.ptsd.va.gov/professional/articles/article-pdf/id1558142.pdf>

Hagerty, S. L., Wielgosz, J., Kraemer, J., Nguyen, H. V., Loew, D., & Kaysen, D. (2020). Best practices for approaching cognitive processing therapy and prolonged exposure during the COVID-19 pandemic. *Journal of Traumatic Stress*. Advance online publication. PTSDpubs ID: 1558142

### Psychological effects of the Covid-19 pandemic on healthcare workers

A team of investigators at the Mayo Clinic conducted a systematic review and meta-analysis of 6 studies that compared effects of the Covid-19 pandemic on PTSD, anxiety, depression, occupational stress, and insomnia on healthcare workers and non-healthcare workers.

Read the article: <https://doi.org/10.1016/j.psychres.2020.113360>

Sheraton, M., Deo, N., Dutt, T., Surani, S., Hall-Flavin, D., & Kashyap, R. (2020). Psychological effects of the COVID 19 pandemic on healthcare workers globally: A systematic review. *Psychiatry Research*, 292, Article 113360. PTSDpubs ID: 1557404

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