

Q. What is Transcendental Meditation?

A. Transcendental Meditation (TM) is a complementary and integrative health practice designed to calm the mind and body by promoting a state of tranquility in which one aims to “transcend” thoughts, emotions, and tension (Cavanaugh & Dillbeck, 2017). The primary treatment component of TM is silent repetition of a “mantra” – a sound without meaning – to cultivate a mental focus that shifts attention from active thought processes to an abstract and subtle state of awareness (Barnes & Orme-Johnson, 2012; Lang et al., 2012; Travis & Wallace, 1999). TM is typically practiced twice daily for 15-20 minutes while quietly seated with eyes closed (Travis & Wallace, 1999). Though derived from ancient Indian Vedic tradition, TM is a non-religious practice (Walton et al., 2004) that can be used in secular settings and is increasingly studied and adapted for use in clinical care (Barnes, 2018; Lang et al., 2012).

Q. What are the potential mechanisms of action underlying TM?

A. The proposed mechanisms for the health benefits of TM with respect to posttraumatic stress disorder (PTSD) relate to the lowering of sympathetic tone and stress reactivity (Barnes & Orme-Johnson, 2012; Nidich et al., 2009). Psychological distress produces intensified sympathetic and hypothalamic-pituitary-adrenocortical (HPA) axis activation (Schwartz et al., 2003), whereas sustained TM practice appears to reduce such activation (Nidich et al., 2009; Walton et al., 2004). Reduced sympathetic tone is also associated with increased heart rate variability (HRV); empirical evidence indicates that low HRV is inversely associated with behavioral health problems such as PTSD (Cohen, Benjamin, Geva, Matar, & Kotler, 2000; Dennis et al., 2017; Minassian et al., 2015), cardiovascular disease, and mortality (Holzman & Bridgett, 2017; Yadav et al., 2017). A second proposed pathway mediating the relation between TM and reduced PTSD symptoms is activation of electroencephalogram (EEG) alpha coherence patterns that influence the prefrontal areas of the brain to inhibit thalamocortical circuits (Travis & Wallace, 1999). These proposed mechanisms have yet to be empirically substantiated in a sample of PTSD patients treated with TM.

Q. Is TM recommended as a front-line treatment for PTSD in the Military Health System (MHS)?

A. **No.** The 2017 VA/DoD Clinical Practice Guideline for the Management of Posttraumatic Stress Disorder and Acute Stress Disorder states that there is insufficient evidence to recommend any complementary and integrative health practice, such as meditation (including mindfulness), yoga, and mantram meditation, as a primary treatment for PTSD.

The MHS relies on the VA/DoD clinical practice guidelines (CPGs) to inform best clinical practices. The CPGs are developed under the purview of clinical experts and are derived through a transparent and systematic approach that includes, but is not limited to, systematic reviews of the literature on a given topic and development of recommendations using a graded system that takes into account the overall quality of the evidence and the magnitude of the net benefit of the recommendation. A further description of this process and CPGs on specific topics can be found on the VA clinical practice guidelines website.

Q. Do other authoritative reviews recommend TM as a front-line treatment for PTSD?

A. **No.** Other authoritative reviews have not substantiated the use of TM for treating PTSD.

Several other recognized organizations conduct systematic reviews and evidence syntheses on psychological health topics using similar grading systems as the VA/DoD CPGs. These include the Agency for Healthcare Research and Quality (AHRQ), Cochrane, and VA Health Services Research & Development (HSR&D) Evidence-based Synthesis Program.

- AHRQ: A 2018 systematic review update of psychological and pharmacological treatments for adults with PTSD does not include TM as an intervention in the review.
- Cochrane: No reviews were found on TM as treatment for PTSD.

- VA HSR&D: A 2011 evidence review (Strauss, Coeytaux, McDuffie, Nagi, & Williams) of complementary and alternative medicine therapies for PTSD included one poor quality trial of TM (Brooks & Scarano, 1985).

Q. Is there any recent research on TM as a treatment for PTSD?

A. A November 2018 literature search identified a recent randomized controlled trial (RCT) comparing TM to prolonged exposure therapy (PE) in 203 veterans with PTSD (Nidich et al., 2018). Participants were randomized to TM, PE, or an active control group over 12 weeks. Results showed TM was significantly non-inferior to PE on PTSD severity, assessed by the Clinician-Administered PTSD Scale (CAPS), at 3-months post-test. This is the first and only RCT comparing TM to a front-line psychotherapy in the treatment of PTSD. Overall, this study is methodologically strong, improving on earlier studies of TM for PTSD, many of which are pilot studies with methodological issues such as small sample sizes, lack of randomization, high drop-out, and poor reporting (e.g. Brooks & Scarano, 1985; Kang et al., 2018; Herron & Rees, 2018; Rosenthal, Grosswald, Ross, & Rosenthal, 2011). Other studies looked at post-traumatic stress symptoms, but did not require a diagnosis of PTSD (Rees, Travis, Shapiro, & Chant, 2013; Nidich et al., 2017).

Q. What conclusions can be drawn about the use of TM as a treatment for PTSD in the MHS?

A. Current consensus derived from literature prior to 2018 is that there is insufficient evidence to recommend meditation as a primary treatment for PTSD. More recently, one methodologically rigorous RCT found TM to be non-inferior to a front-line psychotherapy for PTSD. This trial suggests that TM has some promise in the treatment of PTSD. More RCTs are needed, however, to support or refute the findings from that study, especially within the MHS. DoD/VA CPGs rely on a systematic process that takes into account published literature, treatment preferences, and other relevant information to inform treatment guidelines. Given their comprehensive review of the literature, this recent trial will most likely be taken into account in the next PTSD workgroup's CPG development.

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