

Academic Commentary

**Reconsolidation of Traumatic Memories:
The Best PTSD Treatment You've Never Heard Of**

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Abstract

The persistent rise in suicide rates among military personnel and veterans, despite extensive efforts to combat this crisis, highlights a critical gap in the effectiveness of current PTSD (Post-traumatic stress disorder) treatments. This article examines the potential of memory reconsolidation therapy, focusing on the innovative Reconsolidation of Traumatic Memories (RTM) Protocol™ as a promising alternative to conventional methods. Traditional therapeutic approaches/methods like Cognitive Processing Therapy and Prolonged Exposure Therapy often fall short, with limited success and significant patient drop-out rates. RTM, by contrast, shows considerable promise in reducing PTSD symptoms more effectively and with greater patient retention. The article advocates for a more dynamic research approach that accelerates the development and integration of novel PTSD treatments, stressing the urgency of addressing this escalating mental health crisis within the military and beyond. The need for a more effective response has never been more pressing, as the lives and well-being of countless individuals--the military service members, veterans, family members and civilians--hang in the balance.

Keywords: Post-traumatic stress disorder (PTSD), Reconsolidation of Traumatic Memories (RTM) Protocol, military, Veterans Administration, mental health, suicide prevention, memory reconsolidation, neurostimulation

Introduction

Despite the best intentions and billions of dollars invested over the past two decades, suicide rates within the military and veteran communities continue to increase far beyond pre-9/11 levels, a fact that should spur accelerated innovation to address this scourge more effectively. Many of these suicides in veterans and service members are linked to PTSD, and developing better approaches to treating PTSD is a national challenge. This article focuses on the topic of reconsolidation of traumatic memories as a new promising approach to treating PTSD, with one such treatment (Reconsolidation of Traumatic Memories (RTM) Protocol™) dubbed "the best PTSD treatment you've never heard of" by Garry Trudeau in his July 2023 *Washington Post* op-ed (Trudeau, 2023).

The epidemic of suicide among veterans is a devastating national tragedy; however, it is only one facet of a more significant, more complex issue. Suicide in US society at large has increased by over one-third since the start of the 21st century. As we all continue to face the aftermath of the pandemic, we must confront this challenge head-on to navigate the resulting collective trauma tsunami. As the US Surgeon General Dr. Vivek Murthy recently stated, "Mental health is the defining crisis of our age" (Murthy, 2023), and most Americans polled on this issue are in strong agreement (Lopes et al., 2022). As a nation and world, we are in uncharted territory.

Need for Improved PTSD Treatment

Post-traumatic stress disorder extends well beyond the military, impacting not just veterans but also civilians; it can be best understood as an injury inflicted by overwhelming trauma, affecting police and first responders, survivors of sexual assault and other crimes, school shootings, terrorism, accidents, and natural disasters. If left unaddressed, its effects can linger for decades, devastating relationships, families, workplaces, and communities. The prevalence of PTSD among veterans from recent wars in Iraq and Afghanistan has been conservatively estimated at 400,000 persons. Among veterans from all eras of service, those with PTSD number well over 2 million, and among US civilians, roughly 15 million individuals suffer from PTSD. This national challenge demands a whole-of-America response (Schein et al., 2021).

Rationale for Innovation

Urgent change is needed. After all, the approved VA/DoD treatments, the official standard of care for PTSD, have achieved limited improvement, elicited distressing symptoms, and have demonstrated high drop-out rates. As a result, veterans are increasingly seeking integrative, non-drug, and psychedelic treatments outside the VA system, even outside of the country, often incurring significant personal costs to themselves. This creates a conundrum of legitimacy and ethical concerns for the VA as an institution, placing its hard-earned reputation for healthcare leadership at risk (Jacobs, 2021).

Currently, the main therapeutic options approved by VA/DoD for treating PTSD involve Cognitive Processing Therapy (CPT), Prolonged Exposure Therapy (P.E.), Eye

Movement, Desensitization and Reprocessing (EMDR), and/or pharmacological agents, most commonly selective serotonin reuptake inhibitors (SSRI), which are even less effective than the psychotherapies; further, only two SSRIs have obtained FDA approval in more than 20 years.

In recent years, these modalities have come under increasingly negative scrutiny. Medications commonly cause side effects before therapeutic effects, leading to early discontinuation. Moreover, classical pharmaceuticals require continuous use; they do not work when not taken. Approximately two-thirds of clients receiving CPT or P.E. retained their PTSD diagnosis after treatment (Levi et al., 2021). Up to half the patients cannot tolerate the treatment experience--i.e., logistics, time load, homework exercises, re-traumatization impact--and drop out before completing the therapy (Steenkamp et al., 2015).

These interventions are costly and time-intensive (e.g., 12 to 16 weekly 60- to 90-minute sessions with matching homework commitments for P.E. and CPT), and although symptom reductions are deemed significant, many are not lasting and result in symptom relapse. Further, these modalities are not suitable for everyone and can be traumatizing and intolerable, resulting in high drop-out rates and continued suffering. Finally, much of the research supporting PTSD treatments has been conducted with civilian populations; individuals suffering from combat-related PTSD, often more complex and multi-dimensional, do not respond as favorably, thus creating the need for different and varied approaches (Barnes et al., 2019).

Implications for Suicide Prevention

It is well established that trauma survivors, including those suffering from trauma spectrum disorders such as PTSD, depression, and anxiety, carry an increased risk for suicidal thoughts, suicide attempts, and suicide (Akbar et al., 2023). The weight of our inadequate response in developing next-generation therapeutics to meet the needs of PTSD survivors is mounting. At a time when our nation is experiencing nearly 50,000 suicides annually, an increase of over 30% since the year 2000, PTSD has turned from a silent crisis to one of epidemic proportions. Multiply this level of suffering by 2 million veterans of all eras and 13 million civilians estimated to have PTSD --and you begin to get an idea of the human costs at stake.

There is no cookie-cutter solution, no magic pill or therapy that works for everyone; however, the prospect of new tools in the PTSD toolkit has generated fresh hope and impassioned advocacy. Given that the vast majority of those who die by suicide suffer from a mental health disorder, accelerating innovations in clinical treatment is imperative. Suicide prevention efforts are also increasingly recognizing the impact of moral injury, that is, the violation of one's deeply held values or beliefs in what is right and wrong (Bellfy & Kwapis, 2020).

Emerging Treatments

Despite emerging evidence for a range of PTSD treatment approaches, the most recent edition (2023) of the VA/DoD PTSD clinical practice guidelines (CPG) has reduced the number of recommended treatments (from seven to three) and offers no new recommended

strategies. This development, while unsettling, aligns with recent public comments made by the Executive Director of the National Center for PTSD. Despite recognizing the necessity for improved treatments, the Executive Director remarked, "I'm not sure we need additional treatment options" (Sippel et al., 2023).

This uncertainty is particularly perplexing, given the high drop-out rates of 46.6% (215 of 461 individuals) for CPT and 55.8% (257 of 455 individuals) for P.E. in a recent significant (916 subjects) randomized clinical trial published in 2022 of which the aforementioned senior executive was the lead author (Schnurr et al., 2022). Despite these trial results, P.E. and CPT remained prominently recommended in the 2023 revision of the Clinical Practice Guidelines, for which she served as the workgroup leader (Lang et al., 2024).

Remarkably, the authors of a recently published critique of the new CPG conclude their article by recommending that clinicians will better serve their clients by continuing to use the previous CPG, published in 2017, rather than adopting the new version. To state the obvious, VA and DoD clinicians deserve better than "the reification of a limited status quo" (Hoge et al., 2024). Given that there are 636,120 ways to have PTSD, broadening treatment options to expand effective options would seemingly be an obvious goal (Galatzer-Levy & Bryant, 2013).

Disturbingly, the limited status quo may be even more limited than realized. Many early published clinical trials on the use of P.E. and CPT in the treatment of PTSD excluded noncompliant subjects and drop-outs from the final analysis rather than analyzing results by use of the standard, preferred intention-to-treat (ITT) principle, which includes every subject who is randomized according to randomized treatment assignment. Analyzing the data by the subset of treatment completers rather than all who were randomized can result in substantial bias (Kip et al., 2013). In 2011, it was estimated that the 60-80% recovery rates among treatment completers (P.E., CPT) declined to about 40% using ITT analyses. Given the high drop-out rates for P.E. and CPT, immediate resolution of this discrepancy is needed to ensure accurate reporting and valid comparisons of treatment outcomes (Hoge, 2011).

Memory Reconsolidation Overview

Memories are thought to be initially modifiable when they are first acquired and then solidify through the synthesis of new proteins in a process known as consolidation. Thus, consolidation therapy aims to disrupt traumatic memories before the consolidation process occurs. The traditional theory in the memory field was that memories could not be changed once the consolidation process had occurred. This theory was displaced after literature was published that showed that after memory retrieval, previously consolidated memories become destabilized and require protein synthesis for long-term storage in a process termed reconsolidation (Farrell & Mahood, 2022).

Early neuroscience insights regarding memory reconsolidation were published over 50 years ago, in the late 1960s, and then "rediscovered" decades later in the 1990s (Bellfy

& Kwapis, 2020). Emerging research shows that trauma memories are different from sad or neutral memories; often experienced as occurring in the present moment, trauma memories are processed and stored differently in the brain (Perl et al., 2023). Further, gently retrieving trauma memories under certain conditions can open a 1–6-hour window during which reactivated memories can be updated and modified. This process, known as reconsolidation, may have important implications for PTSD treatments, including RTM, Accelerated Response Treatment (ART), EMDR, and other rescripting approaches that explicitly target the intrusive symptoms of PTSD, e.g., nightmares, flashbacks, heightened reactivity (startle response), and hypervigilance, and are thought to work at least in part through this mechanism (Merlo et al., 2024).

Using RTM as an example, treatment begins with briefly visualizing the traumatic event to 'open' the reconsolidation window; rigorous monitoring throughout the process minimizes distress and yields low drop-out rates, averaging <10%. Through a series of guided visual imagery exercises, the client engages in restructuring the traumatic memory in a manner that ultimately allows for recall of the event without triggering emotional hyperarousal and distress. A recent meta-analysis identified RTM as "the most promising reconsolidation therapy and with, by far, the largest effect size," clearly warranting further research (Astill Wright et al., 2021).

Recent head-to-head studies have evaluated RTM compared to Trauma-Focused Cognitive Behavior Therapy (TFCBT) and P.E., demonstrating positive comparative RTM findings. In the King's College London study, the RTM group experienced a mean 18-point reduction on the PCL-5 compared to 8% in the TFCPT group; 48% in the RTM group no longer met the diagnostic criteria for PTSD compared to 16% in the TFCPT group. In the Walter Reed study, RTM demonstrated superior results to P.E. in all study criteria, including symptom reduction, diagnosis remission, and length of treatment (Roy et al., 2024; Sturt et al., 2023).

Since 2015, four published peer-reviewed wait-list controlled studies have yielded promising results, with roughly 90% of individuals experiencing complete loss of intrusive symptoms / PTSD diagnosis; these study results are analyzed using the preferred ITT principle. Typically, the RTM protocol is completed within three to five 60-90-minute sessions administered over a 5-10-day window; no medications are required (Gray et al., 2019). Further, since 2022, 117 therapists in Ukraine have completed RTM training and reported positive results using RTM in their war-torn country.

The neurobiology of PTSD is complicated, with multiple brain regions and circuits showing dysfunction. Of note are limbic circuits involved in the emotional regulation of behavior, including regions like the amygdala, hippocampus, anterior cingulate, and orbital frontal regions. There is also evidence of dysfunction in circuits mediating neuroendocrine responses and homeostasis. Electrophysiological methods like EEG and MEG reveal abnormal power in the high beta band generated by emotional regulation circuits. Successful RTM treatment normalizes activity in the circuits (Lewine, 2024).

A Pragmatic Research Strategy

Since there is broad agreement that better PTSD treatments are needed, the question is how best to responsibly accelerate and advance knowledge to meet the enormous and growing needs of the military and veteran communities. While randomized controlled trials (RCT) determine efficacy or how well a treatment works under ideal conditions, there is an urgent need for pragmatic trials, where the question is whether the intervention works in real life. This is particularly important given the efficacy-effectiveness gap, reflecting the higher remission rates in randomized controlled efficacy trials than in real-world effectiveness studies (Hengartner, 2018).

Increased investment in comparative effectiveness research models (CER)--comparing standard P.E. & CPT psychotherapies with novel treatments featuring memory reconsolidation, neurostimulation, mindfulness practices, and medications, including psychedelics--represents a strategic and timely opportunity to apply this underutilized approach to achieve translatable real-world clinical research findings and foster the rapid uptake of evidence-based clinical practice within the healthcare setting (Williams et al., 2016).

A recent network meta-analysis addressing the comparative effectiveness and acceptability of pharmacological, psychotherapy, and combination treatments in adults with PTSD showed no significant superiority of any treatment approach in the short term. At the longest available follow-up, standard psychotherapeutic treatments (e.g., P.E., CPT) were significantly more effective than pharmacological treatments, and the combined treatments were slightly but not significantly superior to psychotherapeutic treatment alone; remarkably, the combined treatments were significantly more beneficial than pharmacological treatments alone. This critical finding highlights several issues, including the need for more effective pharmacological agents, increased reporting of long-term findings, and the inclusion of novel emerging therapies in meta-analytic reviews (Merz et al., 2019).

Accelerated research is urgently needed to better understand how to leverage the reconsolidation mechanism, either using psychotherapy alone or augmented with a medication that acts explicitly on memory pathways. Novel treatments must be tested against standard treatments in rigorous clinical trials and field research studies.

The limitations of the current research process, including the high costs, time constraints, and inefficiencies of RCTs, have led to the evolution of CER, which can serve as the cornerstone of patient-centered care, allowing for individual patient variations and preferences and involving both the healthcare provider and the patient in the decision-making process. Importantly, CER supports using archival records of thousands of interventions in multiple clinical contexts for fast, low-cost comparisons to help clinicians determine what works best in a given clinical situation (Dang & Kaur, 2016). Moreover, CER may incorporate whole health principles and practices designed to build resilience--including attention to sleep, pain, fitness, fuel consumption, self-care, and peer and community support--as essential components of care that strengthen the foundation for PTSD recovery (Krist et al., 2023).

Unfortunately, institutional gatekeepers often dismiss emerging novel therapies, citing a lack of evidence and denying research funding for robust studies or even small pilot demonstration projects. However, unless and until a promising novel treatment has been tested on its merits and fallen short based upon valid scientific research, it is counterproductive to block support due to a purported "lack of evidence"; in short, the absence of evidence is not necessarily evidence of absence. At a time when the military and veteran communities are desperate to find better ways to recover from PTSD, this blocking tactic, a clear example of bureaucratic malpractice, is maddening and must change.

Call to Action

Principled leadership and courageous fortitude are necessary to reach all who are suffering from the ravages of PTSD. Stronger together, we must serve as an active and informed voice to speak for those afraid or unable to do so, illuminate places within darkness and despair, and boldly break through bureaucratic obstacles impeding progress.

Over 20 years have passed since 9/11; as suffering and suicides continue to occur at epidemic levels within the military and veteran communities, a greater sense of urgency, evidence of innovation, and acceleration over equivocation are desperately needed. Enrolling individuals with refractory PTSD, for whom P.E. and CPT have been tried without success, in CER studies using emerging novel treatments would be clear evidence of innovative progress characterized by due urgency and acceleration. The recent FDA decision to delay approval of MDMA-assisted treatment for PTSD pending more extensive research further increases the need for demonstrable improvement in advancing progress for non-drug PTSD treatments (Reardon, 2024).

In closing, this is a time for coming together and joining forces in collaboration to accelerate vital change. Trusted veteran service organizations--American Legion (A.L.), Vietnam Veterans of America (VVA), Disabled American Veterans (DAV), Iraq and Afghanistan Veterans of America (IAVA), and many others at all levels throughout the country--must ramp up collective advocacy for this issue, as a team of teams, on Capitol Hill and beyond. There is much work to be done--and no time to waste.

Now is the time to act. How will you answer the call?

Special Notation

The photograph found after the references that concludes this special commentary is a 2009 artistic work from the Department of Defense. It elevates to our awareness profound patient care being given by an Air Force physician's assistant to a fellow USAF comrade while serving in Afghanistan. Being a DoD photograph, it is in the public domain and is therefore used freely. The full information on the depicted powerful moment is found at: <https://www.dvidshub.net/image/1205989>.

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