

## MORAL INJURY WOUNDS RUN DEEP: IMPLICATIONS FOR TREATMENT

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### OVERVIEW:

Dr. Rothbaum presented the findings of a series of studies that provided new insights and innovations in treating post-traumatic stress disorder (PTSD). Different types of PTSD vary based on the type of traumatic event(s) experienced, the severity of stress reactivity to that event, and how long that stress activation persists, leading Dr. Rothbaum to coin PTSD as a “disorder of extinction.” While fear and anxiety are normal responses to trauma, which most people will extinguish over time, for a significant minority, it will not. PTSD is similar to grief: “There is no way to get to the other side of the pain except through it.” Treatment is designed to help people process it, and though it may always remain a terrible memory, it need not intrude in people’s daily lives or be so intensely painful. Importantly, new research with female rape survivors suggests that the timing of interventions after the traumatic event is significant in preventing the onset of PTSD.

### HIGHLIGHTS:

Memory exposure and emotional processing are the most effective treatments to date for PTSD across various traumatized populations. The timing of the treatment intervention is important because PTSD is a disorder in which trauma is part of the diagnostic criteria. An app called ‘Messy Memories’ provides mental health resources for frontline healthcare workers to mitigate the effects of traumatic experiences that might lead to chronic PTSD. This app could also be developed for use in combat theatres and the military field.

Virtual reality environment (VRE) for exposure therapy is a relatively new approach to treating PTSD. VRE recreates and immerses patients in various stressful environments where the therapist can control the type and degree of stimulus presented based on the degree to which the patient is ready to experience it. The evidence from several studies suggests that VRE significantly improves PTSD based on Clinician-Administered PTSD Scale (CAPS) assessments.

An intensive outpatient program for American Veterans has been developed that involves a two-week structure of daily prolonged exposure therapy, as well as skills training in family and relationships management through individual and group sessions. Services provided include psychotherapy, pharmacotherapy, cognitive rehabilitation, stress management skills, sleep training and education, integrative medicine for wellness (acupuncture, yoga, nutrition), navigating the Veterans Affairs system, and family group work via telemedicine.

When PTSD is treated effectively, suicidal thoughts decrease. A manual on the program has been published, as well as a substance use disorder track at Emory Healthcare's Veterans' Program. Entitled "PTSD: What Everyone Needs to Know," Dr. Rothbaum's latest book co-authored with Sheila A.M. Rauch is now available.

## TAKEAWAYS AND NEXT STEPS:

There are different types of PTSD and thus different treatment types. Treatments are designed so that the bodies of people with PTSD learn to become less reactive to stimuli and triggers. This is assessed through psycho-physiological responses like heart rate, the startle response (measured through eye blinking), and the relationship between stress-induced cortisol levels (measured through salivary cortisol concentration) to determine reactivity to stressors and triggers after treatment.

There are excellent treatment options already, but more may be needed for complex and persistent cases of PTSD. Psychedelics like Methylene dioxy-methamphetamine (MDMA), commonly known as Ecstasy or Molly, can be another option that has facilitated the extinction of fear in a rodent model. Interestingly, Selective Serotonin Reuptake Inhibitor (SSRI) anti-depressants inhibited the extinction of fear in rodents, so this should be taken into consideration in optimizing the chance of success of MDMA therapy. Similarly, patients given Alprazolam (Xanax) did worse than those who were not given it, so perhaps benzodiazepines are not a good treatment option for PTSD.

However, practitioners should start with traditional evidence-based interventions delivered with treatment integrity before attempting a newer therapy. Personalized treatment is important because not every treatment works with everyone. A stepped approach is recommended, starting with traditional treatments, then the incorporation of virtual reality treatments, and MDMA. MDMA is not a magic pill, but it is an option for those who have not responded well to traditional treatment.