

Statement of Work

Project Name: Reconsolidation Blockade Applied to PTSD Nightmares: A Pilot RCT

Overview of Project. In this research, we propose to investigate whether PTSD nightmares could function as the retrieval events rendering stored trauma memories modifiable. ***This could underwrite a novel yet simple treatment that would 1) reduce nightmares, and 2) exploit them to target key nodes in the fear memory network promoting chronic PTSD.*** A veteran aroused by a trauma-related nightmare would self-administer a dose of propranolol and return to sleep. Propranolol would block reconsolidation of the memories constituting the nightmare. That propranolol can function as a reconsolidation blocker has been demonstrated by Ledoux and colleagues. The safety of propranolol in PTSD has been repeatedly demonstrated in secondary prevention trials.

PTSD is the most frequent diagnosis among VA patients. Nightmares are a common and debilitating symptom of PTSD and an independent risk factor for suicide. We propose to investigate whether reconsolidation blockade by post-nightmare propranolol, a safe and inexpensive medication, can be used to weaken the fear memories underlying PTSD nightmares, reduce nightmare frequency and distress, and provide substantial overall improvement in PTSD with relatively low treatment burden.

Scope of Work: Forty inpatients of the Men's and Women's Trauma Recovery Program, VA Palo Alto HCS, free of contraindications to propranolol, free of medical sleep disturbance, and experiencing replicative trauma-related nightmares at least once per week, will be randomized to active drug or placebo arms. In the event of a nightmare-induced arousal from sleep, participants will be instructed to self-administer a single 40 mg dose of propranolol or placebo and return to sleep. Treatment will continue for three weeks. Pre/post changes in nightmare frequency and intensity, in overall PTSD symptom severity, and in objective measures of sleep will be compared across treatment and placebo control groups.

Measurement of subjective sleep and psychiatric status will rely upon paper and pencil forms. The transfer of data from paper forms to a useable computerized database is labor-intensive and error-prone. We propose to use Abbyy Flexicapture to computerize this process. Through the use of this sophisticated forms processing software, we will digitize existing forms in use at the National Center for PTSD and the Trauma Recovery Programs. Participant's responses to processed/reprinted forms will be automatically read through our high-speed scanners, interpreted using highly-accurate optical character recognition algorithms, and transferred directly to a database.