

AWARD NUMBER: W81XWH-20-2-0011

TITLE: Prospective Cohort Study of Stellate Ganglion Block for Treatment of Posttraumatic Stress Disorder Symptoms and Other Non-Pain Conditions

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14. ABSTRACT This study seeks to follow for a period of 1 year all Service members and Veterans at four military treatment facilities who receive stellate ganglion block (SGB) for treatment of Post-Traumatic Stress Disorder (PTSD) or other non-pain conditions. Up to 300 consenting individuals will be enrolled into the cohort; enrollment will last for 18 months. Assessments will be conducted at baseline and one week later, as well as at 2, 4, 6, 9, and 12 months. Outcomes will include symptom trajectory for PTSD and other conditions, changes in neurocognitive functioning, and changes in sleep quality and structure.					
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1. Introduction

This study will follow up to 300 consenting Service members, Veterans, and retirees at any of the following four study sites: Womack Army Medical Center (WAMC; Fort Bragg, NC), Tripler Army Medical Center (TAMC; Honolulu, HI), Landstuhl Regional Medical Center (LRMC; Landstuhl, Germany), and Brooke Army Medical Center (BAMC; Fort Sam Houston, TX). Participants already scheduled to receive stellate ganglion block (SGB) for treatment of Post-Traumatic Stress Disorder (PTSD) or other non-pain conditions will be followed for 1 year and assessed at baseline and week one, as well as at months 2, 4, 6, 9, and 12. Data collection will take place for 18 months. Outcomes will include symptom trajectory for PTSD, depression, anxiety, and other conditions; changes in neurocognitive functioning; and changes in sleep quality and structure.

2. Keywords

Stellate ganglion block, Post-Traumatic Stress Disorder, prospective cohort

3. Accomplishments

The major goals of this project for year 3 focused on the U.S. Army Medical Research and Development Command's regulatory (i.e., clinical protocol and Institutional Review Board [IRB]/Office of Human Research Oversight [OHRO]) activities, ongoing development of study protocols and infrastructure (i.e., testing of data collection platforms, and programming of assessments), coordination with co-investigators at the four study sites, maintaining communication with and providing supplemental training to Research Coordinators (RCs) and clinical interviewers, as well as supporting study sites, and monitoring enrollment and data collection. Throughout the year of performance, an important aspect of our work is regular, ongoing communication with co-investigators to apprise them of the study's status and to work closely with them and their teams to facilitate the various tasks necessary to ensure that the sites will be approved to, and appropriately prepared to, implement study activities.

During year 2, RTI's local IRB made the determination to defer IRB approval to a commercial IRB, Biomedical Research Alliance of New York (BRANY), that acts as the single IRB of record for all study sites; this agreement was put in place on November 22, 2021. (Note: we are including this information from year 2 to provide context for the following text.) The reliance agreement between the Director Defense Health Agency Office for Research Protection and BRANY was executed on January 19, 2022. Sites were deferred to BRANY and were responsible for their own internal eIRB submissions. BAMC, TAMC and WAMC received initial site approval from BRANY (LRMC received this in year 2) during year 3. All sites received OHRO approval and site acknowledgement in eIRB during this reporting period. Details regarding submissions to BRANY and OHRO are provided below. On October 5, 2022, RTI received approval for the Data Sharing Agreement Application (DSAA) that was submitted in July 2022. This DSAA established a Data Sharing Agreement (DSA) between the Defense Health Agency (DHA) and RTI International. The DSA essentially approves the sharing of participants' name, telephone number, email address, and appointment data and times between the scheduling staff and the research coordinators. The establishment of the DSA allowed RTI to submit site-specific protocols to BRANY for approval.

Details of the master protocol/template ICF submissions to BRANY in year 3 are as follows:

Submission	Submission date	Approval date
Protocol v4; template ICF vABCDE	08/01/2022	08/02/2022
Protocol v5; template ICF vABCDEF; Garmin Addendum vA	12/22/2022	01/03/2023
Protocol v6; template ICF vABCDEFG	05/09/2023	05/12/2023
Template ICF vABCDEFGH	05/17/2023	05/18/2023
Protocol v7; template ICF vABCDEFGHI	06/27/2023	06/28/2023

The site-specific submissions to BRANY in year 3 are as follows:

Submission	Submission date	Approval date
BAMC		
BAMC intake submission; ICF vABCDE	09/20/2022	09/26/2022
BAMC ICF vABCDEF; Garmin Addendum vA	01/05/2023	01/05/2023
BAMC ICF vABCDEFG	07/17/2023	07/17/2023
LRMC		
LRMC ICF vABCDE	08/02/2022	08/18/2022
Adm. Rev. – Partial HIPAA waiver	09/08/2022	09/08/2022
COI Review	09/15/2022	09/27/2022
LRMC ICF vABCDEF	02/14/2023	02/14/2023
Annual Status Report (<i>acknowledgement</i>)	04/24/2023	04/25/2023
Study Enrollment Closure Report	05/02/2023	05/02/2023
PI Change (including Co-I changes)	06/27/2023	06/29/2023
TAMC		
TAMC intake submission; ICF vABCDE	09/16/2022	09/16/2022
TAMC ICF vABCDEF; Garmin Addendum vA	01/06/2023	01/06/2023
PI Change (including Co-I changes); ICF vABCDEFG	07/05/2023	07/10/2023
TAMC ICF vABCDEFGH	07/18/2023	07/18/2023
WAMC		
WAMC intake submission; ICF vABCDE	08/29/2022	08/29/2022
WAMC ICF vABCDEF; Garmin Addendum vA	01/06/2023	01/09/2023
Study Enrollment Closure Report	06/14/2023	06/14/2023
Annual Status Report (<i>acknowledgement</i>)	07/17/2023	07/17/2023

OHRO approvals were received as follows:

- Continuing review (master) – 12/01/2022
- BAMC site approval – 09/29/2022
- LRMC site approval – 09/29/2022
- TAMC site approval – 09/29/2022
- WAMC site approval – 09/29/2022
- LRMC PI change – 06/30/2023
- TAMC PI change – 07/19/2023
- Incorporation of the Wearable/Omics Study into the SGB Cohort Study protocol
 - Master – 07/13/2023
 - BAMC – 07/20/2023
 - TAMC – 07/20/2023

The team established a Cooperative Research and Development Agreement (CRADA) with each site ensuring a more comprehensive approach to data security and sharing.

Study Site	CRADA Approval Date
BAMC	11/17/2022
LRMC	11/22/2022
TAMC	09/14/2022
WAMC	09/1/2022

A Manual of Procedures (MOP) was drafted that provides an overview of the study’s Standard Operating Procedures (SOPs), which includes study visit and assessment administration procedures, data transmission protocols, file naming conventions, and analytic plans.

In anticipation of enrollment launch, the study team conducted several supplemental/refresher trainings with the Research Coordinators (RCs) via Microsoft TEAMS. The first was a recruiting role play session which allowed the coordinators to practice their telephone communication skills and their ability to navigate the potential hesitancy, fear, and curiosity of prospective participants during recruitment. This was followed by a “consenting process” roll play to enhance their familiarity and comfort with the ICF and the overall consenting process. We also conducted a refresher training on all components of the Suicidal Ideation Warning System and the RCs responsibilities during a system “trip”.

As part of the startup process, and primary component of the study, at three of the study sites, to exclude LRMC, Garmin smartwatches were supplied to the Research Coordinators so they could be distributed to those participants who consent to collect and track physiological data (e.g., heart rate, respiratory rate, and oxygen saturation) at frequent intervals.

During year 3, plans for participant onboarding and data collection were finalized. Start Letters were received for all four sites once enrollment was successfully launched at each study site.

Study Site	Start Letter	Enroll Start
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BAMC	10/7/2022	11/30/2022
LRMC	11/22/2022	11/29/2022
TAMC	9/30/2022	10/20/2022
WAMC	11/17/2022	11/22/2022

Throughout the period of performance, the four study sites were actively enrolling participants and enrollment will continue into year 4. The study's target participant enrollment is 300; the total study enrollment by site for year 3 are provided in the table below.

Study Site	Site Enrollment (Total Number of Participants)
BAMC	61
LRMC	24
TAMC	76
WAMC	23
Total Participants	181

Interviewer-rated assessment of PTSD symptoms using the gold-standard Clinician-Administered PTSD Scale for DSM-5 (CAPS-5) remains an important component of participant baseline and follow-up outcomes assessment. Six clinical interviewers (CIs), who are all licensed clinical psychologists, conduct CAPS-5 interviews via telephone under the oversight of our study's clinical supervisor (CS). The CS is a licensed clinical psychologist who is an expert in psychodiagnostic assessment, generally, and PTSD assessment via the CAPS-5, specifically. With participant consent, CIs audio record each interview; after the interview, CIs ship the hard copy CAPS-5 packet and upload the audio file to a secure file transfer destination for CS review. The CS reviewed 100% of completed CAPS-5 assessments until CIs demonstrated competence and she designated them as certified in CAPS-5 administration for this study. As all CIs successfully obtained CAPS-5 certification during the current reporting period (on 22 January 2023), the CS now reviews a limited 10% of audio recordings and completed CAPS-5 packets. This ongoing review is meant to monitor CAPS-5 quality monitoring and CI fidelity, so that the CS can address interviewer "drift" or common issues with all CIs. Additionally, the CS facilitates quarterly interrater reliability rating and calibration exercises to ensure consistent CAPS-5 assessment across CIs. These meetings are in addition to monthly meetings the CS holds with CIs to address questions or issues that arise across participants and assessment timepoints. After the CS finishes her review of completed CAPS-5 packets and audio recordings, she ships the CAPS-5 hard copy packets to the RTI study management team. Once the CAPS-5 packets are received at RTI, the raw item-level data are entered by trained study staff. These two staff enter the data independently so that the manual data entry files can be compared to identify and resolve any discrepancies before being incorporated into the master data set for formal study analyses. An RTI study management team member who is a licensed clinical psychologist and experienced in CAPS-5 administration and analysis oversees the manual data entry and consistency resolution process.

Site visits were conducted at all four sites during the period of January – March 2023. During these visits project staff met with the site PIs, the Research Coordinator, scheduling and nursing staff, and the site Human Protections Director. We discussed the status of the study and if, from each of their perspectives, there were problems that needed to be addressed. Our regulatory lead met with the Research Coordinator to conduct an in-depth review of all study related documentation to ensure adherence to study procedures.

Site	Site Visit
BAMC	February 2023
LRMC	March 2023
TAMC	January 2023
WAMC	February 2023

During year 3, team statisticians began examining data collected to date to ensure that all data management and analytic processes are functioning appropriately. These regular reports have been, and will continue to be, run bi-weekly. Additionally, many of the baseline concomitant medications have been categorized by Dr. Brad Walters. In the coming project year, we plan to finalize the statistical analysis plan (SAP), develop analytic dataset specifications, and begin programming the analytic dataset(s).

We began planning for the incorporation of an Omics/Wearables study (W81XWH-22-9-0001) into this study's protocol to allow for collection of additional data from the last 100 to 120 cohort study enrollees. Funding for this separate contract was procured through Advanced Technology International (funding source DOD Army USAMRDC) to support additional data collection from SGB Cohort Study participants with objective data being collected via wearables and blood-based biomarkers. The objective of the study is to advance a prototype algorithm for identifying subtypes of Service members and Veterans who experience PTSD symptom reduction resulting from SGB by augmenting the subjective data being collected for an existing prospective cohort study with objective data collected via wearables and blood-based biomarkers.

Study staff submitted oral and poster presentations to the 2023 Military Health System Research Symposium (MHSRS) conference that presented information on characteristics of study participants. These presentations were accepted and will be presented in year 4.

We continue to maintain the study website: <https://sgbcohort.rti.org/>.

Task 1: Conduct Cohort Study (Months 1-36)		
Subtask 1: Prepare Regulatory Documents and Research Protocols		
Milestone	Complete?	Comments
Finalize Study Protocol	Yes	
Receive Common Access Cards	No	Determined to be unnecessary
Receive All IRB and HRPO Approvals	Yes	
Subtask 2: Develop Study Infrastructure		

Milestone	Complete?	Comments
Finalize Data Platforms	Yes	Completed early
Hire and Train Research Coordinators	Yes	Research Coordinators in place, trained and are enrolling participants.
Milestone	Complete?	Comments
Finalize Web Control Systems and Instruments	Yes	Completed early
Subtask 3: Collect, Analyze, and Disseminate Data		
Milestone	Complete?	Comments
Recruit and enroll participants; collect data	No	In process – 60% complete
Wearables		
Milestone	Complete?	Comments
Procure sensors, equip participants	Yes	Data collection ongoing
Milestone	Complete?	Comments
Configure data collection tools	Yes	Data collection ongoing

For the upcoming project year (i.e., year 4), we will continue to enroll at BAMC and TAMC study sites and to follow enrolled participants at all four sites over their 12-month follow-up period. We anticipate reaching our goal of enrolling 300 participants within this project year. We also will continue reviewing periodic data monitoring reports and holding Clinical Interviewer calibration and interrater reliability meetings (for quality control). Because they are still enrolling participants, site visits will be conducted at TAMC and BAMC. During these visits, we will meet with the site PIs, Research Coordinator, and scheduling and nursing staff, as well as other relevant contacts such as the site HPD and the Director of the Department of Clinical Investigations. During these meetings, we will discuss the status of the study and if, from each of their perspectives, there are problems that need to be addressed. Our regulatory lead will meet with the Research Coordinators at each site to conduct an in-depth review of all study related documentation to ensure adherence to study procedures.

The study team will hold an in-person meeting with the Research Coordinators in the coming project year. During this meeting, we will provide the Research Coordinators with refresher training on study procedures. In addition, the entire research team will have an in-depth “Lessons Learned” discussion in order to improve study processes to help ensure the success of the study going forward.

4. Impact

Nothing to report.

5. Changes/Problems

Changes:

The Site PIs for LRMC and TAMC moved to new duty stations (PCS). The study team worked closely with them to execute a PI transition plan that limited any impact on study activities at each of these sites. Ultimately, due to slow enrollment and losing the Research Coordinator at each site, the

team closed enrollment at LRMC and WAMC which allows us to focus more resources on the higher producing study sites. Site Closeout Visits were completed at LRMC and WAMC in June 2023.

Problems: During year 3, we continued to experience delays in receiving both BRANY and HRPO approval for BAMC, TAMC, and WAMC, resulting in delays to initiation of data collection. Shortly before the end of the project year, we received administrative approval for WAMC but the team is still working closely with site PIs and HPDs at BAMC and TAMC to push for administrative approvals so that formal reviews by BRANY and HRPO can begin. In particular, we experienced delays in receiving sign off on the amended master protocol and ICF by the HPD at BAMC and could not move forward with the submission of the local materials to BRANY until we received that approval.

We experienced considerable delays in obtaining DHA approval of the study's DSA which was applied for in July 2022. The requirement for the DSA between RTI and DHA slowed the IRB and HRPO approvals at research sites and led to delays in enrollment launch at all sites. On October 5, 2022, RTI received approval for the Data Sharing Agreement Application (DSAA) submitted in July 2022, which established a Data Sharing Agreement (DSA) between the Defense Health Agency (DHA) and RTI International.

The requirement for the DSA between RTI and DHA slowed the IRB and HRPO approvals at research sites. Submissions to BRANY had to be paused until the DSA application had been reviewed and approved to avoid the need for a protocol amendment for all sites should DHA staff require changes to the master protocol.

Application for a Common Access Card by the RC at TAMC was significantly delayed by a requirement that the CRADA be finalized prior to beginning that process. Approval to begin the application was granted by the Department of Clinical Investigations on August 16, 2022.

While all sites were actively enrolling during throughout year 3, enrollment fluctuated across sites and during different times of the year, with enrollment slowing down during the summer months due to permanent change of station PCS season and leave.

Regarding the incorporation of an Omics/Wearables study into the study's protocol to allow for collection of additional data from the last 100 to 120 cohort study enrollees, our collaborators at WRAIR experienced consistent delays in finalizing contractual agreements and regulatory approvals for the Omics portion of the study that may that put that study in jeopardy.

6. Products

Study website: <https://sgbcohort.rti.org/>

Study data collection and control system platforms.

The study quad chart appears as Appendix A.

The latest approved study protocol appears as Appendix B; the approved informed consent form is presented as Appendix C.

Abstract accepted for poster presentation at 2023 Military Health System Research Symposium (see Appendix D).

7. Participants and Other Collaborating Organizations

The following individuals have worked on the project for a minimum of 160 hours during project year 3. There has been no change in support of the Principal Investigator, co-investigators, or key personnel, and no other organization was involved as a partner.

Name	Project Role	Person Months Worked	Contribution to the Project
Rae Olmsted, Kristine L.	Principal Investigator	4.9	Daily study operations; management and substantive oversight (IRB/HRPO submissions, budget, substantive materials)
Peeler, Russ	Co-Investigator; Logistics Coordinator	5.3	Logistics, protocol and IRB package preparation and related meetings, computer and assessment systems QC, direct communication with site PIs, RCs, and CIs; training materials development and training.
Croxford, Julie	Regulatory Lead	2.1	Regulatory coordination
Wooten, Camara	Analyst	1.8	General research support
Zemonek, Richard	Web and Systems Programmer	1.6	Web and systems programming/maintenance
Blakey, Shannon	Clinical Analyst	1.5	Support daily study operations; liaise between RCs and CIs conducting participant assessment, the study management team, and the study statisticians.
Hirsch, Shawn	Statistician	1.2	Statistical programming and oversight

8. Special Reporting Requirements

Not applicable.

Appendix A: Study Quad Chart

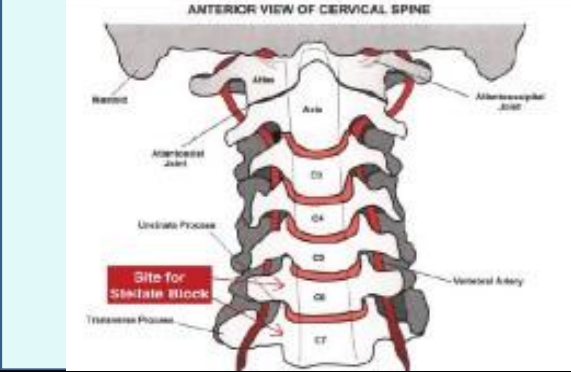
Prospective Cohort Study of Stellate Ganglion
Block for Treatment of Posttraumatic Stress Disorder Symptoms and Other Non-Pain Conditions
W81XWH2020011

PI: Kristine Rae Olmsted

Org: RTI International

Award Amount: \$4,592,921



Study/Product Aim(s) - For how long after SGB are symptoms of PTSD and other disorders (anxiety, depression, sleep difficulties, tinnitus) decreased? - Are there neurocognitive or performance impacts associated with SGB? - What role does the number of SGB play in symptom trajectories? - Does the type of traumatic exposure among those with PTSD symptoms play a role in SGB treatment outcomes? - What role does time elapsed since traumatic exposure/onset of PTSD symptoms play in symptom reduction by SGB? - Do ADSM, veterans, and retirees respond differently to SGB? Approach A prospective cohort study to characterize intermediate -term effects of SGB on selected physiological and psychological/behavioral characteristics of eligible active -duty Service members, veterans, and retirees receiving SGBs at any of five study sites. We will follow individuals treated with SGB for PTSD symptoms and other conditions unrelated to pain to determine the duration of effect of the treatment, impact of SGB for conditions other than PTSD (such as anxiety and tinnitus), potential neurocognitive and performance impacts associated with SGB, and the degree to which time elapsed since traumatic exposure plays a role in symptom change after SGB.	 Accomplishments: BRANY established as IRB of record; approval of master protocol by BRANY and HRPO; modifications to master protocol submitted and approved; significant coordination efforts with sites regarding regulatory packages and protocol amendments; site kickoff meetings; development of codebooks; hiring and training of clinical interviewers and research coordinators; initiation of data collection and data cleaning/QC. Participants: 181 (60%).
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Timeline and Cost

Activities	Y1	Y2	Y3	Y4	Y5
Prepare Regulatory Documents and Research Protocols					
Develop Study Infrastructure					
Collect, Analyze, Disseminate Data					
Estimated Budget (\$K)	\$342K	\$677K	\$1.5M	\$1.2M	\$873K

Updated: August 2023

Goals/Milestones

Y1 Goals – Prepare and submit regulatory packages and protocol

Y2 Goals – Develop control systems; hire and train research coordinators

Y3 Goals – Continue recruitment and enrollment

Y4 Goals – Complete recruitment and enrollment; prepare data for analysis

Y5 Goals – Prepare data for analysis; analyze data and disseminate findings

Comments/Challenges/Issues/Concerns Delayed enrollment at all sites due to slow progress regarding Data Sharing Agreement; CRADA implementation at BAMC, LRMC, and WAMC; and BRANY and OHRO site approvals. Despite this, the study's enrollment is nearly on track with the original timeline. PIs from LRMC and TAMCPCS'ed; the study team worked with sites to execute a PI transition plan. LRMC and WAMC sites closed due to loss of research coordinators and slow enrollment. Study team continues to follow up with these (and all) participants. Concerns about MTEC award resulted in delays to cohort study data collection.

Budget Expenditure to Date

Projected Expenditure: \$2,782,895

Actual Expenditure: \$2,534,166

Appendix B: Current Approved Study Protocol

Protocol amendment v7 was approved by BRANY and OHRO prior to July 31, 2023 but it was not implemented at the sites because of pending updates which affected the consenting process at TAMC. Acknowledgement for this protocol version had not yet been received in eIRB for BAMC by the end of this reporting period.

**USAMRAA W81XWH2020011
W81XWH-15-9-0001**

**A Multisite, Longitudinal, Observational Study of Posttraumatic Stress Disorder
and Other Symptoms among Service Members Receiving Stellate Ganglion
Blocks for the Treatment of Non-pain Conditions at Military Treatment Facilities
(SGB Cohort Study)**

Embedded: Wearables and Omics in Support of an Existing Prospective Cohort
Study of Stellate Ganglion Block for Treatment of Symptoms of Posttraumatic
Stress Disorder and Other Non-pain Conditions (Wearables/Omics Study)

Protocol ID: SGB-202
Version: v7
Version Date: June 22, 2023

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Disclaimer:

Some of the language used in this protocol may have appeared in our prior publications, proposals, protocols, or abstracts.

REVISION HISTORY

Protocol Version	Protocol Date	Section(s) Revised	Description of Revision(s)
Original Protocol	November 19, 2021		
Version 2	March 16, 2022	Study Locations	Revised WRNMMC to Eglin AFB
		Additional Co-Investigators	Added Co-Investigators
		1	Added “NRS”, “CONUS”, “LEC-5” and “TAMC” to abbreviations list
		2.1	Clarified that smartwatch technology (not necessarily actigraphy only) would be used to objectively measure sleep quality
		2.4	Added lines for tobacco use, psychotropic medication use, pain intensity, and sexual activity/sexual function to the assessment summary table
		2.4	Moved “X” indicating measure administration from AUDIT to AUDIT-C at Month 2 in the assessment summary table
		2.4	Added “X” indicating measure administration of THI at Months 4 and 9 in the assessment summary table
		2.4	Clarified table to show that Garmin Fenix 6 watches (not Fatigue Science’s Readiband™ wearable actigraphs) would be distributed to a subset of 30 participants at each CONUS site (plus TAMC) in the assessment summary table
		2.4	Added “X” indicating additional administration of the CPT-3 neurocognitive battery at Month 2 and updated corresponding superscript in the summary table
		4.3	Clarified that smartwatch technology (not necessarily actigraphy only) would be used to objectively measure sleep quality
		5.1	Added additional administration of the CPT-3 neurocognitive battery to Study Design flowchart
		5.3	Added lines for tobacco use, psychotropic medication use, pain intensity, and sexual activity/sexual function to Table 1
		5.3	Moved “X” indicating measure administration from AUDIT to AUDIT-C at Month 2 in Table 1

Protocol Version	Protocol Date	Section(s) Revised	Description of Revision(s)
		5.3	Added “X” indicating measure administration of THI at Months 4 and 9 in Table 1
		5.3	Clarified Table 1 to show that Garmin Fenix 6 watches (not Fatigue Science’s Readiband™ wearable actigraphs) would be distributed to a subset of 30 participants at each CONUS site (plus TAMC)
		5.3	Added “X” indicating additional administration of the CPT-3 neurocognitive battery at Month 2 and updated corresponding superscript in Table 1
		5.3	Deleted duplicate/redundant text describing the Baseline through Month 12 assessments (previously 5.3.9 – 5.3.15)
		5.3.3	Added subsections describing Horner’s syndrome evaluation (5.3.3.1), tobacco use (5.3.3.4), psychotropic medication use (5.3.3.5), pain intensity (5.3.3.6), and sexual activity and function (5.3.3.15); renumbered adjacent subsections for continuity
		5.3.3	Clarified that Garmin Fenix 6 watches (not Fatigue Science’s Readiband™ wearable actigraphs) would be distributed to a subset of 30 participants at each CONUS site (plus TAMC), not necessarily the first 30 participants at each site. Also revised text describing the wearable, which was changed from the Fatigue Science’s Readiband to the Garmin Fenix 6.
		5.3.3	Revised the CAPS-5 measure and administration descriptions to reflect that the LEC-5 will be administered by the clinical interviewer immediately prior to the CAPS-5 (not by the RC ahead of time)
		5.3.7	Added tobacco use, psychotropic medication use, pain intensity (NRS), and sexual activity/sexual function (CSFQ) to Month 2 Follow-up Visit assessment measures list
		5.3.7	Added CPT-3 neurocognitive battery administration to the Month 2 assessment measures list
		5.3.8	Added tobacco use, psychotropic medication use, pain intensity (NRS), sexual activity/sexual

Protocol Version	Protocol Date	Section(s) Revised	Description of Revision(s)
			function (CSFQ), and tinnitus (THI) to Month 4 Follow-up Visit assessment measures list
		5.3.9	Added tobacco use, psychotropic medication use, pain intensity (NRS), and sexual activity/sexual function (CSFQ) to Month 6 Follow-up Visit assessment measures list
		5.3.9	Updated Readiband™ to Garmin Fenix 6 in the statement about objective sleep data collection ending at the Month 6 Follow-up Visit
		5.3.10	Added tobacco use, psychotropic medication use, pain intensity (NRS), sexual activity/sexual function (CSFQ), and tinnitus (THI) to Month 9 Follow-up Visit assessment measures list
		5.3.11	Added tobacco use, psychotropic medication use, pain intensity (NRS), and sexual activity/sexual function (CSFQ) to Month 12 (Final) Follow-up Visit assessment measures list
		5.3.13	Updated Readiband™ to Garmin Fenix 6
		7	Added full citations for the CSFQ (Clayton et al., 1997), NRS (Hjermstad et al., 2011), and Garmin Fenix 6 (Stevens & Siengsukon, 2019) to the references list; deleted Readiband™ citations (Hursh et al., 2004; Russell et al., 2016; Van Dongen, 2004) from the references list
		8	Added Demographic items (8.1), Emergency/Secondary contact information and Command contact information (8.2), tobacco use (8.3), psychotropic medication use (8.4), pain intensity NRS (8.5), and CSFQ (8.15) to the Data Forms; renumbered adjacent data forms for continuity
Version 3	June 20, 2022	Short title	Changed the short title to SGB Cohort Study
		Throughout the protocol	Updated language to indicate that there will be four (4) military treatment facilities (MTFs) and not five (5).
		2.4 and 5.3 (<i>Schedule of Evaluations</i> table)	Footnote “b” updated to “Approximately 40 participants at each CONUS site (plus TAMC)”. This change has been made as Walter Reed National Military Medical Center is no longer

Protocol Version	Protocol Date	Section(s) Revised	Description of Revision(s)
			include as a treatment facility in this study and consequently, these data will be collected from more participants at BAMC, TAMC, and WAMC.
		5.1	Added the Week 1 battery to the study design flow diagram.
		5.2	Deleted the sentence indicating the approximate number of SGBs performed monthly at the study sites.
		5.3.3.8.2.4	Language explaining the steps to be followed when managing distressed respondents during CAPS-5 administration was removed. The steps to take for specific scenarios are explained in detail in Section 8.8.
		6.1	Updated the sentence indicating the approximate number of SGBs performed monthly at the study sites to clarify that these were the numbers available at the time of protocol development.
		8.1	Removed reference to Walter Reed National Military Medical Center as a treatment facility
		8.7 (CAPS-5 Suggested Talking Points for CAPS Introduction and Closure)	Removed reference to Walter Reed National Military Medical Center
		8.8 (Distressed Respondent Protocol)	Made many text updates throughout the protocol for clarification of the protocol to follow when a respondent threatens harm to themselves or others.
Version 4	August 1, 2022	2.5	Added sentence pointing out Purpose and Objectives
		5.2	Updated to better reflect where contact data are coming from and what happens to them after we have collected them.
		5.3.3.2	Removed last four of SSN
		8.1	Removed last four of SSN
		8.2	Removed last four of SSN
Version 5	December 21, 2022	Additional co-investigators	Removed the address, email and telephone numbers of the additional co-investigators not specifically associated with the study sites.

Protocol Version	Protocol Date	Section(s) Revised	Description of Revision(s)
		Table 1 in 2.4 and 5.3	Revised the time burden for completing the CAPS-5 from 60 minutes to 60-90 minutes
		Table 1 in 2.4 and 5.3; 5.3.6	Updated wording to note that the 2–7 days post-SGB evaluation is also referred to as Week 1 Follow-up Visit.
		5.3.3.2/ 8.1	Added the collection of race/ethnicity data to the demographic data collection questions. The data form included as Section 8.1 reflects the updates.
		5.3.3.6/ 8.5 5.3.3.7/ 8.6	Switched the order of these two sections in the protocol text – SGB History is now 5.3.3.6 and Pain Intensity: Numeric Rating Scale is now 5.3.3.7. The SGB History data collection form included in Section 8.5 and the Pain Intensity Scale is included as Section 8.6.
		5.3.3.8.2.5/ 8.10	The Short Blessed Scale has been added to the protocol as part of the management of cognitively Impaired Respondents Before and During CAPS-5 Administration. Section 5.3.3.8.2.5 provides guidance about when to use the scale. The scale itself is include in Section 8.9.
		5.4	Shannon Blakey was added as a member of the RTI team who is notified, as necessary, when the suicidal ideation trip system is activated.
		8 – Data Forms/SOPs	Section 8.1: Instructions and questions regarding race/ethnicity and chain of command emergency contact details for active service participants were added to the existing Demographic and Personal Information form. Section 8.2: Removed question regarding active-duty status as this is asked elsewhere (Section 8.1). An SGB History form was added as Section 8.5. Section 8.9: A script for ending the interview for all participants who do not fall into the specific scenarios listed in the Distressed Respondent Protocol (DRP) was added to the DRP. Additionally, information regarding the “988” emergency line was added throughout the DRP, as appropriate.

Protocol Version	Protocol Date	Section(s) Revised	Description of Revision(s)
			The Short Blesses Scale was added as Section 8.10. The numbering of other data forms was updated, as appropriate. Additionally, all references to the data forms in the protocol text were also renumbered, as appropriate.
Version 6	May 9, 2023	Cover/Front-end	The list of PIs/Co-PIs/Co-Is were updated to incorporate the investigators for both the Cohort Study and the Wearables/Omics Study.
		Study Locations	The site investigators for both LRMC and TAMC were also updated.
		1	Abbreviations updated to reflect additional terms – CBC, CMP, DNA, RNA, WRAIR
		2.1; 4.5	Added the three hypotheses for the Omics Study.
		2.2	Updated the sites for the enrollment activities for the Wearables/Omics Study activities.
		2.4 (Table 1); 5.3 (Table 1)	Added the Omics blood collection and updated the footnotes regarding the sites for Wearables data collection.
		2.5	Added research question for the Wearables/Omics Study activities.
		Throughout	Updated language to indicate that the final approximately 120 participants: - will be enrolled at three sites only (BAMC, WAMC, and TAMC) - will also be consented for the Wearables/Omics data collection.
		Throughout	Removed specific reference to Garmin Fenix 6 and instead used general language such as series, wearables, or smartwatches.
		5.2	Clarified that advertising may be done, but not necessarily.
		5.3.3	Inserted a section for Multi-omics and baseline metabolic assessments and renumbered the original Section 5.3.3 to 5.3.4.
		5.3.4.18.1	Elaborated regarding the heart rate variability and sleep data collection. Also clarified that wearable data collection will no longer be an opt-in/opt-out data collection for those

Protocol Version	Protocol Date	Section(s) Revised	Description of Revision(s)
			participants still to be enrolled (approximately 120 participants).
		5.4	Noted that there would be no more than minimal physical risks associated with the blood draws.
		6.1.1	Added a section for the Wearables/Omics data analysis.
Version 7	June 22, 2023	Throughout	Updated language to specify that the data to be collected for the embedded Omics/Wearable Study (last approximately third of the SGB Cohort Study's sample) will be collected from participants enrolled at BAMC and TAMC only. Enrollment was halted at LRMC previously and has now also been halted at WAMC.
		2.6	Updated language to specify that participants will be considered to be enrolled into the SGB Cohort study if they consent to be in the study and if, at a minimum, complete the majority of the baseline data collection activities.
		2.4 (Table 1); 5.3 (Table 1)	Added a footnote to specify that in-person visits may be completed at a venue other than the RC's office if more convenient to the participant, as long as the venue is suitable for data collection purposes.

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Tracy Jill Doty, PhD

2. INVESTIGATOR'S AGREEMENT AND SIGNATURE PAGE

A Multisite, Longitudinal, Observational Study of Posttraumatic Stress Disorder and Other Symptoms among Service Members Receiving Stellate Ganglion Blocks for the Treatment of Non-pain Conditions at Military Treatment Facilities

I have read the protocol and agree:

- That the protocol contains all necessary details for carrying out the study and that I will complete the study within the time designated by RTI International.
- To assume responsibility for the proper conduct of the study according to the protocol and any other study-conduct procedures and requirements provided by RTI International.
- To read, understand, and provide the protocol to all physicians, nurses, and other study personnel accountable to me and participating in the conduct of this study.
- To ensure that all study personnel assisting me with the study are fully informed of their study-related duties and responsibilities as described in the protocol and other procedures/requirements provided by RTI International.
- That the participants will be under my personal supervision or under the supervision of an investigator responsible to me.
- Not to implement or initiate the study or make any changes to the protocol without agreement from RTI International and prior submission to and written approval from the institutional review board (IRB), except when necessary to eliminate the immediate hazard to the participants, or for administrative aspects of the study (where permitted by all applicable regulatory requirements).
- To comply with all applicable regulatory requirements in the conduct and reporting of the study.
- To keep the conduct and results of this study confidential until it and all study analyses are complete.
- That RTI International and its designees shall have access to any source documents from which Case Report Form data have been collected.

Principal Investigator's Signature

Date

Principal Investigator's Printed Name

Site

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ABBREVIATIONS

ADSM	Active-duty Service members
AUDIT	Alcohol Use Disorders Identification Test
AUDIT-C	Alcohol Use Disorders Identification Test - Concise
BTQ	Brief Trauma Questionnaire
CAPS	Clinician-Administered PTSD Scale
CAPS-5	Clinician-Administered PTSD Scale for DSM-5
CBC	Complete Blood Count
CI	Confidence interval
CMP	Complete Metabolic Panel
CONUS	Continental United States
CPT-3	Conners Continuous Performance Test, 3 rd Edition™
CQ	Charge of Quarters
CS	Clinical Supervisor
DNA	Deoxyribonucleic acid
DRP	Distressed Respondent Protocol
FIPS	Federal Information Processing Standards
GAD-7	Generalized Anxiety Disorder Screener (7-item)
HIPAA	Healthcare Insurance Portability and Accountability Act
HRB	Health Related Behaviors
ICF	Informed Consent Form
IRB	Institutional Review Board
K6	Kessler 6-item screener
LEC-5	Life Events Checklist for DSM-5
M.I.N.I.	Mini-International Neuropsychiatric Interview
mL	Milliliter(s)
MTF	Military treatment facility
NRS	Numeric Rating Scale
NSDUH	National Survey of Drug Use and Health
PCL-5	PTSD Checklist for DSM-5
PCL-M	PTSD Checklist – Military
PHQ-9	Patient Health Questionnaire
PHO	PROMIS Health Organization
PROMIS	Patient-Reported Outcomes Measurement Information System
PTSD	Posttraumatic stress disorder
RC	Research Coordinator
RNA	Ribonucleic acid
RSD	Reflex sympathetic dystrophy
SAFTE	Sleep, Activity, Fatigue, and Task Effectiveness
SAP	Statistical Analysis Plan
SD	Standard deviation

SF-12	Short Form (12) Health Survey
SG	Stellate ganglion
SGB	Stellate ganglion block
TAMC	Tripler Army Medical Center
THI	Tinnitus Handicap Inventory
TSSS	Total Symptom Severity Score (CAPS, CAPS-5)
VA	Veterans Affairs
WRAIR	Walter Reed Army Institute of Research

SYNOPSIS

STUDY HYPOTHESES

Primary:	Hypothesis 1: Symptoms of PTSD will decrease after treatment with SGB; embedded in this primary hypothesis are two sub-hypotheses, one that SGB will have an immediate effect and a second that this effect will be sustained for at least 6 months.
Secondary:	Hypothesis 2: SGB treatment effects on PTSD symptoms will decay over time. Hypothesis 3: SGB will not result in neurocognitive deficits in overall performance (e.g., sustained attention, vigilance). Hypothesis 4: SGB will be associated with improved sleep measures (smartwatch technology, self-report).
Exploratory analyses:	The temporal association of SGB with changes in alcohol use, anxiety, depression, mental illness/psychological distress, and symptoms of tinnitus, as well as measures of general physical and mental functioning, will be evaluated.
Wearables/Omics:	Hypothesis 5: Characterization of omic responses (DNA methylation and RNA expression) before and after SGB treatment for PTSD will provide predictive markers for Service members and Veterans whose symptoms are likely to decrease due to the treatment. Hypothesis 6: Heart rate variability (HRV) and sleep quality, as measured by a smartwatch, will show improvements after SGB treatment. Features related to any combination of HR, HRV, sleep, and activity will correlate to treatment response. Hypothesis 7: Addition of objective wearables and blood-based biomarkers data together, along with the subjective data being collected as part of our currently funded study, will allow for validation and advancement of our prototype algorithm and will increase our ability to characterize subgroups of participants on the basis of their changes in objective and subjective measures after SGB treatment.

STUDY DESIGN TYPE

Multisite, longitudinal, observational study at four military treatment facilities (MTFs). The last third (approximately) of the sample will be enrolled at only two of the four MTFs (BAMC and TAMC) and the additional data for the Wearables/Omics Study will be collected from this last portion of the sample.

ELIGIBILITY CRITERIA

- Scheduling a clinically indicated SGB not specifically for pain control
- U.S. citizen
- Off-duty Internet access
- Willing and able to provide informed consent

SCHEDULE OF EVALUATIONS

Table 1: Schedule of Evaluations*

Construct & Variables	Measure	Burden (min)	Month					
			Baseline	2	4	6	9	12
Demographics and personal information	Direct questions	2	X					
Emergency/secondary & command contact info	Direct questions	3	X	X	X	X	X	X
Tobacco use	Direct questions	2	X	X	X	X	X	X
Psychotropic medication use	Direct questions	2	X	X	X	X	X	X
Pain intensity	NRS	1	X	X	X	X	X	X
SGB history	Direct questions	2	X	X	X	X	X	X
PTSD	CAPS-5	60-90	X			X		X
	PCL-5	5	X	X	X	X	X	X
New trauma	Question, modified BTQ	3		X	X	X	X	X
Suicidal ideation, generalized anxiety	MINI-Plus suicidality	3	X	X	X	X	X	X
	GAD-7	2	X	X	X	X	X	X
Alcohol use	AUDIT	2	X					X
	AUDIT-C	1		X	X	X	X	
Serious mental illness, depression, general functioning, tinnitus	K6	1	X	X	X	X	X	X
	PHQ-9	2	X	X	X	X	X	X
	SF-12	3	X	X	X	X	X	X
	THI	4	X	X	X	X	X	X
Sexual activity/sexual function	CSFQ	2	X	X	X	X	X	X
Neurocognitive functioning ^a	CPT-3	14	X	X				
Sleep – objective ^b	Garmin Fenix series	ongoing	X	X	X	X		
Sleep – self-report	PROMIS-sleep disturbance	3	X	X	X	X	X	X
Omics blood draws ^c	CBC; CMP; protein and metabolites; DNA analysis-methylation; RNA analysis-gene expression	30	X ^d	X		X		

* – Although the protocol usually indicates that in-person data collection will be done in the RC's office, it may be done in an alternate, suitable venue if this is more convenient for the individual/participant.

^a – Also evaluated post-SGB (immediately after procedure recovery and again at 2–7 days post-SGB; also referred to as Week 1 Follow-up Visit).

^b – Initially, enrolled into this part of study data collection at each CONUS site (plus TAMC) on an opt-in/opt-out basis. The last approximately 120 participants to be enrolled will consent to all cohort and wearables/omics data collection and will be enrolled only at BAMC and TAMC.

^c – Approximately 120 participants (collected at BAMC and TAMC only).

^d – CMP at Baseline only.

RESEARCH QUESTIONS

The purpose and objectives of the study are to assess the following research questions:

- For how long after SGB are symptoms of PTSD and other disorders (such as anxiety, depression, sleep difficulties, and tinnitus) decreased?
- Are there neurocognitive and performance impacts associated with SGB?
- What role does the number of SGB treatments play in symptom trajectories?
- Does type of traumatic exposure among those with PTSD symptoms play a role in SGB treatment outcomes?
- What role does time elapsed since traumatic exposure/onset of PTSD symptoms play in treatment effectiveness?
- Do ADSM, veterans, and retirees respond differently to SGB?
- How do the objective physiological data collected via smartwatches map to blood-based biomarkers and to subjective and clinical-based measures of changes to patient symptoms?

STATISTICAL METHODS

Expected enrollment: 300 participants over 18 months. For the purposes of data collection/analysis, participants will be considered to be enrolled into the SGB Cohort study if they consent to be in the study and if, at a minimum, complete the majority of the baseline data collection activities.

Following completion of all baseline evaluations:

- Clinical and demographic phenotypes will be generated to be used prospectively to define the population for each study analysis and any planned subgroup or subpopulation analyses.
- Analyses will be designed to provide point and interval estimates of the outcomes and formal hypothesis tests that control the Type I error rate at the 0.05 level at the hypothesis rather than at the study level for each research question.
- Multilevel regression models will include random effects for site and participant to account for the hierarchy of measurements.
- Participants' repeated measures over time will be analyzed using multilevel mixed-model trajectory analysis, with repeated measures at level 1 nested within individual at level 2, then nested within site at level 3.

Details of the proposed analyses will be included in a Statistical Analysis Plan prior to the initiation of the analyses.

CONFLICT OF INTEREST DISCLOSURES

FINANCIAL CONFLICTS OF INTEREST OF THE INSTITUTIONS AND INVESTIGATORS

None

PLAN FOR MANAGING IDENTIFIED FINANCIAL CONFLICTS OF INTEREST

N/A

STATEMENT OF PROBLEM¹

BACKGROUND AND RATIONALE

Posttraumatic stress disorder (PTSD) is a reaction to a traumatic event in which an individual perceives threat of death or significant injury, resulting in acute fear that is experienced over an extended period following the event(s). According to the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5), symptoms are generally categorized in terms of intrusive symptoms (diagnostic criterion B), avoidance (diagnostic criterion C), negative alterations in cognitions and mood (diagnostic criterion D), and alterations in arousal and reactivity (diagnostic criterion E) (American Psychiatric Association, 2013). PTSD will develop in up to a third of individuals who are exposed to a significant stressor (Committee on Treatment of Posttraumatic Stress Disorder, Institute of Medicine, 2008), and approximately 10% to 20% of those PTSD diagnoses will become chronic (Fletcher, Creamer, & Forbes, 2010). According to the 2000 National Comorbidity Survey Replication (NCS-R), an estimated 6.8% of adults in the United States will experience PTSD during their lifetime (Dohrenwend et al., 2006). Certain subgroups (e.g., military service members) are at an increased risk because of their higher likelihood of trauma exposure (Jonas et al., 2013). PTSD prevalence among active-duty service members (ADSM) ranges from approximately 5% to 15% (Tanielian & Jaycox, 2008). Hoge and colleagues (2004) reported an estimated 12.9% of service members returning from combat operations in Iraq fit PTSD diagnostic criteria.

There also is evidence that PTSD prevalence is increasing among service members. The 2008 Department of Defense Survey of Health-Related Behaviors among Active-Duty Service Members (HRB Survey) found that an estimated 11% met screening criteria for further evaluation of PTSD symptoms, up from 7% in 2005 (Bray et al., 2009). There also are a host of related sequelae, and comorbidity with other mental health disorders is high. In particular, work impairment and decreased earnings, divorce, and difficulties with child rearing are common (Kessler, 2000), multiplying the impact of the disorder by an untold amount. Finally, PTSD often occurs together with other disorders, including depression and substance use disorders (Brady, Killeen, Brewerton, & Lucerini, 2000), further compounding the impact.

For example, lack of quality sleep is ubiquitous among military service members (Brown et al., 2013; Shattuck & Brown, 2013), and daily insufficient sleep is more often reported among recent ADSM and veterans than among their counterparts with no history of service (Chapman et al., 2015). Sleep issues have been documented across myriad military samples, from soldiers in simulated combat exercises (Lieberman et al., 2005) to those undergoing Basic Combat Training (Crowley et al., 2012). In one study, nearly three-fourths of military personnel who were currently deployed rated their sleep as worse than prior to deployment (Peterson et al., 2008); indeed, insomnia is the most common post-deployment health complaint (McLay et al., 2010). Given the putative relationship between poor sleep in service members and psychosocial

¹ Portions of this and the Methods section have been taken from the preceding protocol, SGB-201, which is available as an online supplement to Rae Olmsted et al., 2019.

health (including emotional, social, family, and spiritual fitness) and physical health (Lentino et al., 2013), the issue of sleep is of significant concern.

Sleep deficiency has been identified as both a risk factor for and a symptom of mental health issues (Brown et al., 2013). Often it is difficult to determine the temporal order of occurrence because sleep disturbances are highly comorbid with substance abuse, psychiatric, and medical issues (Ford & Cooper-Patrick, 2001). A literature review on the concurrence of PTSD and sleep suggested the following: “(1) exposure to a traumatic event can interfere with sleep, (2) PTSD is related to the development of self-reported sleep problems, but evidence is less clear regarding objective indices of sleep, and (3) limited evidence suggests sleep problems may interfere with recovery from elevated posttraumatic stress levels” (Babson & Feldner, 2010, p. 16). Therefore, research suggests that “disturbed sleep is a precipitating and perpetuating factor in PTSD symptomatology, creating a perpetual circle” (van Liempt, 2012, p. 1). Sleep disorders have been associated with anxiety, PTSD, and pain in military samples (Gehrman et al., 2013; Mysliwiec et al., 2013), and short sleep duration and insufficient sleep among redeploying soldiers has been linked to depression, PTSD, panic, and suicide attempts (Luxton et al., 2011). In veterans, very short sleep duration and long sleep duration, as well as and poor sleep quality, have been linked to increased odds of PTSD and depression (Swinkels et al., 2013), making sleep quality an critical indicator among those with PTSD.

Treatments for PTSD include both psychotherapeutic and pharmacologic modalities, with little existing systematic evidence for effectiveness. A 2008 Institute of Medicine report on treatment effectiveness (IOM, 2008) included a systematic review of available treatments and divided them into pharmacotherapies and psychotherapies, with an eye toward reviewing major clinical practice guidelines. At the time of publication, the research regarding the effectiveness of pharmacotherapies in the treatment of PTSD was deemed to be inadequate for determining a preferred treatment. Similarly, the report found that for all but one modality (exposure therapy), there was insufficient evidence to support the efficacy of psychotherapeutic treatments. An additional report released by the Agency for Healthcare Research and Quality (Jonas et al., 2013), found similar results regarding the effectiveness of exposure therapy but also characterized a handful of pharmacologic modalities as effective, though with significantly smaller effect sizes than exposure therapy.

Currently available treatment modalities for PTSD also have some significant disadvantages. Pharmacotherapies frequently come with side effects, including nausea, weight gain, headache, sexual dysfunction, and agitation. Furthermore, these medications may take up to 6 to 8 weeks of regular use before they begin to provide symptom relief (Alexander, 2012), during which time it is not uncommon for patients to develop side effects, which may result in discontinuation of the medication(s). Psychotherapeutic modalities tend to take an extended period to show an effect, frequently 6 to 24 months before the patient experiences significant relief (Sharpless & Barber, 2011). Also, some of the most effective therapies involve exposure to traumatic stimuli, which if improperly applied may risk further deterioration of the patient (Rauch, Eftekhari, & Ruzek, 2012).

Given these concerns, there is a clear need for PTSD therapies that are safe, effective, fast-acting, with few side effects and with good patient acceptability and adherence. Sympathetic

blockade, and stellate ganglion block (SGB) in particular, is hypothesized to fill this need. SGB is a procedure routinely performed since the 1920s to treat common conditions such as complex regional pain syndrome, hot flashes, Raynaud's syndrome, hyperhidrosis, and other sympathetically mediated conditions. The stellate ganglion (SG) is a sympathetic ganglion located at the base of the cervical spine near the C7 transverse process. Sensory afferent projections from the heart and thoracic cavity to cervicothoracic dorsal root ganglia traverse the SG (Oldfield & McLachlan, 1978); second-order neurons in the ipsilateral spinal cord project to the thalamus and to the somatosensory cortex via third-order neurons (Nozdrachev, Fateev, Jimenez, & Morales, 2003). The neurons in the paraventricular nucleus of the thalamus appear to contact sympathetic preganglionic neurons in the intermediolateral column of the spinal cord; those neurons project to the SG (Ranson, Motawei, Pyner, & Coote, 1998). sympathetic preganglionic neurons then project from the SG to the heart and thoracic cavity. Other sympathetic efferents traverse the SG (Nozdrachev et al., 2003). Therefore, the SG is a major sympathetic switching and transit station for the "fight-or-flight" response; interrupting this complex circuitry with a local anesthetic could have observable effects on conditions mediated by similar responses, such as PTSD.

In SGB, a local anesthetic is injected into the SG to "block" its function. To date, only a small number of case reports and series have been published about the effectiveness of SGB in treating PTSD, but the findings are intriguing and warrant further scientific investigation. In 1990, Lebovits and colleagues (1990) described an adolescent female who had suffered multiple gunshot wounds and developed both reflex sympathetic dystrophy (RSD) and PTSD. The patient received 13 SGBs for RSD over 15 weeks and reported marked PTSD symptom improvement, characterized by significant reductions in intrusive memories and calmer mood. Nearly 20 years later, Lipov, Joshi, Lipov et al. (2008) reported a patient with insufficient reduction in PTSD symptoms from pharmacotherapy who underwent SGB 55 days post-trauma. The individual reported immediate resolution of his symptoms (80% to 90% reduction) and improved appetite and sleep. The symptoms, however, returned 32 days later, at which time pulsed radiofrequency energy was applied to the SG. Three months later, the patient reported a continued 90% improvement in all symptoms of PTSD. Mulvaney and colleagues (2010), including two of the co-investigators of the current study (Mulvaney and McLean), described two patients diagnosed with PTSD and treated with SGB. In both, post-treatment PTSD Checklist – Military (PCL-M) scores were sub-threshold for PTSD diagnosis. One of the patients requested retreatment 3 months later; their symptoms remained diminished for an additional 7 months of follow-up. Hicky et al. (2012) described nine military service members with chronic PTSD who were treated with SGB. Each of the participants had more than 1 year of unsuccessful treatment via pharmacotherapeutic and/or psychotherapeutic modalities. Following a single SGB, Clinician-Administered PTSD Scale (CAPS) assessments showed that five of the nine patients experienced a clinically significant reduction in symptoms 1-week post-procedure. The effects of the procedure seemed to decrease within 1 to 2 months, though symptoms that did return were not always as severe as they had been before the procedure. Of note, they also performed two repeat SGB treatments. One individual with no initial benefit also saw no improvement following a second block, whereas another who had seen the greatest reduction in symptoms experienced full remission after the second procedure.

Mulvaney et al. (2014) reported a case series of 166 patients, by far the largest in the literature. The PCL-M was administered a day before treatment and repeated at 1 week and 1, 2, and 3–6 months post-SGB. An improvement in PCL-M scores of ≥ 10 was observed in 73.5% of the 132 patients evaluated at 3–6 months. 24 subjects who had a positive response for at least 3 months and then had the return of symptoms were treated with a second SGB; their PCL-M response trends were similar to those with their first SGB.

A small (42 participants), randomized, placebo-controlled trial of a single SGB for the treatment of PTSD published by Hanling et al. (2016) found no difference in the CAPS between the SGB and saline placebo arms. The study procedure used 5 mL of 0.5% ropivacaine as the active arm and 5 mL of saline superficial to the anterior tubercle of C6 as the placebo arm. The current investigators conducted a larger (113 participants), randomized, placebo-controlled trial of two paired SGB (delivered 2 weeks apart), using a greater volume of 0.5% ropivacaine (7–10 mL) and a smaller volume (1–2 mL) of saline. Participants in this trial had less severe PTSD symptoms, and exclusion criteria were designed to minimize the possibility of secondary gain from failure to improve. The results demonstrated a mean change in the Clinician-Administered PTSD Scale for DSM-5 (CAPS-5) total symptom severity score (TSSS) of -12.6 points (95% CI, -15.5 to -9.7) in the SGB arm, compared with a mean change of -6.1 points (95% CI, -9.8 to -2.3) in the placebo arm ($p=0.01$) (Rae Olmsted et al., 2019). Change of an *individual* score by a magnitude of ≥ 10 points is considered clinically significant. Interestingly, those with higher initial CAPS-5 scores (greater symptom severity) had greater improvements.

Notably, SGB has also been used to treat sleep disturbances; among breast cancer survivors, for example, SGB has been found to reduce night awakenings (Lipov, Joshi, Sanders et al., 2008), was shown to be as effective as paroxetine in controlling sleep disturbances, and was associated with few complications (Rahimzadeh et al., 2018).

During the Rae Olmsted et al. study, SGB was an available treatment at many MTFs, and for every participant there were seven others who received an SGB outside the trial. Given this experience and the positive results obtained, the investigators believe recruiting for another randomized clinical trial is unfeasible. This prospective observational study is intended to characterize intermediate-term effects of SGB on selected physiological and psychological/behavioral characteristics of eligible AD/SM, veterans, and retirees receiving SGB at any of four MTF study sites.

Tinnitus is a perception of sound in the absence of an external source (Piccirillo & Rodebaugh 2020 provide a recent clinical update). It is common, with data from the 2007 National Health Interview Survey indicating 9.6% of U.S. adults had experienced tinnitus in the past 12 months (Bhatt, Lin, and Bhattacharyya, 2016). Within the Veterans Benefits Administration, it is the most prevalent service-connected disability both among 275,000 new recipients (57% receive benefits for tinnitus) and the overall 4.7 million receiving benefits (42% for tinnitus) (Veterans Benefits Administration 2018 data, reported in 2020). There are no universally accepted treatments even today, though perhaps the strongest evidence is for cognitive-behavioral therapy (Hesser, Weise, Westin & Andersson 2011). There is a long history of the belief that sympathetic innervation plays a role in tinnitus and that interrupting sympathetic innervation of the auditory system can ameliorate its symptoms. Possibly the earliest publication describing

SGB as a treatment is that of Dorochenko (1937), with two patients achieving complete relief. Early large case series (45 and 27 patients) of stellate ganglionectomy (Passe 1953, Wilmot 1961) showed 63%–76% were improved; similarly, 76% (of 26) improved in the setting of Ménière’s disease and 57% (of 40) of non-Ménière’s disease patients improved just with SGB (Adlington & Warrick 1971). Though the neural substrates are not well understood, there could be common pathways between those proposed for PTSD (e.g., Liberzon & Sripada 2008; Fitzgerald, DiGangi & Phan 2018) and those implicated in tinnitus (e.g., Roberts, Husain & Eggermont 2013; Husain & Schmidt 2014). In the current study, we will therefore follow the participant-reported Tinnitus Handicap Inventory (THI) (Newman, Jacobson & Spitzer, 1996) pre- and post-SGB.

PRIMARY HYPOTHESIS

Hypothesis 1: Symptoms of PTSD will decrease after treatment with SGB. This hypothesis will be addressed operationally through two distinct sub-hypotheses. Hypothesis 1a is: Symptoms of PTSD will decrease through 2 months after treatment with SGB, as measured by the PCL-5. Hypothesis 1b is: SGB will result in a sustained 6-month decrease in symptoms as measured by the CAPS-5 TSSS at 6 months.

SECONDARY HYPOTHESES

Hypothesis 2: SGB treatment on PTSD symptoms will decay over time

Hypothesis 3: SGB will not result in neurocognitive deficits in overall performance (e.g., sustained attention, vigilance)

Hypothesis 4: SGB will be associated with improved sleep measures (smartwatch technology, self-report)

EXPLORATORY ANALYSES

The temporal association of SGB with changes in alcohol use, anxiety, depression, mental illness/psychological distress, and symptoms of tinnitus, as well as measures of general physical and mental functioning, will be evaluated.

WEARABLES/OMICS HYPOTHESES

Hypothesis 5: Characterization of omic responses (DNA methylation and RNA expression) before and after SGB treatment for PTSD will provide predictive markers for Service members and Veterans whose symptoms are likely to decrease due to the treatment.

Hypothesis 6: Heart rate variability (HRV) and sleep quality, as measured by a smartwatch, will show improvements after SGB treatment. Features related to any combination of HR, HRV, sleep, and activity will correlate to treatment response.

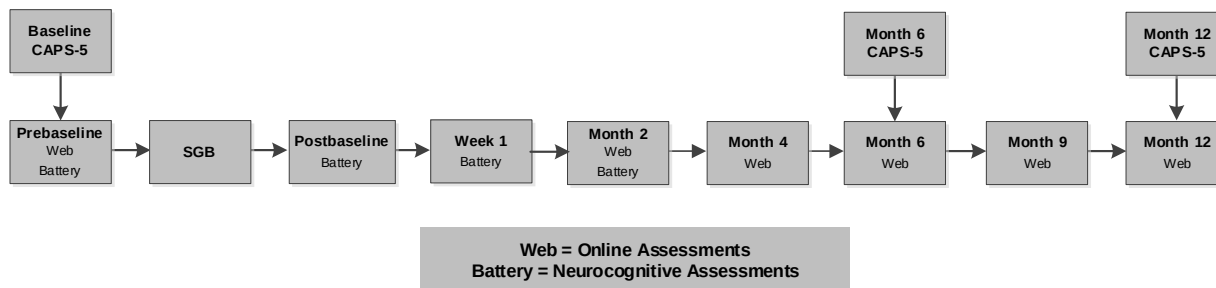
Hypothesis 7: Addition of objective wearables and blood-based biomarkers data together, along with the subjective data being collected as part of our currently funded study, will allow for validation and advancement of our prototype algorithm and will increase our ability to characterize subgroups of participants on the basis of their changes in objective and subjective measures after SGB treatment.

METHODS

STUDY POPULATION

All eligible and consenting ADSM, veterans, and retirees receiving SGB for symptoms of PTSD or other conditions not related to pain over a course of 18 months at any of our four study sites will be enrolled and followed for 1 year.

Study Design:



Inclusion Criteria

1. Is scheduling an SGB not specifically for pain control at an MTF study site
2. Is a U.S. citizen [required by the passing of the General Data Protection Regulation governing European data privacy and the fact that some providers treat North Atlantic Treaty Organization Forces]
3. Has off-duty Internet access
4. Willing and able to provide informed consent

Exclusion Criteria

In the Investigator's opinion, the individual is not an appropriate participant (e.g., limited life expectancy due to comorbid conditions)

STUDY RECRUITMENT

We anticipate enrolling approximately 300 participants. At each of the four study sites, there will be a qualified on-site Research Coordinator (RC) to oversee all recruiting, screening, enrollment, and assessment activities, although the site PI and approved RTI staff will be able to perform them if needed (e.g., absence of RC for vacation or illness). The final approximately 120 participants, who will be enrolled at two sites only (BAMC and TAMC), will also be consented for the Wearables/Omics data collection.

Recruitment primarily will be through the clinics currently performing SGB. Although these clinics are located at MTF and primarily serve ADSM, eligible veterans and retirees also are seen at these sites; because their scheduling and clinical encounters are the same as ADSM, all will be recruited in the same manner. Exact recruitment strategies will vary from site to site but it is anticipated that when an individual schedules an SGB for PTSD symptoms or conditions unrelated to the specific treatment of pain, the treating physicians or clinic staff will briefly describe the study and inquire whether the patients are interested in hearing more

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about the study and, potentially, enrolling. We will obtain a limited Health Insurance Portability and Accountability Act (HIPAA) waiver to enable the RC to assist providers in pre-identifying potential participants. The providers or clinical staff members will give the RC the contact information of these interested individuals (name, telephone number, email address, appointment time and date – Contact Data that are pulled from MHS Genesis). These data will be merged with participant data that are collected in study assessments (Assessment Data) in the data repository. Contact Data and Assessment Data will be linked via a unique identifier. Contact data will be stripped from the final Assessment Data analytic data file, but the unique identifier will remain. We will conduct briefings for the clinical staff and other interested parties. We may have an approved study website, posters, and advertisements.

We may display the approved poster(s) at appropriate site locations and may send both the posters and approved e-mails through the study sites' social media outlets, and possibly in bulleting, newsletters, listservs, mass e-mail, an Armed Forces Network advertisement, and other electronic means, as necessary. RCs may disseminate approved study materials at approved locations, as necessary. Examples may include on-post events where service members, spouses, or others may be present; presentations to Family Readiness Groups and similar organizations; and distribution of study materials at locations within the MTF where large numbers of people are known to pass. We may post approved material on a study Facebook page and ads containing only approved materials via Facebook advertising. We may engage Public Affairs Officers at each study site to promote the study via approved news/press releases and other electronic means.

DETAILED STUDY PROCEDURES

Table 1: Schedule of Evaluations* (Also in Section 2.4)

Construct & Variables	Measure	Burden (min)	Month					
			Baseline	2	4	6	9	12
Demographics and personal information	Direct questions	2	X					
Emergency/secondary & command contact info	Direct questions	3	X	X	X	X	X	X
Tobacco use	Direct questions	2	X	X	X	X	X	X
Psychotropic medication use	Direct questions	2	X	X	X	X	X	X
Pain intensity	NRS	1	X	X	X	X	X	X
SGB history	Direct questions	2	X	X	X	X	X	X
PTSD	CAPS-5	60-90	X			X		X
	PCL-5	5	X	X	X	X	X	X
New trauma	Question, modified BTQ	3		X	X	X	X	X
Suicidal ideation, generalized anxiety	MINI-Plus suicidality	3	X	X	X	X	X	X
	GAD-7	2	X	X	X	X	X	X
Alcohol use	AUDIT	2	X					X
	AUDIT-C	1		X	X	X	X	
Serious mental illness, depression, general functioning, tinnitus	K6	1	X	X	X	X	X	X
	PHQ-9	2	X	X	X	X	X	X
	SF-12	3	X	X	X	X	X	X
	THI	4	X	X	X	X	X	X
Sexual activity/sexual function	CSFQ	2	X	X	X	X	X	X
Neurocognitive functioning ^a	CPT-3	14	X	X				
Sleep – objective ^b	Garmin Fenix series	ongoing	X	X	X	X		
Sleep – self-report	PROMIS-sleep disturbance	3	X	X	X	X	X	X
Omics blood draws ^c	CBC; CMP; protein and metabolites; DNA analysis-methylation; RNA analysis-gene expression	30	X ^d	X		X		

* – Although the protocol usually indicates that in-person data collection will be done in the RC's office, it may be done in an alternate, suitable venue if this is more convenient for the individual/participant.

^a – Also evaluated post-SGB (immediately after procedure recovery and again at 2–7 days post-SGB; also referred to as Week 1 Follow-up Visit).

^b – Initially, enrolled into this part of study data collection at each CONUS site (plus TAMC) on an opt-in/opt-out basis. The last approximately 120 participants to be enrolled will consent to all cohort and wearables/omics data collection and will be enrolled only at BAMC and TAMC.

^c – Approximately 120 participants (collected at BAMC and TAMC only)

^d – Complete Metabolic Panel (CMP) at Baseline only

Screening

The RC will contact those who have expressed interest in the study by telephone to discuss the study and to answer any questions they may have. The RC will then ask those expressing interest in participating whether they have access to the Internet (for the purpose of completing follow-up assessments) and whether they are a U.S. citizen. Those who do not meet these criteria will be thanked for their time, informed they are not eligible to continue, and will not be contacted again. Individuals who do meet these criteria will be scheduled for an appointment at the RC's office at the MTF to provide informed consent, be issued a Garmin Fenix wearable, and schedule their assessments/neurocognitive batteries, as described next.

Consent Procedures

Eligible individuals will be invited to the RC's office at the MTF at a predetermined mutually convenient time. The study will be thoroughly described to them again, and they will have the opportunity to ask any questions they may have. Individuals who agree to participate will be asked to sign an Informed Consent Form (ICF); they will be given a copy for themselves.

After providing informed consent, participants will be instructed to arrive at the RC's office 1.5 hours prior to their SGB procedure to complete baseline assessments and the pre-SGB procedure neurocognitive battery, described below.

Although we expect most participants to be able to visit the RC's office in person, our study sites provide coverage for large geographic areas. Some individuals may be located far enough away from the study site that it would be impractical for them to come physically to the RC's office for consent and their baseline assessments. For these individuals, consent will be obtained and documented as follows:

- An electronic copy of the ICF will be made available via the study website or e-mail.
- The potential participant will be asked to print out a copy of the ICF.
- The RC will contact the potential participant and go through the ICF in detail, to ensure that the potential participant has read and understood it. The RC will answer any questions.
- The RC will ask for verbal consent from the potential participant and have that verbal consent confirmed by a witness who is with the participant.
- The RC will ask the participant and the witness to sign the consent form and return the signed signature page to RTI.
- When the participant comes for their baseline interview (or their SGB, if the baseline assessments are performed online), they will be asked to sign a (newly witnessed) ICF before the assessments/procedure.

Multi-omics and baseline metabolic assessments

- Bloods will be drawn at three timepoints:
 - Baseline – within 3 days before the SGB or on the day of the SGB, prior to the procedure.
 - 2 months - within a 3-day window before and after the 2-month assessment.

- 6 months - within a 3-day window before and after the 6-month assessment.
- Due to circadian rhythm issues, to the extent possible, the blood should be drawn before 10 AM and the participant should fast for at least 6 hours prior to the blood draw.
- The company performing the blood draws will be ExamOne (EO), a Quest Diagnostic Company. WRAIR will provide barcoded labels to EO for identifying the blood samples and related documents. The RCs will provide the participant's contact information to EO to facilitate the scheduling of the blood draw. The RC will also be responsible for maintaining the log linking the barcode for each specimen to the participant's study identification number.
- EO has commercial blood processing/phlebotomy sites in San Antonio and in Honolulu where bloods can be drawn, processed, and stored prior to batch shipping of the samples, as appropriate, to WRAIR. EO is also able to do home blood collections when this is necessary or preferable. When the blood is drawn at the phlebotomy sites, the transportation costs (taxi fare, etc.) will be covered by the study.
- Blood will be collected for the following analyses at each of the three timepoints noted above:
 - Protein and metabolites (5 ml)
 - DNA methylation (8.5 ml)
 - RNA analysis-gene expression (3 ml)
 - CBC (2 ml)

An additional 3 ml will be collected at Baseline only for the CMP.

- EO will ensure that the CBC and CMP samples are run by Quest and that the results are provided to WRAIR.
- ***Please note:*** Details regarding blood collection, processing, storage and shipping will be included in a separate SOP.

Baseline Assessments

Horner syndrome

During the baseline assessment visit in the RC's office, the RC will note the presence or absence of Horner syndrome. Horner syndrome is evaluated along three criteria: (1) miosis (i.e., one pupil is smaller than the other), (2) ptosis (i.e., one eyelid droops more than the other), and (3) scleral injection (i.e., one eye is more bloodshot/red than the other). The RC will separately record whether each criterion was present, absent, or not observable. For each criterion recorded as present, the RC will also record whether the left versus right side had the smaller pupil (miosis), drooped eyelid (ptosis), or more bloodshot eye (scleral injection), and whether the criterion was slight versus obvious.

Demographics and personal information (Section 8.1)

Gender, age, race/ethnicity, pay grade, military status (ADSM/veteran/retiree), PTSD onset/duration, date form completed, tinnitus yes/no (if yes, duration of tinnitus; diagnosis of Ménière's disease, yes/no)

Emergency/secondary contact information, command contact information (Section 8.2)

Tobacco use (Section 8.3)

Cigarette smoking history, current cigarette use, other tobacco use history, current other tobacco use

Psychotropic medication use (Section 8.4)

Current medication list, and for each medication listed, the prescribed dose, number and duration of doses taken in the past two months, whether currently taking this medication yes/no (if yes, how many days in past 30 days took this medication)

1.1.1.1. SGB history (Section 8.5)

Number and approximate dates and sides (right or left) of prior SGB, reason for each previous and current SGB

Pain intensity: Numeric Rating Scale (NRS) (Section 8.6)

The NRS will be used to assess pain in the past two weeks using a scale of 0 (No pain) to 10 (Worst possible pain). There is no single reference for the 0-to-10 NRS, but a systematic review documented evidence supporting the use of the NRS as a unidimensional measure of pain intensity (Hjermstad et al., 2011).

PTSD evaluation

1.1.1.1.1. PTSD Checklist for DSM-5 (PCL-5) (Section 8.7)

The PCL-5 is a 20-item self-report measure that assesses the 20 DSM-5 symptoms of PTSD. Its purposes include screening for PTSD or provisional diagnosis and monitoring symptom change before, during, and after treatment. A TSSS ranging from 0 to 80 is possible (Weathers et al., 2013).

1.1.1.1.2. Clinician-Administered PTSD Scale for DSM-5 (CAPS-5) (Section 8.8)

The primary outcome measure will be the CAPS-5 (Weathers et al., 2013), which is the gold standard in clinical PTSD assessment. The CAPS-5 clinical interview is a 30-item structured interview that corresponds to the DSM-5 criteria for PTSD. For each item, standardized questions and probes are provided; total scores range from 0 to 80. CAPS-5 requires the identification of a single index trauma to serve as the basis of symptom inquiry.

As part of the trauma assessment, the CAPS-5 includes the Life Events Checklist, or LEC-5 (Weathers et al., 2013). The LEC-5 is a 17-item self-administered checklist of potential traumatic events. The LEC-5 will be used to identify the index trauma to inform the CAPS-5 interview. The CAPS-5 is our central outcome measure in support of primary objective 1. No notes will be added to a participant's medical records record regarding the CAPS-5 assessment, as the clinicians administering the CAPS-5 will be subcontractors to RTI and will not have access to medical records.

The RC will schedule the participant's baseline CAPS-5 for prior to the SGB.

1.1.1.1.2.1. CAPS-5 Administration

The LEC-5 will be administered by the clinical interviewer immediately prior to the CAPS-5 interview. The CAPS-5 was designed to be administered by clinicians and clinical researchers who have a working knowledge of PTSD and will be conducted over the telephone by trained clinical interviewers, who will record all notes and clinical information on hardcopy LEC-5 and CAPS-5 forms.

1.1.1.1.2.2. Field Preparations: Clinical Interviewer Recruiting and Training

Necessary clinical interviewer credentials will include having completed doctoral coursework in clinical psychology, a willingness to participate in study training, and a willingness to meet specific scheduling requirements for the position. Up to eight study clinical interviewers will be recruited from a pool of approximately 100 seasoned veteran clinical interviewers located throughout the United States who meet these criteria. These clinical interviewers have completed hundreds of diagnostic interviews over the telephone for both the National Survey on Drug Use and Health (NSDUH) Mental Health Surveillance Study (2008–2012) and the Group Project for Holocaust Survivors and Their Children (2013). Based on experience hiring clinical interviewers of this caliber for the NSDUH Mental Health Study, the NSDUH Clinical Validation Study, and the National Vietnam Veterans Longitudinal Study, we anticipate between 20% and 30% clinical interviewer attrition; therefore, we will train two more than our goal of five for data collection.

1.1.1.1.2.3. Clinical Quality Control

CAPS-5 training and clinical quality control will be led by a credentialed, licensed, and experienced clinical supervisor (CS) with expertise in PTSD and the CAPS-5. The CS will review 100% of hardcopy study clinical interview notes, item-by-item, comparing the notes provided by the clinical interviewer and the scoring and will listen to the accompanying audio files as needed to ensure data accuracy. The CS will also review the full audio recordings for a randomly selected 10% of the clinical interviews.

1.1.1.1.2.4. Managing Distressed Respondents During CAPS-5 Administration

Several measures will be taken to enhance the safety of potentially distressed participants during telephone CAPS-5 administration. First, we will provide explicit protocols for clinical interviewers to follow if they encounter either passive or active

suicidal or homicidal thoughts. Training and supervision will be provided for managing respondents who express sadness, agitation, frustration, or any other strong emotion during the course of the clinical interview. A detailed Distressed Respondent Protocol (DRP) (Section 8.9), which has been successfully used for the NSDUH Mental Health Surveillance Study, will be employed for this study. The DRP provides definitions and examples of five types of distressed respondents, along the continuum of no risk of harm (i.e., respondent is agitated or upset) to imminent risk (e.g., respondent reports active suicidal thoughts, a plan, and a means to carry out that plan). The DRP then gives step-by-step instructions for handling each of the five types of distressed respondents. CIs will be thoroughly trained in the use of the DRP.

The DRP will be very similar to the system described in Section 5.4 regarding management of distressed participants during automated assessments. Clinical interviewers will inform individuals at the beginning of the CAPS-5 that they need to obtain the individual's physical location (address) for the purposes of safety, that such information will not be stored, and that it will only be used in the case of an emergency. In the event that a respondent indicates *active* suicidal or homicidal ideation during their CAPS-5, the clinician administering the CAPS-5 will follow the appropriate steps laid out in the DRP (Section 8.9). Given the emergent nature of *active* suicidal or homicidal ideation, we believe that using text messaging or telephone communications as part of the DRP is justified.

A second measure taken to enhance participant safety relates to the credentials of our clinical interviewers and the CS. Our study clinical interviewers will be seasoned clinicians with experience assessing risk and providing direct care for distressed individuals. Similarly, the CS will be a licensed clinical psychologist and certified health care provider. This supervisor will be integrally involved in supervising the CIs so that if a distressed respondent is encountered, their level of risk can be verified, and consultation and debriefing can be provided. After each encounter with a distressed respondent, the clinical interviewer will immediately contact the supervisor to review the details of the incident, the assessment of risk, and the application of the DRP. If unusual circumstances arise, the supervisor will contact the study director who will ensure that the IRB is notified.

1.1.1.1.2.5. Managing Cognitively Impaired Respondents Before and During CAPS-5 Administration

If the clinical interviewer suspects that the respondent is cognitively impaired, then the interviewer will follow the instructions in the *CI Manual* about administering the Short Blessed Scale (see Section 8.10) and under which circumstances to halt/reschedule or else continue the interview.

Suicidal ideation: Mini-International Neuropsychiatric Interview (M.I.N.I.-Plus) (Section 8.11)

The M.I.N.I.-Plus is a structured interview for diagnosing DSM-IV and ICD-10 psychiatric disorders (Sheehan et al., 1998). This study will use a subset of items from the full instrument geared toward identifying individuals experiencing suicidal ideation in the past 2 months. Response options are dichotomous (yes/no), and questions ask about desire, thoughts, planning, taking steps toward, and attempting suicide and deliberate injury without intent to kill oneself. Individuals answering affirmatively to any of the first seven items regarding suicidal ideation in the previous 2 months will be asked to complete an additional four questions regarding any *current* desire to harm themselves, thoughts about suicide, plans for suicide, and active steps they may be taking.

The suicidal ideation assessment will be administered at baseline to identify (and exclude) individuals deemed to be at elevated risk for suicide attempt. Those who screen positive on the M.I.N.I.-Plus items, who are then asked the follow-up items regarding current ideation, will be excluded from the study; they will be evaluated and managed per the appropriate site-specific Standard Operating Procedure. The assessment will also be administered at months 0, 2, 4, 6, 9 and 12. Because screening will already have taken place, these enrolled participants will still be included in the study.

Alcohol use: Alcohol Use Disorders Identification Test (AUDIT/AUDIT-C) (Section 8.12)

The AUDIT (Babor, Higgins-Biddle, Saunders, & Monteiro, 2001) will be used to assess potential alcohol abuse symptoms. The instrument was developed as a means of brief assessment and screening for excessive drinking. This 10-item scale is widely used and has been shown to be consistent with ICD-10 definitions for alcohol dependence and harmful alcohol use (Allen, Litten, Fertig, & Babor, 1997; Saunders, Aasland, Amundsen, & Grant, 1993).

The AUDIT-C (AUDIT - Concise) consists of the first three items of the full AUDIT and assesses frequency of drinking, typical quantity, and frequency of heavy drinking.

Generalized anxiety: Generalized Anxiety Disorder Screener (7-item) (GAD-7) (Section 8.13)

Generalized anxiety symptoms will be assessed via the GAD-7 (Spitzer, Kroenke, Williams, & Löwe, 2006). The instrument was designed to be administered in general health settings as part of the Primary Care Evaluation of Mental Disorders (PRIME-MD) assessment (Spitzer et al., 1994) and has been

validated by several studies (Spitzer et al., 2006; Kroenke, Spitzer, Williams, Monahan, & Löwe, 2007).

Serious mental illness: Kessler 6-item screener (K6) (Section 8.14)

The K6 was developed for use in the U.S. National Health Interview Survey as a means of assessing nonspecific psychological distress. Although this study's largely active-duty military population with PTSD may not be representative of the U.S. general population (Kessler et al., 2003; Kessler et al. 2002), we are including the K6 to assess any changes in serious psychological distress over time among study.

Depression: Patient Health Questionnaire (PHQ-9) (Section 8.15)

Depression symptoms will be assessed using the validated PHQ-9 (Kroenke, Spitzer, & Williams, 2002). The PHQ-9 was developed as a short form of the full Patient Health Questionnaire, which was a self-administered version of the PRIME-MD instrument (Kroenke, Spitzer, & Williams, 2001; Kroenke & Spitzer, 2002; Löwe, Unutzer, Callahan, Perkins, & Kroenke, 2004).

General functioning: Short Form (12) Health Survey (SF-12) (Section 8.16)

The SF-12 is a shortened version of the SF-36, which was designed as a general health utility index. Consisting of 12 items, the SF-12v2 improves on the original SF-12 and includes simplified wording, better usability, and multilevel response options. The 12 items provide an estimate for eight domains of functional health and well-being: physical functioning, role-physical, bodily pain, general health, vitality, social functioning, role-emotional, and mental health. Together, the first four domains constitute a Physical Health summary measure, and the second four constitute a Mental Health summary measure (Ware, Kosinski, & Keller, 1996; SF-36.org, n.d.).

Sexual activity and sexual functioning: Changes in Sexual Functioning Questionnaire (CSFQ) (Section 8.17)

The CSFQ (Clayton, McGarvey, & Clavet, 1997) is a 14-item self-report measure of sexual activity and functioning. Respondents rate each item using a Likert scale ranging from 1 to 5 (anchor wording differ across items), yielding a total score ranging from 14 to 70. Multiple items have different wording based on whether the respondent is male or female. Study participants who indicate a gender other than male or female are not administered the CSFQ.

Neurocognitive functioning: Conners Continuous Performance Test, 3rd edition™ (CPT-3)

The CPT-3 is a 14-minute computer-administered evaluation that assesses attention-related problems in individuals aged 8 years and older. It examines overall performance as well as four individual attention factors: inattentiveness, impulsivity, sustained attention, and vigilance. These attention factors are key in ensuring appropriate neurocognitive functioning in deployable ADSM and will be the primary means for evaluating any impact on neurocognitive function in those receiving SGB.

Tinnitus: THI (Section 8.18)

The Tinnitus Handicap Inventory (THI) is a 25-question self-reported questionnaire to quantify the severity of tinnitus distress (Newman, Jacobson,

and Spitzer, 1996). Scores range from 0 to 100, with scores of 58–76 corresponding to a severe handicap and 78–100 to a catastrophic handicap.

Heart Rate Variability & Sleep

1.1.1.1.3. Smartwatch technology (Garmin Fenix series)

The Garmin Fenix series smartwatch provides advanced tracking using both motion (i.e., from an integrated 3-axis accelerometer) and physiological metrics (i.e., heart rate, respiration rate, and SpO2).

Minimally processed data such as the beat-to-beat heart rate timing (i.e., the inverse of heart rate provided with millisecond resolution) are acquired through RTI's SIGMA+ Health mobile app which implements the Garmin Companion Software Development Kit (SDK). The beat-to-beat data is processed to provide measures of heart rate variability. Optically acquired heart rate data is affected by movement and how securely the user is wearing the watch on their wrist, but measurement error is <5% during rest when heart rate variability is best assessed (Orini et al, 2022).

More complex data (e.g., a nightly sleep score from 0-100) are acquired through the Garmin Connect mobile app and accessed by RTI using the Garmin Health Application Programming Interface (API). The sleep data acquired using the Garmin Fenix series smartwatches contain information related to the start/end of sleep, sleep architecture (i.e., the total time and pattern of light, deep, and REM sleep, as well as night awakenings), and a sleep score. Compared to traditional EEG-based measures, Garmin smartwatches with wrist-based heart rate monitoring capabilities can reliably measure when a person is asleep (sleep sensitivity of 95.8%), although somewhat underestimate the time spent awake (wake specificity of 73.4%; Stevens & Siengsukon, 2019). Regarding sleep staging, per epoch accuracy is 69.7% (Stevens & Siengsukon, 2019).

Initially (at study implementation), Garmin Fenix series watches were distributed to a subset of participants at each CONUS site (plus TAMC) on an opt-in/opt-out basis. These participants were asked to wear the devices for continuous sleep monitoring for 6 months. With the implementation of the Wearables/Omics Study, that approach was stopped in the SGB Cohort Study. Now all participants still to be enrolled will be asked to consent to complete all cohort and all wearables/omics data collection activities. These remaining participants will be enrolled at BAMC and TAMC and will be issued with a Garmin Fenix series smartwatch.

1.1.1.1.4. Sleep self-report: Patient-Reported Outcomes Measurement Information System (PROMIS) (Section 8.19)

The PROMIS - Sleep Disturbance - Short Form comprises eight items of perceived sleep quality.

Post-SGB Horner Syndrome Evaluation (immediately after procedure)

Immediately after being released from recovery following the study-related SGB, the participant will meet the RC in the RC's office. During this visit, the RC will evaluate the presence or absence of Horner syndrome according to the same criteria used during the baseline assessment.

First Post-SGB Neurocognitive Evaluation (immediately after procedure)

Neurocognitive performance will be assessed using the CPT-3™ in the RC's office immediately after being released from recovery following the study-related SGB. After the participant finishes the neurocognitive battery, the RC will schedule the participant's second post-SGB neurocognitive evaluation (2 to 7 days post-procedure) and third Neurocognitive Evaluation and 2-month follow-up assessment visit. The participant will then be released.

Second Post-SGB Neurocognitive Evaluation (2–7 days post-procedure; also referred to as Week 1 Follow-up Visit)

Neurocognitive performance will be assessed once with the CPT-3™ between days 2 and 7 (inclusive) following the study-related SGB. The test will be administered in the RC's office.

Month 2 Follow-up Visit

The following assessments will be administered either in-person or online, whichever the participant prefers.

Emergency/secondary contact information, command contact information

Participants will be asked for current contact information.

Additional SGB(s) since previous visit

Participants will be asked whether they have had any intervening SGB treatments since the index SGB (2-month visit) or since their previous visit (4-month visit) and the dates, sides, and the reasons for those SGB.

PTSD Checklist for DSM-5 (PCL-5)

New trauma since previous visit (Section 8.20)

Participants will be asked whether they have had new trauma since the index SGB (2-month visit) or their previous visit (4-month visit). If so, they will complete the Brief Trauma Questionnaire (BTQ) (Schnurr, Vielhauer, Weathers and Findler, 1999), modified to ask for trauma "since your SGB/last visit" rather than "has this ever happened."

Tobacco use

Psychotropic medication use

Pain intensity (NRS)

Suicidal ideation (MINI-Plus)

Alcohol use (AUDIT-C)

Generalized anxiety (GAD-7)

Serious mental illness (K-6)

Depression (PHQ-9)

General functioning (SF-12)
Sexual activity/sexual functioning (CFSQ)
Tinnitus (THI)
Sleep

In addition to the above assessments, participants will complete the CPT-3 neurocognitive battery in-person at Month 2 in the RC's office. For participants who elect to complete their Month 2 assessments in-person, the neurocognitive battery will be conducted during the same appointment. For participants who elect to complete their Month 2 assessments online, they will be scheduled for an in-person neurocognitive battery visit as close to the Month 2 assessment date as possible.

Month 4 Follow-up Visit

Emergency/secondary contact information, command contact information
Additional SGB(s) since previous visit
PTSD Checklist for DSM-5 (PCL-5)
New trauma since previous visit
Tobacco use
Psychotropic medication use
Pain intensity (NRS)
Suicidal ideation (MINI-Plus)
Alcohol use (AUDIT-C)
Generalized anxiety (GAD-7)
Serious Mental Illness (K-6)
Depression (PHQ-9)
General Functioning (SF-12)
Sexual activity/sexual functioning (CFSQ)
Tinnitus (THI)
Sleep

Month 6 Follow-up Visit

Emergency/secondary contact information
Additional SGB(s) since previous visit
Clinician-Administered PTSD Scale (CAPS-5)
PTSD Checklist for DSM-5 (PCL-5)
New trauma since previous visit
Tobacco use
Psychotropic medication use
Pain intensity (NRS)
Suicidal ideation (MINI-Plus)
Alcohol use (AUDIT-C)
Generalized anxiety (GAD-7)
Serious mental illness (K6)
Depression (PHQ-9)

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General functioning (SF-12)
Sexual activity/sexual functioning (CFSQ)
Tinnitus (THI)
Sleep

Wearables and omics data collection will end with the 6-month assessments.

Month 9 Follow-up Visit

Emergency/secondary contact information
Additional SGB(s) since previous visit
PTSD Checklist for DSM-5 (PCL-5)
New trauma since previous visit
Tobacco use
Psychotropic medication use
Pain intensity (NRS)
Suicidal ideation (MINI-Plus)
Alcohol use (AUDIT-C)
Generalized anxiety (GAD-7)
Serious Mental Illness (K6)
Depression (PHQ-9)
General Functioning (SF-12)
Sexual activity/sexual functioning (CFSQ)
Tinnitus (THI)
Sleep self-report (PROMIS)

Month 12 (Final) Follow-up Visit

Emergency/secondary contact information
Additional SGB(s) since previous visit
Clinician-Administered PTSD Scale (CAPS-5)
PTSD Checklist for DSM-5 (PCL-5)
New trauma since previous visit
Tobacco use
Psychotropic medication use
Pain intensity (NRS)
Suicidal ideation (MINI-Plus)
Alcohol use (AUDIT)
Generalized anxiety (GAD-7)
Serious mental illness (K6)
Depression (PHQ-9)
General functioning (SF-12)
Sexual activity/sexual functioning (CFSQ)
Tinnitus (THI)
Sleep self-report (PROMIS)

Primary Outcome

Hypothesis 1: For the sub-hypothesis of a sustained effect for at least 6 months, change between CAPS-5 TSSS at baseline and at 6 months

For the sub-hypothesis of an immediate effect, change between PCL-5 at baseline and at 2 months

Secondary Outcomes

Hypothesis 2: PCL-5 at 2, 4, 6, 9 and 12 months

Hypothesis 3: CPT-3 domain metrics at baseline, post-SGB

Hypothesis 4: Garmin Fenix series sleep indices at baseline through 6 months

PROMIS – Sleep Disturbance – Short Form at baseline, 2, 4, 6, 9 and 12 months

Exploratory Analyses

Exploratory analyses will utilize data from the MINI-Plus, AUDIT, and GAD-7 at baseline, 2, 4, 6, 9 and 12 months and the K6, PHQ-9, SF-12, Tinnitus Handicap Inventory at baseline, 6, and 12 months. Specific outcome measures associated with each instrument that will be included in the analysis will be defined in the Statistical Analysis Plan (SAP).

POTENTIAL RISKS AND BENEFITS TO PARTICIPANTS

The only risks for participants associated with this protocol are breach of confidentiality, possible stress and distress induced by questions contained in the various patient-reported instruments or the tasks associated with the CPT-3, and the no more than minimal physical risks of the blood draws.

RCs will obtain consent and oversee completion of web-based tasks and CPT-3 administration in a private setting and in that context can provide appropriate support should a participant become distressed (specifics will be based on site-specific protocols). ICFs and any paper data collection instruments will be stored in a locked file cabinet in an access-controlled environment. Web-based assessments will be the primary means to collect baseline and follow-up data from study participants, who will create a username and password allowing them to log into the secure .NET-based web portal and its structured content management system. Because of the sensitive nature of the data to be collected, including personally identifiable information and protected health information, a defense-in-depth information security program is in place, combining the capabilities of people, operations, and technology. It combines firewalls, automated monitoring, load-balancing devices, and multilayered antivirus programs. All data collected will be housed at RTI, within its Federal Information Processing Standards (FIPS) Moderate-compliant data infrastructure. RTI's network meets all National Institute of Standards and Technology confidentiality, integrity, and available security standards for both low and moderate risk.

There are procedures in place for clinical interviewers to respond to participants who become distressed during the CAPS-5 (Section 5.3.3.4.2.4). Similarly, the web-based system incorporates features to help manage distressed participants during their online assessments. It will send messages to the participant and to key study personnel if a participant indicates a

clinically significant risk of suicide. During screening, participants provide either command contact information (ADSM) or an emergency contact, who subsequently are contacted if the participants indicate that they currently at risk for harming themselves. As part of the MINI-Plus suicidality evaluation, a participant who answers “yes” to any of seven initial questions concerning suicidal ideation in the past 2 months is then asked an additional four questions regarding *current* suicidal ideation or plans. Affirmative answers indicating that one currently wants to harm oneself, is thinking about committing suicide, has a plan, or is planning to act on a plan initiate an automated system:

A message will be displayed on the participant’s screen that says the following:

“Given your responses to some of these questions, we are concerned about your safety. As you were told when you signed your consent form to participate in this study, we are contacting your [INSERT command or emergency contact] in an effort to make sure that you are safe. We would like for you to please go to your nearest emergency room for assistance. In addition, please click below to indicate that you agree not to harm yourself before you get to the emergency room.”

A benign, coded text message providing the service member’s name and their command or emergency contact information (name, telephone number, and e-mail) will be generated and sent to the following RTI staff:

The RC at the site

Kristine Rae Olmsted

Russ Peeler

Shannon Blakey

- The RC will be the first level responder, because they are local.
- If the RC does not respond in 2 hours, Ms. Rae Olmsted, Mr. Peeler, Dr. Shannon Blakey, or multiple of these three individuals will respond. (During our prior study, all instances were responded to within 5 minutes.)

RTI staff will contact ADSMs’ command by first calling the charge of quarters/duty phone number. If that is unsuccessful, they will contact the participant’s First Sergeant or Commanding Officer. For veterans and retirees, RTI staff will first try to call the emergency contact. There are no direct benefits to participants. However, the data collected should contribute to general knowledge about the medium-term effectiveness, duration of effect, and symptom trajectories following SGB for PTSD and other symptoms, potentially allowing health providers to better understand and use SGB as part of their therapeutic armamentarium.

ANALYTICAL PLAN

STATISTICAL ANALYSIS PLAN

This cohort study has been designed to provide a rich data set from clinically and demographically diverse population to answer a broad array of research questions, including the following:

- For how long after SGB are symptoms of PTSD and other disorders (such as anxiety, depression, sleep difficulties, and tinnitus) decreased?
- Are there neurocognitive and performance impacts associated with SGB?
- What role does the number of SGB treatments play in symptom trajectories?
- Does type of traumatic exposure among those with PTSD symptoms play a role in SGB treatment outcomes?
- What role does time elapsed since traumatic exposure/onset of PTSD symptoms play in treatment effectiveness?
- Do ADSM, veterans, and retirees respond differently to SGB?

This section provides a high-level summary of the approaches that will be used to address these research questions; additional details of these analyses will be included in the SAP. The SAP will be developed prior to initiation of the analyses but after further details about the diverse population that may potentially be recruited for this study are known.

The initial analysis step, which will be completed after all baseline exams have been completed and prior to finalizing the SAP, will be generation of a comprehensive set of clinical and demographic phenotypes. The set of phenotypes will be based on demographic data and baseline clinical information that includes age, sex, clinical diagnosis that was the basis for inclusion of the individual into the study and other clinical diagnoses based on instruments administered at baseline. The set of phenotypes (which will be generated using a clinical review masked to post-treatment data) will be used prospectively to define the population for each study analysis and define any planned subgroup or subpopulation analyses.

For each of the research questions addressed by this study, the analyses will be designed to provide point and interval estimates of the outcomes and formal hypothesis tests at a Type I error rate of 0.05 for hypotheses, with Bonferroni corrections when multiple analyses are conducted to test a specific effect or model parameter. Note that Type I error protection will be at the individual research question level, not at the overall study level. Preliminary descriptive analyses will also be developed for the pertinent outcome variables and associated predictors. We anticipate that most outcome variables will be continuous variables; these continuous measures will be summarized using *n* (sample size), mean, standard deviation (SD), median, minimum, maximum. Categorical measures will be summarized using counts and percentages, with formal tests of hypotheses among cohorts as appropriate.

Participants will be recruited from four distinct installations, which may serve distinct populations and differ in treatment protocols. Furthermore, participants will have multiple repeated measures over time that include baseline measurements and post-treatment measures that include 6- and 12-month measurements for almost all measures and also 2-, 4-, and 9-month measures for a subset of outcome measures. To account for this hierarchy of measurements, the primary approach for addressing each of these research question will be to utilize multilevel regression models that include levels for site, participant, and measurement within participant. For continuous outcome measures, these multilevel models will utilize linear mixed models with appropriate random effects. For binary outcome measures, the analyses will use analogous generalized linear models, with the specific modeling approach specified in the SAP. If the distribution of an outcome is highly skewed or has an excess of probability mass at either the zero or maximum end of a bounded measure, appropriate alternative multilevel models, including zero-inflated Poisson regression, or negative binomial regression, may be used. For time-to-event outcome measures (e.g., time between SGB treatments), appropriate multilevel survival models will be utilized.

Study participants' repeated measures over time will be analyzed using multilevel mixed-model trajectory analysis using SAS Proc Mixed. We propose a three-level hierarchical structure, with repeated measures at level 1 nested within individuals at level 2, then nested within site at level 3. The number and timing of the measurements may vary across individuals because of attrition, for example, or circumstances that prohibit timely access to the measurement tools. Fortunately, hierarchical regression models are more robust to missing data than many other statistical models, but missingness may need to be accounted for depending on its amount or distribution among participants. Again, details for each analysis will be specified in the SAP.

Standard full information maximum likelihood estimation and common fit statistics (e.g., likelihood-ratio chi-squared, Akaike or Bayesian information criterion) will be used to assess model fit. Because the proposed sample is small to medium sized, conservative adaptations to mixed-model trajectory analysis will include the Kenward-Rogers correction and obtaining model parameters using restricted maximum likelihood estimation.

At the time of protocol development, preliminary data from the proposed sites indicated that, in aggregate, they would be able to identify an average of 57 individuals per month who would meet the eligibility criteria for this study, or 1,026 over the 18-month enrollment period. Our experience with similar cohort studies suggests that approximately 30% enrollment is feasible (300), with approximately 10% attrition at each time point (270 available at 2 months, 240 at 4 months, 195 at 6 months, 165 at 9 months, and 150 at 12 months).

Wearables/Omics data analysis

The objective of the Wearables/Omics Study is to advance a prototype algorithm for identifying subtypes of Service members and Veterans who experience PTSD symptom reduction resulting from SGB by augmenting the subjective data being collected for the existing prospective cohort study with objective data collected via wearables and blood-based biomarkers.

- Analysis of wearables data
 - Sleep-specific algorithms

- Compare/contrast capabilities for parallel data sets
- Addition of study-specific analyses to be determined
- Analysis of omics data (*to be completed by WRAIR, with support from RTI*)
 - Multi-omic analysis of the blood samples such as DNA methylation, metabolomics
 - Data quality check and analysis using in-house analysis pipeline using programs such as R script and python and /or
 - Canonical correlation analysis (CCA)
 - Network analysis Ingenuity Pathway Analysis or equivalent
- Analysis of full data set combining wearables and omics (*RTI and WRAIR*)
 - Statistical triangulation of wearables, omics, and subjective data to inform development of prototype algorithm

SAMPLE SIZE AND POWER ESTIMATES

We have no direct data to model the CAPS-5 response to one SGB. Data from our randomized clinical trial of two paired SGB indicated that study participants would have a mean baseline PCL-5 = 42.1 (SD = 15.5) and a mean PCL-5 of 32.0 (SD = 17.5) after the first SGB across all four sites. Statistical power for the primary study sample (those participating in the first 6 months) was estimated under two assumptions. First, that one-third of the participants get one SGB over the first 6 months of the study (group 1), one-third get two SGBs (group 2), and the remaining one-third get three SGBs (group 3). The second assumption is that PCL-5 assessments will occur over specified, standard intervals (study months 0, 2, 4, and 6). Our expected minimum sample at 6 months of 195 participants (65 per subgroup) will allow us to detect an effect size of PCL-5 reduction of 6.4 (1/2 the SD = 12.8) per SGB dose with a power of 0.80 and Type I error rate (p-value) of 0.05. A sample of 219 will provide a power of 0.85 to detect the same effect size between subgroups with a Type I error of 0.05.

PROJECTED RECRUITMENT TIME

Participants will be enrolled over 18 consecutive months and individually followed for 12 months. As we expect most participants to receive their SGB within a month of enrollment, we therefore expect participant involvement for a total span of 31 months.

STUDY MONITORING PLAN

As this study is of no more than minimal risk, there is no formal monitoring plan. We will collect the number of distressed participants from the CAPS-5 interviews and from the automated suicidality monitoring system.

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DATA FORMS

DEMOGRAPHICS AND PERSONAL INFORMATION

Thank you for volunteering to be a part of this important study that seeks to evaluate a potential new treatment for posttraumatic stress disorder (PTSD). We would like to ask you some questions to determine whether this study is right for you. These questions should take you about 5-10 minutes to answer.

You may notice that the question numbers seem to jump around. Please do not be concerned. We have designed this screening so that you are asked to answer as few questions as possible. Some questions will not be asked, depending on how you answered previous questions.

Questions that require an answer have a red asterisk (*) at the end.

Demographics and Contact Information*

First Name: (Non-editable field with value from DB)

Last Name: (Non-editable field with value from DB)

Primary email: (Non-editable field with value from DB)

Primary phone: (Non-editable field with value from DB)

Secondary email: (SEMAIL)

Secondary phone: (SPHONE)

What is your gender? (Check one that best describes your current gender identity.) (GENDER)

(1) Male

(2) Female

(3) Trans Male

(4) Trans Female

(5) Genderqueer / Gender Non-binary

(6) Not listed, please specify _____ Length:100 A/N characters

NOTE: Only one selection can be made.

Age: (pulldown: 17-90) (AGE)

What is your marital status? (pulldown) (MARITAL)

Married

Living as married

Neither married nor living as married

Constructs	Item	Item type	Variable name	Response options and associated numeric value/code
Race and ethnicity	Do you identify as Hispanic or Latino/a?	Select 1, not forced (i.e., Ps can skip)	HISPANIC	· 1 Yes · 0 No
	With which race(s) do you identify? Select all that apply.	Select multiple, not forced (i.e., Ps can skip)	RACE	☐ 1 American Indian and Alaska Native ☐ 2 Asian ☐ 3 Black or African American ☐ 4 Native Hawaiian and Pacific Islander ☐ 5 White ☐ 6 Another race not listed
	↘ If “another race not listed” was selected, survey will display: You selected another race not listed. Please share how you identify.	Free text, not forced (i.e., Ps can skip)	RACE_OTH	N/A (Free text input)

Which best describes your current primary component? (pulldown) (SERVSTAT)

Active
Reserve
National Guard
Served previously but not currently serving

IF Active OR Served previously but not currently serving,

In which branch do/did you serve the majority of your time in service? (pulldown)

(SERVICE)

Army
Navy
Air Force
Marine Corps
Coast Guard

IF Reserve OR National Guard,

In which branch of the National Guard/Reserve do you serve? (pulldown) (GUARDRES)

Army National Guard
Army Reserve
Navy Reserve
Marine Corps Reserve
Air National Guard
Air Force Reserve
Coast Guard Reserve

IF Active OR Reserve OR National Guard,

Rank: (pulldown) (RANK)

E-1 to E-3
E-4
E-5 to E-9
Officer/Warrant Officer
Commissioned Officer (O-1 to O-9)

Treatment Facility: pulldown: (SITE)
Landstuhl Regional Medical Center
Tripler Army Medical Center
Womack Army Medical Center
Brooke Army Medical Center

In total, how many years have you served/did you serve? (If less than 1, please choose "0.")
(pulldown) (YEARS)

Which doctor or other provider referred you to this study:

Provider name: _(DOCNAME)_____

Provider department (such as Family Medicine, Behavioral Health, etc.):

_(DOCDEPT)_____

Have you completed a PTSD Checklist, or PCL, in the past year? (pulldown: yes, no) (PCL)

If yes, do you know your score? (PCLSCORE)

Enter Score: _____

Don't Know

Are you SF-qualified, SEAL-qualified, or pararescue-qualified? (pulldown: yes, no) (SFQUAL)

EMERGENCY/SECONDARY CONTACT INFORMATION, COMMAND CONTACT INFORMATION

Please provide the name of someone we can contact in the event that we need to reach you and are unable to locate you. We will only use this information in the event that we accidentally lose touch with you or in case of an emergency. This person should be someone you trust enough to share your medical information with, and who will know how to contact you. Examples might be a parent/guardian, spouse/significant other, or a very close friend.

Emergency Contact Person

First Name _____
Last Name _____
Phone Number _____
Alternate Phone Number _____
Email Address _____
Alternate Email Address _____
Relationship to Participant _____

If the participant is active duty (response to current primary component was “Active in Demographics and Personal Information form”), participants are required to answer the following question:

Please provide the following information in case of an emergency (note that your Chain of Command will not be alerted except in the case of a true emergency).

- ___ What is your CQ/duty phone number?
- ___ What is the name of your 1SG?
- ___ What is your 1SG's phone number?
- ___ What is the name of your CO?
- ___ What is your CO's phone number?

Tobacco Use

Have you smoked at least 100 cigarettes in your entire life? (That would be 5 or more packs in your entire life.)

- ☐ Yes
☐ No [Skip out rule applied]

How old were you when you first started smoking cigarettes regularly? (Smoking regularly means smoking **at least one cigarette** a day for **30 days or longer**.)

- ☐ I have never smoked at least one cigarette a day for 30 days or longer [Skip out rule applied]
☐ (age in years)

When was the last time you smoked regularly? (Smoking regularly means smoking **at least one cigarette** a day for **30 days or longer**.)

- ☐ I smoke regularly now
☐ I smoked regularly in the past year but not in the past month
☐ Years ago (with text box)
☐ I never smoked cigarettes regularly [Skip out rule applied]

Think about the **past 30 days**. How many cigarettes did you **usually** smoke on a typical day?

- ☐ More than 35 cigarettes (about 2 packs or more a day)
☐ 26-35 cigarettes (about 1 ½ packs a day)
☐ 16-25 cigarettes (about 1 pack a day)
☐ 6-15 cigarettes (about ½ pack a day)
☐ 2-5 cigarettes a day
☐ Less than 1 cigarette a day, on average
☐ I did not smoke any cigarettes in the past 30 days
☐ I never smoked cigarettes

At the time you last smoked regularly, how many cigarettes did you **usually** smoke on a typical day?

- ☐ More than 35 cigarettes (about 2 packs or more a day)
☐ 26-35 cigarettes (about 1 ½ packs a day)
☐ 16-25 cigarettes (about 1 pack a day)
☐ 6-15 cigarettes (about ½ pack a day)
☐ 2-5 cigarettes a day
☐ Less than 1 cigarette a day, on average
☐ I did not smoke any cigarettes in the past 30 days
☐ I never smoked cigarettes

Have you ever been a regular user of chewing tobacco, snuff, or other smokeless tobacco? (Regular use means using chewing tobacco, snuff, or other smokeless tobacco **at least once a day** for **30 days or longer**.)

- ☐ Yes
☐ No [Skip out rule applied]

How old were you when you first started using chewing tobacco, snuff, or other smokeless tobacco regularly? (Regular use means **at least once a day** for **30 days or longer**.)

- ☐ I have never used chewing tobacco, snuff, or other smokeless tobacco once a day for 30 days or longer [Skip out rule applied]
☐ (age in years)

When was the last time you used chewing tobacco, snuff, or other smokeless tobacco regularly? (Regular use means **at least once a day for 30 days or longer.**)

- ☐ I use chewing tobacco, snuff, or other smokeless tobacco regularly now
- ☐ I used chewing tobacco regularly in the past year but not in the past month
- ☐ _____ Years ago
- ☐ I have never used chewing tobacco, snuff, or other smokeless tobacco [Skip out rule applied]

Think about the **past 30 days**. How often on the average have you used chewing tobacco, snuff, or other smokeless tobacco?

- ☐ About every day
- ☐ 5-6 days a week
- ☐ 3-4 days a week
- ☐ 1-2 days a week
- ☐ 2-3 days a month
- ☐ About once a month
- ☐ Less than once a month
- ☐ I never used chewing tobacco, snuff, or other smokeless tobacco [Skip out rule applied]

How many times do you **usually** use smokeless tobacco on a typical day?

- ☐ More than 10 times
- ☐ 8-9 times
- ☐ 6-7 times
- ☐ 4-5 times
- ☐ 2-3 times
- ☐ 1 or fewer times
- ☐ I never use chewing tobacco, snuff, or other smokeless tobacco regularly [Skip out rule applied]

Approximately how long do you dip or chew each time you used?

- ☐ More than 2 hours
- ☐ 90 minutes to 2 hours
- ☐ 1 hour to 89 minutes
- ☐ 45 minutes to 59 minutes
- ☐ A half an hour to 44 minutes
- ☐ 15 minutes to 29 minutes
- ☐ Less than 15 minutes
- ☐ I never use chewing tobacco, snuff, or other smokeless tobacco regularly [Skip out rule applied]

At the time you last used chewing tobacco, snuff, or other smokeless tobacco regularly, how often on the average did you use chewing tobacco, snuff, or other smokeless tobacco?

- ☐ About every day
- ☐ 5-6 days a week
- ☐ 3-4 days a week
- ☐ 1-2 days a week
- ☐ 2-3 days a month
- ☐ About once a month
- ☐ Less than once a month
- ☐ I never used chewing tobacco, snuff, or other smokeless tobacco [Skip out rule applied]

At the time you last used chewing tobacco, snuff, or other smokeless tobacco regularly, how many times did you **usually** use on a typical day?

- ☐ More than 10 times
- ☐ 8-9 times
- ☐ 6-7 times
- ☐ 4-5 times
- ☐ 2-3 times
- ☐ 1 or fewer times
- ☐ I never use chewing tobacco, snuff, or other smokeless tobacco regularly [Skip out rule applied]

At the time you last used chewing tobacco, snuff, or other smokeless tobacco regularly, approximately how long did you dip or chew each time you used?

- ☐ More than 2 hours
- ☐ 90 minutes to 2 hours
- ☐ 1 hour to 89 minutes
- ☐ 45 minutes to 59 minutes
- ☐ A half an hour to 44 minutes
- ☐ 15 minutes to 29 minutes
- ☐ Less than 15 minutes
- ☐ I never use chewing tobacco, snuff, or other smokeless tobacco regularly

Psychotropic Medication Use

Instructions: Please begin entering the name of any medication you are currently taking in the box on the left. You can enter the brand name or the generic name. When you see the medication you are looking for, highlight it and click the “Add >” button to move the medication name to the box on the right.

Participants will be shown a screen like below:

Drug name:

Abilify / aripiprazole
Ambien / zolpidem
Ambien CR / zolpidem
Anafranil / clomipramine
Asendin / amoxapine
Atarax / hydroxyzine
Ativan / lorazepam
Aventyl / nortriptyline
belladonna and opium / belladonna and opium
Benadryl / diphenhydramine
BuSpar / buspirone
Celexa / citalopram
Clozaril / clozapine
Codeine / Codeine

Add other drug not listed above:

For each medication reported, participants will be asked to answer the following questions:

What does the label on the bottle or package say is the amount of medication contained in one dose of this medication? Make sure to include the decimal point if there is one.

DOSAGE _____

Is this:

___ mg
___ g
___ other

How many doses do you or did you take of this medication each day? (If the number of doses you took each day changed over the past **2 months**, please tell us the most recent number of doses you took each day.)

DOSES _____

In the past **2 months**, during how many months did you take this medication?

MONTHS _____

Are you taking this medication now?

___ Yes
___ No

If yes, on how many of the past **30 days** did you take this medication?

DAYS _____

1.2. SGB History

BASELINE

1. Have you ever received any stellate ganglion blocks (SGBs)? (ADD_SGB) *

Yes (1) [If yes, go to 1a]

No (0) [If no, skip to Q2]

1a. How many have you had in total? (NUMADD_SGB) *

** questions 1b and 1c loop up to 10 times based on NUMADD_SGB

[Dropdown 1-10]

1b. When was the [first/second/third...] SGB? (WHENADD_SGB_1 thru WHENADD_SGB_10)

- Show Calendar to choose date-RANGE: today-18250 days thru today's date.

- The date can also be typed in the text box. The date format must be mm/dd/yyyy.

1c. Thinking about your most recent SGB, on which side of your neck did the doctor do the injection? (sgb_recent_side)

Left (0)

Right (1)

1d. How many separate SGB injections did you receive at your last visit? (sgb_num_last)

One (1)

Two (2)

Three or more (3)

1e. Was the SGB performed under ultrasound or fluoroscopy/x-ray? (sgb_guide)

Ultrasound (1)

Fluoroscopy/x-ray (2)

Not sure (0)

FOLLOW UPS

1. Have you received any stellate ganglion blocks (SGBs) in the last 60 days? **(ADD_SGB) ***

Yes **(1)** [If yes, go to 1a]

No **(0)** [If no, skip to Q2]

1a. How many? **(NUMADD_SGB) ***

**** questions 1b and 1c loop up to 10 times based on NUMADD_SGB**

[Dropdown 1-10]

1b. When was the [first/second/third...] SGB? **(WHENADD_SGB_1 thru WHENADD_SGB_10)**

- Show Calendar to choose date-RANGE: today-60days thru today's date.

- The date can also be typed in the text box. The date format must be mm/dd/yyyy.

1c. What was the reason for this SGB? **Note: Check all that apply question.**

PTSD Symptoms **(ADD_SGBR_PTSD) (1)**

Other (Specify) **(ADD_SGBR_OTHER) (2)**

____ **(ADD_SGBR_OTHER_other) Length:100 A/N characters***

1d. Thinking about your most recent SGB, on which side of your neck did the doctor do the injection? **(sgb_recent_side)**

Left **(0)**

Right **(1)**

1e. How many separate SGB injections did you receive at your last visit? **(sgb_num_last)**

One **(1)**

Two **(2)**

Three or more **(3)**

1f. Was the SGB performed under ultrasound or fluoroscopy? **(sgb_guide)**

Ultrasound **(1)**

Fluoroscopy **(2)**

Not sure **(0)**

Pain Intensity (Numeric Rating Scale; NRS)

Instructions: Using the scale below, please rate your pain in the past 2 weeks:

0	1	2	3	4	5	6	7	8	9	10
No Pain			Moderate Pain				Worst Possible Pain			

PSTD CHECKLIST FOR DSM-5 (PCL-5)

Instructions: Below is a list of problems that people sometimes have in response to a very stressful experience. Please read each problem carefully and then circle one of the numbers to the right to indicate how much you have been bothered by that problem in the past month.

<i>In the past month, how much were you bothered by:</i>	<i>Not at all</i>	<i>A little bit</i>	<i>Moderately</i>	<i>Quite a bit</i>	<i>Extremely</i>
1. Repeated, disturbing, and unwanted memories of the stressful experience?	0	1	2	3	4
2. Repeated, disturbing dreams of the stressful experience?	0	1	2	3	4
3. Suddenly feeling or acting as if the stressful experience were actually happening again (as if you were actually back there reliving it)?	0	1	2	3	4
4. Feeling very upset when something reminded you of the stressful experience?	0	1	2	3	4
5. Having strong physical reactions when something reminded you of the stressful experience (for example, heart pounding, trouble breathing, sweating)?	0	1	2	3	4
6. Avoiding memories, thoughts, or feelings related to the stressful experience?	0	1	2	3	4
7. Avoiding external reminders of the stressful experience (for example, people, places, conversations, activities, objects, or situations)?	0	1	2	3	4
8. Trouble remembering important parts of the stressful experience?	0	1	2	3	4
9. Having strong negative beliefs about yourself, other people, or the world (for example, having thoughts such as: I am bad, there is something seriously wrong with me, no one can be trusted, the world is completely dangerous)?	0	1	2	3	4
10. Blaming yourself or someone else for the stressful experience or what happened after it?	0	1	2	3	4
11. Having strong negative feelings such as fear, horror, anger, guilt, or shame?	0	1	2	3	4
12. Loss of interest in activities that you used to enjoy?	0	1	2	3	4
13. Feeling distant or cut off from other people?	0	1	2	3	4
14. Trouble experiencing positive feelings (for example, being unable to feel happiness or have loving feelings for people close to you)?	0	1	2	3	4
15. Irritable behavior, angry outbursts, or acting aggressively?	0	1	2	3	4
16. Taking too many risks or doing things that could cause you harm?	0	1	2	3	4
17. Being "superalert" or watchful or on guard?	0	1	2	3	4
18. Feeling jumpy or easily startled?	0	1	2	3	4
19. Having difficulty concentrating?	0	1	2	3	4
20. Trouble falling or staying asleep?	0	1	2	3	4

PCL-5 (8/14/2013) Weathers, Litz, Keane, Palmieri, Marx, & Schnurr – National Center for PTSD

CLINICIAN-ADMINISTERED PTSD SCALE FOR DSM-5 (CAPS-5)

CAPS-5 Page 1

National Center for PTSD
CLINICIAN-ADMINISTERED PTSD SCALE FOR DSM-5
PAST MONTH VERSION

Name: _____ ID#: _____
Interviewer: _____ Date: _____
Study: _____

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National Center for Posttraumatic Stress Disorder
October 28, 2013

Instructions

Standard administration and scoring of the CAPS-5 are essential for producing reliable and valid scores and diagnostic decisions. The CAPS-5 should be administered only by qualified interviewers who have formal training in structured clinical interviewing and differential diagnosis, a thorough understanding of the conceptual basis of PTSD and its various symptoms, and detailed knowledge of the features and conventions of the CAPS-5 itself.

Administration

1. Identify an index traumatic event to serve as the basis for symptom inquiry. Administer the Life Events Checklist and Criterion A inquiry provided on p. 5, or use some other structured, evidence-based method. The index event may involve either a single incident (e.g., "the accident") or multiple, closely related incidents (e.g., "the worst parts of your combat experiences").
2. Read prompts verbatim, one at a time, and in the order presented, EXCEPT:
 - a. Use the respondent's own words for labeling the index event or describing specific symptoms.
 - b. Rephrase standard prompts to acknowledge previously reported information, but return to verbatim phrasing as soon as possible. For example, inquiry for item 20 might begin: "You already mentioned having problems sleeping. What kinds of problems?"
 - c. If you don't have sufficient information after exhausting all standard prompts, follow up ad lib. In this situation, repeating the initial prompt often helps refocus the respondent.
 - d. As needed, ask for specific examples or direct the respondent to elaborate even when such prompts are not provided explicitly.
3. In general, DO NOT suggest responses. If a respondent has pronounced difficulty understanding a prompt it may be necessary to offer a brief example to clarify and illustrate. However, this should be done rarely and only after the respondent has been given ample opportunity to answer spontaneously.
4. DO NOT read rating scale anchors to the respondent. They are intended only for you, the interviewer, because appropriate use requires clinical judgment and a thorough understanding of CAPS-5 scoring conventions.
5. Move through the interview as efficiently as possible to minimize respondent burden. Some useful strategies:
 - a. Be thoroughly familiar with the CAPS-5 so that prompts flow smoothly.
 - b. Ask the fewest number of prompts needed to obtain sufficient information to support a valid rating.
 - c. Minimize note-taking and write while the respondent is talking to avoid long pauses.
 - d. Take charge of the interview. Be respectful but firm in keeping the respondent on task, transitioning between questions, pressing for examples, or pointing out contradictions.

Scoring

1. As with previous versions of the CAPS, CAPS-5 symptom severity ratings are based on symptom frequency and intensity, except for items 8 (amnesia) and 12 (diminished interest), which are based on amount and intensity. However, CAPS-5 items are rated with a single severity score, in contrast to previous versions of the CAPS which required separate frequency and intensity scores for each item that were either summed to create a symptom severity score or combined in various scoring rules to create a dichotomous (present/absent) symptom score. Thus, on the

CAPS-5 the clinician combines information about frequency and intensity before making a single severity rating. Depending on the item, frequency is rated as either the number of occurrences (how often in the past month) or percent of time (how much of the time in the past month). Intensity is rated on a four-point ordinal scale with ratings of *Minimal*, *Clearly Present*, *Pronounced*, and *Extreme*. Intensity and severity are related but distinct. Intensity refers to the strength of a typical occurrence of a symptom. Severity refers to the total symptom load over a given time period, and is a combination of intensity and frequency. This is similar to the quantity/frequency assessment approach to alcohol consumption. In general, intensity rating anchors correspond to severity scale anchors described below and should be interpreted and used in the same way, except that severity ratings require joint consideration of intensity and frequency. Thus, before taking frequency into account, an intensity rating of *Minimal* corresponds to a severity rating of *Mild / subthreshold*, *Clearly Present* corresponds with *Moderate / threshold*, *Pronounced* corresponds with *Severe / markedly elevated*, and *Extreme* corresponds with *Extreme / incapacitating*.

2. The five-point CAPS-5 symptom severity rating scale is used for all symptoms. Rating scale anchors should be interpreted and used as follows:
 - 0 Absent** The respondent denied the problem or the respondent's report doesn't fit the DSM-5 symptom criterion.
 - 1 Mild / subthreshold** The respondent described a problem that is consistent with the symptom criterion but isn't severe enough to be considered clinically significant. The problem doesn't satisfy the DSM-5 symptom criterion and thus doesn't count toward a PTSD diagnosis.
 - 2 Moderate / threshold** The respondent described a clinically significant problem. The problem satisfies the DSM-5 symptom criterion and thus counts toward a PTSD diagnosis. The problem would be a target for intervention. This rating requires a minimum frequency of *2 X month* or *some of the time (20-30%)* PLUS a minimum intensity of *Clearly Present*.
 - 3 Severe / markedly elevated** The respondent described a problem that is well above threshold. The problem is difficult to manage and at times overwhelming, and would be a prominent target for intervention. This rating requires a minimum frequency of *2 X week* or *much of the time (50-60%)* PLUS a minimum intensity of *Pronounced*.
 - 4 Extreme / incapacitating** The respondent described a dramatic symptom, far above threshold. The problem is pervasive, unmanageable, and overwhelming, and would be a high-priority target for intervention.
3. In general, make a given severity rating only if the minimum frequency and intensity for that rating are both met. However, you may exercise clinical judgment in making a given severity rating if the reported frequency is somewhat lower than required, but the intensity is higher. For example, you may make a severity rating of *Moderate / threshold* if a symptom occurs *1 X month* (instead of the required *2 X month*) as long as intensity is rated *Pronounced* or *Extreme* (instead of the required *Clearly Present*). Similarly, you may make a severity rating of *Severe / markedly elevated* if a symptom occurs *1 X week* (instead of the required *2 X week*) as long as the intensity is rated *Extreme* (instead of the required *Pronounced*). If you are unable to decide between two severity ratings, make the lower rating.
4. You need to establish that a symptom not only meets the DSM-5 criterion phenomenologically, but is also functionally related to the index traumatic event, i.e., started or got worse as a result of the event. CAPS-5 items 1-8 and 10 (reexperiencing, effortful avoidance, amnesia, and blame) are inherently linked to the event. Evaluate the remaining items for trauma-relatedness (TR) using the TR inquiry and rating scale. The three TR ratings are:
 - a. **Definite** = the symptom can clearly be attributed to the index trauma, because (1) there is an obvious change from the pre-trauma level of functioning and/or (2) the respondent makes the attribution to the index trauma with confidence.
 - b. **Probable** = the symptom is likely related to the index trauma, but an unequivocal connection can't be made. Situations in which this rating would be given include the following: (1) there seems to be a change from the pre-

trauma level of functioning, but it isn't as clear and explicit as it would be for a "definite;" (2) the respondent attributes a causal link between the symptom and the index trauma, but with less confidence than for a rating of *Definite*; (3) there appears to be a functional relationship between the symptom and inherently trauma-linked symptoms such as reexperiencing symptoms (e.g., numbing or withdrawal increases when reexperiencing increases).

- c. **Unlikely** = the symptom can be attributed to a cause other than the index trauma because (1) there is an obvious functional link with this other cause and/or (2) the respondent makes a confident attribution to this other cause and denies a link to the index trauma. Because it can be difficult to rule out a functional link between a symptom and the index trauma, a rating of *Unlikely* should be used only when the available evidence strongly points to a cause other than the index trauma. NOTE: Symptoms with a TR rating of *Unlikely* should not be counted toward a PTSD diagnosis or included in the total CAPS-5 symptom severity score.

5. **CAPS-5 total symptom severity score** is calculated by summing severity scores for items 1-20. NOTE: Severity scores for the two dissociation items (29 and 30) should NOT be included in the calculation of the total CAPS-5 severity score.
6. **CAPS-5 symptom cluster severity scores** are calculated by summing the individual item severity scores for symptoms contained in a given DSM-5 cluster. Thus, the Criterion B (reexperiencing) severity score is the sum of the individual severity scores for items 1-5; the Criterion C (avoidance) severity score is the sum of items 6 and 7; the Criterion D (negative alterations in cognitions and mood) severity score is the sum of items 8-14; and the Criterion E (hyperarousal) severity score is the sum of items 15-20. A symptom cluster score may also be calculated for dissociation by summing items 29 and 30.
7. **PTSD diagnostic status** is determined by first dichotomizing individual symptoms as "present" or "absent," then following the DSM-5 diagnostic rule. A symptom is considered present only if the corresponding item severity score is rated 2=*Moderate*/threshold or higher. Items 9 and 11-20 have the additional requirement of a trauma-relatedness rating of *Definite* or *Probable*. Otherwise a symptom is considered absent. The DSM-5 diagnostic rule requires the presence of at least one Criterion B symptom, one Criterion C symptom, two Criterion D symptoms, and two Criterion E symptoms. In addition, Criteria F and G must be met. Criterion F requires that the disturbance has lasted at least one month. Criterion G requires that the disturbance cause either clinically significant distress or functional impairment, as indicated by a rating of 2=*moderate* or higher on items 23-25.

Criterion A: Exposure to actual or threatened death, serious injury, or sexual violence in one (or more) of the following ways:

1. Directly experiencing the traumatic event(s).
2. Witnessing, in person, the event(s) as it occurred to others.
3. Learning that the traumatic event(s) occurred to a close family member or close friend. In cases of actual or threatened death of a family member or friend, the event(s) must have been violent or accidental.
4. Experiencing repeated or extreme exposure to aversive details of the traumatic event(s) (e.g., first responders collecting human remains; police officers repeatedly exposed to details of child abuse). **Note: Criterion A4 does not apply to exposure through electronic media, television, movies, or pictures, unless this exposure is work related.**

[Administer Life Events Checklist or other structured trauma screen]

I'm going to ask you about the stressful experiences questionnaire you filled out. First I'll ask you to tell me a little bit about the event you said was the worst for you. Then I'll ask how that event may have affected you over the past month. In general I don't need a lot of information – just enough so I can understand any problems you may have had. Please let me know if you find yourself becoming upset as we go through the questions so we can slow down and talk about it. Also, let me know if you have any questions or don't understand something. Do you have any questions before we start?

The event you said was the worst was (EVENT). What I'd like for you to do is briefly describe what happened.

Index event (specify):

What happened? <i>(How old were you? How were you involved? Who else was involved? Was anyone seriously injured or killed? Was anyone's life in danger? How many times did this happen?)</i>	<i>Exposure type:</i> Experienced ____ Witnessed ____ Learned about ____ Exposed to aversive details ____ Life threat? NO YES [self ____ other ____] Serious injury? NO YES [self ____ other ____] Sexual violence? NO YES [self ____ other ____] Criterion A met? NO PROBABLE YES
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For the rest of the interview, I want you to keep (EVENT) in mind as I ask you about different problems it may have caused you. You may have had some of these problems before, but for this interview we're going to focus just on the past month. For each problem I'll ask if you've had it in the past month, and if so, how often and how much it bothered you.

Criterion B: Presence of one (or more) of the following intrusion symptoms associated with the traumatic event(s), beginning after the traumatic event(s) occurred:

1. (B1) Recurrent, involuntary, and intrusive distressing memories of the traumatic event(s). Note: In children older than 6 years, repetitive play may occur in which themes or aspects of the traumatic event(s) are expressed.

In the past month, have you had any <u>unwanted memories</u> of (EVENT) while you were awake, so not counting dreams? [Rate 0=Absent if only during dreams] How does it happen that you start remembering (EVENT)? [If not clear:] (Are these <u>unwanted memories</u>, or are you thinking about [EVENT] on purpose?) [Rate 0=Absent unless perceived as involuntary and intrusive] How much do these memories bother you? Are you able to put them out of your mind and think about something else? <u>Circle:</u> Distress = <i>Minimal</i> <i>Clearly Present</i> <i>Pronounced</i> <i>Extreme</i> How often have you had these memories in the past month? # of times _____ <i>Key rating dimensions = frequency / intensity of distress</i> Moderate = at least 2 X month / distress clearly present, some difficulty dismissing memories Severe = at least 2 X week / pronounced distress, considerable difficulty dismissing memories	0 <i>Absent</i> 1 <i>Mild / subthreshold</i> 2 <i>Moderate / threshold</i> 3 <i>Severe / markedly elevated</i> 4 <i>Extreme / incapacitating</i>
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2. (B2) Recurrent distressing dreams in which the content and/or affect of the dream are related to the event(s). Note: In children, there may be frightening dreams without recognizable content.

In the past month, have you had any <u>unpleasant dreams</u> about (EVENT)? Describe a typical dream. (What happens?) [If not clear:] (Do they wake you up?) [If yes:] (What do you experience when you wake up? How long does it take you to get back to sleep?) [If reports not returning to sleep:] (How much sleep do you lose?) How much do these dreams bother you? <u>Circle:</u> Distress = <i>Minimal</i> <i>Clearly Present</i> <i>Pronounced</i> <i>Extreme</i> How often have you had these dreams in the past month? # of times _____ <i>Key rating dimensions = frequency / intensity of distress</i> Moderate = at least 2 X month / distress clearly present, less than 1 hour sleep loss Severe = at least 2 X week / pronounced distress, more than 1 hour sleep loss	0 <i>Absent</i> 1 <i>Mild / subthreshold</i> 2 <i>Moderate / threshold</i> 3 <i>Severe / markedly elevated</i> 4 <i>Extreme / incapacitating</i>
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3. (B3) Dissociative reactions (e.g., flashbacks) in which the individual feels or acts as if the traumatic event(s) were recurring. (Such reactions may occur on a continuum, with the most extreme expression being a complete loss of awareness of present surroundings.) Note: In children, trauma-specific reenactment may occur in play.

In the past month, have there been times when you <u>suddenly acted or felt as if (EVENT) were actually happening again?</u> <i>[If not clear:] (This is different than thinking about it or dreaming about it – now I'm asking about flashbacks, when you feel like you're actually back at the time of [EVENT], actually reliving it.)</i> How much does it seem as if (EVENT) were happening again? <i>(Are you confused about where you actually are?)</i> What do you do while this is happening? <i>(Do other people notice your behavior? What do they say?)</i> How long does it last? <u>Circle:</u> Dissociation = <i>Minimal</i> <i>Clearly Present</i> <i>Pronounced</i> <i>Extreme</i> How often has this happened in the past month? # of times _____ <i>Key rating dimensions = frequency / intensity of dissociation</i> Moderate = at least 2 X month / dissociative quality clearly present, may retain some awareness of surroundings but relives event in a manner clearly distinct from thoughts and memories Severe = at least 2 X week / pronounced dissociative quality, reports vivid reliving, e.g., with images, sounds, smells	0 <i>Absent</i> 1 <i>Mild / subthreshold</i> 2 <i>Moderate / threshold</i> 3 <i>Severe / markedly elevated</i> 4 <i>Extreme / incapacitating</i>
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4. (B4) Intense or prolonged psychological distress at exposure to internal or external cues that symbolize or resemble an aspect of the traumatic event(s).

In the past month, have you gotten <u>emotionally upset</u> when <u>something reminded you of (EVENT)?</u> What kinds of reminders make you upset? How much do these reminders bother you? Are you able to calm yourself down when this happens? <i>(How long does it take?)</i> <u>Circle:</u> Distress = <i>Minimal</i> <i>Clearly Present</i> <i>Pronounced</i> <i>Extreme</i> How often has this happened in the past month? # of times _____ <i>Key rating dimensions = frequency / intensity of distress</i> Moderate = at least 2 X month / distress clearly present, some difficulty recovering Severe = at least 2 X week / pronounced distress, considerable difficulty recovering	0 <i>Absent</i> 1 <i>Mild / subthreshold</i> 2 <i>Moderate / threshold</i> 3 <i>Severe / markedly elevated</i> 4 <i>Extreme / incapacitating</i>
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5. (B5) Marked physiological reactions to internal or external cues that symbolize or resemble an aspect of the traumatic event(s).

In the past month, have you had any <u>physical reactions</u> when <u>something reminded you of (EVENT)?</u> Can you give me some examples? <i>(Does your heart race or your breathing change? What about sweating or feeling really tense or shaky?)</i> What kinds of reminders trigger these reactions? How long does it take you to recover? <u>Circle:</u> Physiological reactivity = <i>Minimal</i> <i>Clearly Present</i> <i>Pronounced</i> <i>Extreme</i> How often has this happened in the past month? # of times _____ <i>Key rating dimensions = frequency / intensity of physiological arousal</i> Moderate = at least 2 X month / reactivity clearly present, some difficulty recovering Severe = at least 2 X week / pronounced reactivity, sustained arousal, considerable difficulty recovering	0 <i>Absent</i> 1 <i>Mild / subthreshold</i> 2 <i>Moderate / threshold</i> 3 <i>Severe / markedly elevated</i> 4 <i>Extreme / incapacitating</i>
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Criterion C: Persistent avoidance of stimuli associated with the traumatic event(s), beginning after the traumatic event(s) occurred, as evidenced by one or both of the following:

6. (C1) Avoidance of or efforts to avoid distressing memories, thoughts, or feelings about or closely associated with the traumatic event(s).

In the past month, have you tried to <u>avoid thoughts or feelings</u> about (EVENT)? What kinds of thoughts or feelings do you avoid? How hard do you try to avoid these thoughts or feelings? <i>(What kinds of things do you do?)</i> <u>Circle:</u> Avoidance = <i>Minimal</i> <i>Clearly Present</i> <i>Pronounced</i> <i>Extreme</i> How often in the past month? # of times _____ <i>Key rating dimensions = frequency / intensity of avoidance</i> Moderate = at least 2 X month / avoidance clearly present Severe = at least 2 X week / pronounced avoidance	0 <i>Absent</i> 1 <i>Mild / subthreshold</i> 2 <i>Moderate / threshold</i> 3 <i>Severe / markedly elevated</i> 4 <i>Extreme / incapacitating</i>
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7. (C2) Avoidance of or efforts to avoid external reminders (people, places, conversations, activities, objects, situations) that arouse distressing memories, thoughts, or feelings about or closely associated with the traumatic event(s).

In the past month, have you tried to <u>avoid things that remind you</u> of (EVENT), like certain people, places, or situations? What kinds of things do you avoid? How much effort do you make to avoid these reminders? (Do you have to make a plan or change your activities to avoid them?) [If not clear:] (Overall, how much of a problem is this for you? How would things be different if you didn't have to avoid these reminders?) Circle: Avoidance = Minimal Clearly Present Pronounced Extreme How often in the past month? # of times _____ Key rating dimensions = frequency / intensity of avoidance Moderate = at least 2 X month / avoidance clearly present Severe = at least 2 X week / pronounced avoidance	0 Absent 1 Mild / subthreshold 2 Moderate / threshold 3 Severe / markedly elevated 4 Extreme / incapacitating
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Criterion D: Negative alterations in cognitions and mood associated with the traumatic event(s), beginning or worsening after the traumatic event(s) occurred, as evidenced by two (or more) of the following:

8. (D1) Inability to remember an important aspect of the traumatic event(s) (typically due to dissociative amnesia and not to other factors such as head injury, alcohol, or drugs).

In the past month, have you had <u>difficulty remembering some important parts of</u> (EVENT)? (Do you feel there are gaps in your memory of [EVENT]?) What parts have you had difficulty remembering? Do you feel you should be able to remember these things? [If not clear:] (Why do you think you can't? Did you have a head injury during [EVENT]? Were you knocked unconscious? Were you intoxicated from alcohol or drugs?) [Rate 0=Absent if due to head injury or loss of consciousness or intoxication during event] [If still not clear:] (Is this just normal forgetting? Or do you think you may have blocked it out because it would be too painful to remember?) [Rate 0=Absent if due only to normal forgetting] Circle: Difficulty remembering = Minimal Clearly Present Pronounced Extreme In the past month, how many of the important parts of (EVENT) have you had difficulty remembering? (What parts do you still remember?) # of important aspects _____ Would you be able to recall these things if you tried? Key rating dimensions = amount of event not recalled / intensity of inability to recall Moderate = at least one important aspect / difficulty remembering clearly present, some recall possible with effort Severe = several important aspects / pronounced difficulty remembering, little recall even with effort	0 Absent 1 Mild / subthreshold 2 Moderate / threshold 3 Severe / markedly elevated 4 Extreme / incapacitating
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9. (D2) Persistent and exaggerated negative beliefs or expectations about oneself, others, or the world (e.g., "I am bad," "No one can be trusted," "The world is completely dangerous," "My whole nervous system is permanently ruined").

In the past month, have you had <u>strong negative beliefs</u> about yourself, other people, or the world? Can you give me some examples? (What about believing things like "I am bad," "there is something seriously wrong with me," "no one can be trusted," "the world is completely dangerous"?) How strong are these beliefs? (How convinced are you that these beliefs are actually true? Can you see other ways of thinking about it?) <u>Circle:</u> Conviction = <i>Minimal</i> <i>Clearly Present</i> <i>Pronounced</i> <i>Extreme</i> How much of the time in the past month have you felt that way? % of time _____ Did these beliefs start or get worse after (EVENT)? (Do you think they're related to [EVENT]? How so?) <u>Circle:</u> Trauma-relatedness = <i>Definite</i> <i>Probable</i> <i>Unlikely</i> <i>Key rating dimensions = frequency / intensity of beliefs</i> Moderate = some of the time (20-30%) / exaggerated negative expectations clearly present, some difficulty considering more realistic beliefs Severe = much of the time (50-60%) / pronounced exaggerated negative expectations, considerable difficulty considering more realistic beliefs	0 <i>Absent</i> 1 <i>Mild / subthreshold</i> 2 <i>Moderate / threshold</i> 3 <i>Severe / markedly elevated</i> 4 <i>Extreme / incapacitating</i>
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10. (D3) Persistent, distorted cognitions about the cause or consequences of the traumatic event(s) that lead the individual to blame himself/herself or others.

In the past month, have you <u>blamed yourself</u> for (EVENT) or what happened as a result of it? Tell me more about that. (In what sense do you see yourself as having caused [EVENT]? Is it because of something you did? Or something you think you should have done but didn't? Is it because of something about you in general?) What about <u>blaming someone else</u> for (EVENT) or what happened as a result of it? Tell me more about that. (In what sense do you see [OTHERS] as having caused [EVENT]? Is it because of something they did? Or something you think they should have done but didn't?) How much do you blame (YOURSELF OR OTHERS)? How convinced are you that [YOU OR OTHERS] are truly responsible for what happened? (Do other people agree with you? Can you see other ways of thinking about it?) [Rate 0=Absent if only blames perpetrator, i.e., someone who deliberately caused the event and intended harm] <u>Circle:</u> Conviction = <i>Minimal</i> <i>Clearly Present</i> <i>Pronounced</i> <i>Extreme</i> How much of the time in the past month have you felt that way? % of time _____ <i>Key rating dimensions = frequency / intensity of blame</i> Moderate = some of the time (20-30%) / distorted blame clearly present, some difficulty considering more realistic beliefs Severe = much of the time (50-60%) / pronounced distorted blame, considerable difficulty considering more realistic beliefs	0 <i>Absent</i> 1 <i>Mild / subthreshold</i> 2 <i>Moderate / threshold</i> 3 <i>Severe / markedly elevated</i> 4 <i>Extreme / incapacitating</i>
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11. (D4) Persistent negative emotional state (e.g., fear, horror, anger, guilt, or shame).

In the past month, have you had any <u>strong negative feelings</u> such as fear, horror, anger, guilt, or shame? Can you give me some examples? <i>(What negative feelings do you experience?)</i> How strong are these negative feelings? How well are you able to manage them? <u>Circle:</u> Negative emotions = <i>Minimal</i> <i>Clearly Present</i> <i>Pronounced</i> <i>Extreme</i> How much of the time in the past month have you felt that way? % of time _____ Did these negative feelings start or get worse after (EVENT)? <i>(Do you think they're related to [EVENT]? How so?)</i> <u>Circle:</u> Trauma-relatedness = <i>Definite</i> <i>Probable</i> <i>Unlikely</i> Key rating dimensions = frequency / intensity of negative emotions Moderate = some of the time (20-30%) / negative emotions clearly present, some difficulty managing Severe = much of the time (50-60%) / pronounced negative emotions, considerable difficulty managing	0 <i>Absent</i> 1 <i>Mild / subthreshold</i> 2 <i>Moderate / threshold</i> 3 <i>Severe / markedly elevated</i> 4 <i>Extreme / incapacitating</i>
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12. (D5) Markedly diminished interest or participation in significant activities.

In the past month, have you been <u>less interested</u> in <u>activities</u> that you used to enjoy? What kinds of things have you lost interest in or don't do as much as you used to? <i>(Anything else?)</i> Why is that? [Rate 0=Absent if diminished participation is due to lack of opportunity, physical inability, or developmentally appropriate change in preferred activities] How strong is your loss of interest? <i>(Would you still enjoy [ACTIVITIES] once you got started?)</i> <u>Circle:</u> Loss of interest = <i>Minimal</i> <i>Clearly Present</i> <i>Pronounced</i> <i>Extreme</i> Overall, in the past month, how many of your usual activities have you been less interested in? % of activities _____ What kinds of things do you still enjoy doing? Did this loss of interest start or get worse after (EVENT)? <i>(Do you think it's related to [EVENT]? How so?)</i> <u>Circle:</u> Trauma-relatedness = <i>Definite</i> <i>Probable</i> <i>Unlikely</i> Key rating dimensions = percent of activities affected / intensity of loss of interest Moderate = some activities (20-30%) / loss of interest clearly present but still has some enjoyment of activities Severe = many activities (50-60%) / pronounced loss of interest, little interest or participation in activities	0 <i>Absent</i> 1 <i>Mild / subthreshold</i> 2 <i>Moderate / threshold</i> 3 <i>Severe / markedly elevated</i> 4 <i>Extreme / incapacitating</i>
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13. (D6) Feelings of detachment or estrangement from others.

In the past month, have you felt <u>distant</u> or <u>cut off</u> from other people? Tell me more about that. How strong are your feelings of being distant or cut off from others? <i>(Who do you feel closest to? How many people do you feel comfortable talking with about personal things?)</i> <u>Circle:</u> Detachment or estrangement = <i>Minimal Clearly Present Pronounced Extreme</i> How much of the time in the past month have you felt that way? % of time _____ Did this feeling of being distant or cut off start or get worse after (EVENT)? <i>(Do you think it's related to [EVENT]? How so?)</i> <u>Circle:</u> Trauma-relatedness = <i>Definite Probable Unlikely</i> <i>Key rating dimensions = frequency / intensity of detachment or estrangement</i> Moderate = some of the time (20-30%) / feelings of detachment clearly present but still feels some interpersonal connection Severe = much of the time (50-60%) / pronounced feelings of detachment or estrangement from most people, may feel close to only one or two people	0 <i>Absent</i> 1 <i>Mild / subthreshold</i> 2 <i>Moderate / threshold</i> 3 <i>Severe / markedly elevated</i> 4 <i>Extreme / incapacitating</i>
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14. (D7) Persistent inability to experience positive emotions (e.g., inability to experience happiness, satisfaction, or loving feelings).

In the past month, have there been times when you had <u>difficulty experiencing positive feelings</u> like love or happiness? Tell me more about that. <i>(What feelings are difficult to experience?)</i> How much difficulty do you have experiencing positive feelings? <i>(Are you still able to experience any positive feelings?)</i> <u>Circle:</u> Reduction of positive emotions = <i>Minimal Clearly Present Pronounced Extreme</i> How much of the time in the past month have you felt that way? % of time _____ Did this trouble experiencing positive feelings start or get worse after (EVENT)? <i>(Do you think it's related to [EVENT]? How so?)</i> <u>Circle:</u> Trauma-relatedness = <i>Definite Probable Unlikely</i> <i>Key rating dimensions = frequency / intensity of reduction in positive emotions</i> Moderate = some of the time (20-30%) / reduction of positive emotional experience clearly present but still able to experience some positive emotions Severe = much of the time (50-60%) / pronounced reduction of experience across range of positive emotions	0 <i>Absent</i> 1 <i>Mild / subthreshold</i> 2 <i>Moderate / threshold</i> 3 <i>Severe / markedly elevated</i> 4 <i>Extreme / incapacitating</i>
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Criterion E: Marked alterations in arousal and reactivity associated with the traumatic event(s), beginning or worsening after the traumatic event(s) occurred, as evidenced by two (or more) of the following:

15. (E1) Irritable behavior and angry outbursts (with little or no provocation) typically expressed as verbal or physical aggression toward people or objects.

In the past month, have there been times when you felt especially irritable or angry and showed it in your behavior? Can you give me some examples? <i>(How do you show it? Do you raise your voice or yell? Throw or hit things? Push or hit other people?)</i> <u>Circle:</u> Aggression = <i>Minimal</i> <i>Clearly Present</i> <i>Pronounced</i> <i>Extreme</i> How often in the past month? # of times _____ Did this behavior start or get worse after (EVENT)? <i>(Do you think it's related to [EVENT]? How so?)</i> <u>Circle:</u> Trauma-relatedness = <i>Definite</i> <i>Probable</i> <i>Unlikely</i> Key rating dimensions = frequency / intensity of aggressive behavior Moderate = at least 2 X month / aggression clearly present, primarily verbal Severe = at least 2 X week / pronounced aggression, at least some physical aggression	0 <i>Absent</i> 1 <i>Mild / subthreshold</i> 2 <i>Moderate / threshold</i> 3 <i>Severe / markedly elevated</i> 4 <i>Extreme / incapacitating</i>
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16. (E2) Reckless or self-destructive behavior.

In the past month, have there been times when you were taking more risks or doing things that might have caused you harm? Can you give me some examples? How much of a risk do you take? <i>(How dangerous are these behaviors? Were you injured or harmed in some way?)</i> <u>Circle:</u> Risk = <i>Minimal</i> <i>Clearly Present</i> <i>Pronounced</i> <i>Extreme</i> How often have you taken these kinds of risks in the past month? # of times _____ Did this behavior start or get worse after (EVENT)? <i>(Do you think it's related to [EVENT]? How so?)</i> <u>Circle:</u> Trauma-relatedness = <i>Definite</i> <i>Probable</i> <i>Unlikely</i> Key rating dimensions = frequency / degree of risk Moderate = at least 2 X month / risk clearly present, may have been harmed Severe = at least 2 X week / pronounced risk, actual harm or high probability of harm	0 <i>Absent</i> 1 <i>Mild / subthreshold</i> 2 <i>Moderate / threshold</i> 3 <i>Severe / markedly elevated</i> 4 <i>Extreme / incapacitating</i>
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17. (E3) Hypervigilance.

In the past month, have you been especially alert or watchful, even when there was no specific threat or danger? <i>(Have you felt as if you had to be on guard?)</i> Can you give me some examples? <i>(What kinds of things do you do when you're alert or watchful?)</i> [If not clear:] <i>(What causes you to react this way? Do you feel like you're in danger or threatened in some way? Do you feel that way more than most people would in the same situation?)</i> <u>Circle:</u> Hypervigilance = <i>Minimal</i> <i>Clearly Present</i> <i>Pronounced</i> <i>Extreme</i> How much of the time in the past month have you felt that way? % of time _____ Did being especially alert or watchful start or get worse after (EVENT)? <i>(Do you think it's related to [EVENT]? How so?)</i> <u>Circle:</u> Trauma-relatedness = <i>Definite</i> <i>Probable</i> <i>Unlikely</i> <i>Key rating dimensions = frequency / intensity of hypervigilance</i> Moderate = some of the time (20-30%) / hypervigilance clearly present, e.g., watchful in public, heightened awareness of threat Severe = much of the time (50-60%) / pronounced hypervigilance, e.g., scans environment for danger, may have safety rituals, exaggerated concern for safety of self/family/home	0 <i>Absent</i> 1 <i>Mild / subthreshold</i> 2 <i>Moderate / threshold</i> 3 <i>Severe / markedly elevated</i> 4 <i>Extreme / incapacitating</i>
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18. (E4) Exaggerated startle response.

In the past month, have you had any strong startle reactions? What kinds of things made you startle? How strong are these startle reactions? <i>(How strong are they compared to how most people would respond? Do you do anything other people would notice?)</i> How long does it take you to recover? <u>Circle:</u> Startle = <i>Minimal</i> <i>Clearly Present</i> <i>Pronounced</i> <i>Extreme</i> How often has this happened in the past month? # of times _____ Did these startle reactions start or get worse after (EVENT)? <i>(Do you think they're related to [EVENT]? How so?)</i> <u>Circle:</u> Trauma-relatedness = <i>Definite</i> <i>Probable</i> <i>Unlikely</i> <i>Key rating dimensions = frequency / intensity of startle</i> Moderate = at least 2 X month / startle clearly present, some difficulty recovering Severe = at least 2 X week / pronounced startle, sustained arousal, considerable difficulty recovering	0 <i>Absent</i> 1 <i>Mild / subthreshold</i> 2 <i>Moderate / threshold</i> 3 <i>Severe / markedly elevated</i> 4 <i>Extreme / incapacitating</i>
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19. (E5) Problems with concentration.

In the past month, have you had any <u>problems</u> with <u>concentration</u>? Can you give me some examples? Are you able to concentrate if you really try? <u>Circle:</u> Problem concentrating = <i>Minimal</i> <i>Clearly Present</i> <i>Pronounced</i> <i>Extreme</i> How much of the time in the past month have you had problems with concentration? % of time _____ Did these problems with concentration start or get worse after (EVENT)? (Do you think they're related to [EVENT]? How so?) <u>Circle:</u> Trauma-relatedness = <i>Definite</i> <i>Probable</i> <i>Unlikely</i> <i>Key rating dimensions = frequency / intensity of concentration problems</i> Moderate = some of the time (20-30%) / problem concentrating clearly present, some difficulty but can concentrate with effort Severe = much of the time (50-60%) / pronounced problem concentrating, considerable difficulty even with effort	0 <i>Absent</i> 1 <i>Mild / subthreshold</i> 2 <i>Moderate / threshold</i> 3 <i>Severe / markedly elevated</i> 4 <i>Extreme / incapacitating</i>
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20. (E6) Sleep disturbance (e.g., difficulty falling or staying asleep or restless sleep).

In the past month, have you had any problems <u>falling</u> or <u>staying</u> asleep? What kinds of problems? (How long does it take you to fall asleep? How often do you wake up in the night? Do you wake up earlier than you want to?) How many total hours do you sleep each night? How many hours do you think you should be sleeping? <u>Circle:</u> Problem sleeping = <i>Minimal</i> <i>Clearly Present</i> <i>Pronounced</i> <i>Extreme</i> How often in the past month have you had these sleep problems? # of times _____ Did these sleep problems start or get worse after (EVENT)? (Do you think they're related to [EVENT]? How so?) <u>Circle:</u> Trauma-relatedness = <i>Definite</i> <i>Probable</i> <i>Unlikely</i> <i>Key rating dimensions = frequency / intensity of sleep problems</i> Moderate = at least 2 X month / sleep disturbance clearly present, clearly longer latency or clear difficulty staying asleep, 30-90 minutes loss of sleep Severe = at least 2 X week / pronounced sleep disturbance, considerably longer latency or marked difficulty staying asleep, 90 min to 3 hrs loss of sleep	0 <i>Absent</i> 1 <i>Mild / subthreshold</i> 2 <i>Moderate / threshold</i> 3 <i>Severe / markedly elevated</i> 4 <i>Extreme / incapacitating</i>
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Criterion F: Duration of the disturbance (Criteria B, C, D, and E) is more than 1 month.

21. Onset of symptoms

[If not clear:] When did you first start having (PTSD SYMPTOMS) you've told me about? (How long after the trauma did they start? More than six months?)	Total # months delay in onset _____ With delayed onset (≥ 6 months)? NO YES
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22. Duration of symptoms

[If not clear:] How long have these (PTSD SYMPTOMS) lasted altogether?	Total # months duration _____ Duration more than 1 month? NO YES
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Criterion G: The disturbance causes clinically significant distress or impairment in social, occupational, or other important areas of functioning.

23. Subjective distress

Overall, in the past month, how much have you been bothered by these (PTSD SYMPTOMS) you've told me about? [Consider distress reported on earlier items]	0 None 1 Mild, minimal distress 2 Moderate, distress clearly present but still manageable 3 Severe, considerable distress 4 Extreme, incapacitating distress
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24. Impairment in social functioning

In the past month, have these (PTSD SYMPTOMS) affected your relationships with other people? How so? [Consider impairment in social functioning reported on earlier items]	0 No adverse impact 1 Mild impact, minimal impairment in social functioning 2 Moderate impact, definite impairment but many aspects of social functioning still intact 3 Severe impact, marked impairment, few aspects of social functioning still intact 4 Extreme impact, little or no social functioning
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25. Impairment in occupational or other important area of functioning

[If not clear:] Are you working now? [If yes:] In the past month, have these (PTSD SYMPTOMS) affected your work or your ability to work? How so? [Consider reported work history, including number and duration of jobs, as well as the quality of work relationships. If pre-morbid functioning is unclear, inquire about work experiences before the trauma. For child/adolescent trauma, assess pre-trauma school performance and possible presence of behavior problems] [If no:] Have these (PTSD SYMPTOMS) affected any other important part of your life? [As appropriate, suggest examples such as: parenting, housework, schoolwork, volunteer work, etc.] How so?	0 No adverse impact 1 Mild impact, minimal impairment in occupational/other important functioning 2 Moderate impact, definite impairment but many aspects of occupational/other important functioning still intact 3 Severe impact, marked impairment, few aspects of occupational/other important functioning still intact 4 Extreme impact, little or no occupational/other important functioning
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Global Ratings

26. Global validity

Estimate the overall validity of responses. Consider factors such as compliance with the interview, mental status (e.g., problems with concentration, comprehension of items, dissociation), and evidence of efforts to exaggerate or minimize symptoms.	0 <i>Excellent, no reason to suspect invalid responses</i> 1 <i>Good, factors present that may adversely affect validity</i> 2 <i>Fair, factors present that definitely reduce validity</i> 3 <i>Poor, substantially reduced validity</i> 4 <i>Invalid responses, severely impaired mental status or possible deliberate "faking bad" or "faking good"</i>
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27. Global severity

Estimate the overall severity of PTSD symptoms. Consider degree of subjective distress, degree of functional impairment, observations of behaviors in interview, and judgment regarding reporting style.	0 <i>No clinically significant symptoms, no distress and no functional impairment</i> 1 <i>Mild, minimal distress or functional impairment</i> 2 <i>Moderate, definite distress or functional impairment but functions satisfactorily with effort</i> 3 <i>Severe, considerable distress or functional impairment, limited functioning even with effort</i> 4 <i>Extreme, marked distress or marked impairment in two or more major areas of functioning</i>
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28. Global improvement

Rate total overall improvement since the previous rating. Rate the degree of change, whether or not, in your judgment, it is due to treatment.	0 <i>Asymptomatic</i> 1 <i>Considerable improvement</i> 2 <i>Moderate improvement</i> 3 <i>Slight improvement</i> 4 <i>No improvement</i> 5 <i>Insufficient information</i>
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Specify whether with dissociative symptoms: The individual's symptoms meet the criteria for posttraumatic stress disorder, and in addition, in response to the stressor, the individual experiences persistent or recurrent symptoms of either of the following:

29. (1) Depersonalization: Persistent or recurrent experiences of feeling detached from, and as if one were an outside observer of, one's mental processes or body (e.g., feeling as though one were in a dream; feeling a sense of unreality of self or body or of time moving slowly).

In the past month, have there been times when you felt as if you were separated from yourself, like you were watching yourself from the outside or observing your thoughts and feelings as if you were another person? <i>[If no:] (What about feeling as if you were in a dream, even though you were awake? Feeling as if something about you wasn't real? Feeling as if time was moving more slowly?)</i> Tell me more about that. How strong is this feeling? <i>(Do you lose track of where you actually are or what's actually going on?)</i> What do you do while this is happening? <i>(Do other people notice your behavior? What do they say?)</i> How long does it last? <u>Circle:</u> Dissociation = <i>Minimal</i> <i>Clearly Present</i> <i>Pronounced</i> <i>Extreme</i> <i>[If not clear:] (Was this due to the effects of alcohol or drugs? What about a medical condition like seizures?)</i> [Rate 0=Absent if due to the effects of a substance or another medical condition] How often has this happened in the past month? # of times _____ <i>Key rating dimensions = frequency / intensity of dissociation</i> Moderate = at least 2 X month / dissociative quality clearly present but transient, retains some realistic sense of self and awareness of environment Severe = at least 2 X week / pronounced dissociative quality, marked sense of detachment and unreality	0 <i>Absent</i> 1 <i>Mild / subthreshold</i> 2 <i>Moderate / threshold</i> 3 <i>Severe / markedly elevated</i> 4 <i>Extreme / incapacitating</i>
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30. (2) Derealization: Persistent or recurrent experiences of unreality of surroundings (e.g., the world around the individual is experienced as unreal, dreamlike, distant, or distorted).

In the past month, have there been times when things going on around you seemed unreal or very strange and unfamiliar? [If no:] (Do things going on around you seem like a dream or like a scene from a movie? Do they seem distant or distorted?) Tell me more about that. How strong is this feeling? (Do you lose track of where you actually are or what's actually going on?) What do you do while this is happening? (Do other people notice your behavior? What do they say?) How long does it last? <u>Circle:</u> Dissociation = <i>Minimal</i> <i>Clearly Present</i> <i>Pronounced</i> <i>Extreme</i> [If not clear:] (Was this due to the effects of alcohol or drugs? What about a medical condition like seizures?) [Rate 0=Absent if due to the effects of a substance or another medical condition] How often has this happened in the past month? # of times _____	0 <i>Absent</i> 1 <i>Mild / subthreshold</i> 2 <i>Moderate / threshold</i> 3 <i>Severe / markedly elevated</i> 4 <i>Extreme / incapacitating</i>
<i>Key rating dimensions = frequency / intensity of dissociation</i> Moderate = at least 2 X month / dissociative quality clearly present but transient, retains some realistic sense of environment Severe = at least 2 X week / pronounced dissociative quality, marked sense of unreality	

CAPS-5 SUMMARY SHEET

Name: _____ ID#: _____ Interviewer: _____ Study: _____ Date: _____

<i>A. Exposure to actual or threatened death, serious injury, or sexual violence</i>		
Criterion A met?	0 = NO	1 = YES

<i>B. Intrusion symptoms (need 1 for diagnosis)</i>	<i>Past Month</i>	
	<i>Sev</i>	<i>Sx (Sev ≥ 2)?</i>
(1) B1 – Intrusive memories		0 = NO 1 = YES
(2) B2 – Distressing dreams		0 = NO 1 = YES
(3) B3 – Dissociative reactions		0 = NO 1 = YES
(4) B4 – Cued psychological distress		0 = NO 1 = YES
(5) B5 – Cued physiological reactions		0 = NO 1 = YES
<i>B subtotals</i>	<i>B Sev =</i>	<i># B Sx =</i>

<i>C. Avoidance symptoms (need 1 for diagnosis)</i>	<i>Past Month</i>	
	<i>Sev</i>	<i>Sx (Sev ≥ 2)?</i>
(6) C1 – Avoidance of memories, thoughts, feelings		0 = NO 1 = YES
(7) C2 – Avoidance of external reminders		0 = NO 1 = YES
<i>C subtotals</i>	<i>C Sev =</i>	<i># C Sx =</i>

<i>D. Cognitions and mood symptoms (need 2 for diagnosis)</i>	<i>Past Month</i>	
	<i>Sev</i>	<i>Sx (Sev ≥ 2)?</i>
(8) D1 – Inability to recall important aspect of event		0 = NO 1 = YES
(9) D2 – Exaggerated negative beliefs or expectations		0 = NO 1 = YES
(10) D3 – Distorted cognitions leading to blame		0 = NO 1 = YES
(11) D4 – Persistent negative emotional state		0 = NO 1 = YES
(12) D5 – Diminished interest or participation in activities		0 = NO 1 = YES
(13) D6 – Detachment or estrangement from others		0 = NO 1 = YES
(14) D7 – Persistent inability to experience positive emotions		0 = NO 1 = YES
<i>D subtotals</i>	<i>D Sev =</i>	<i># D Sx =</i>

<i>E. Arousal and reactivity symptoms (need 2 for diagnosis)</i>	<i>Past Month</i>	
	<i>Sev</i>	<i>Sx (Sev ≥ 2)?</i>
(15) E1 – Irritable behavior and angry outbursts		0 = NO 1 = YES
(16) E2 – Reckless or self-destructive behavior		0 = NO 1 = YES
(17) E3 – Hypervigilance		0 = NO 1 = YES
(18) E4 – Exaggerated startle response		0 = NO 1 = YES
(19) E5 – Problems with concentration		0 = NO 1 = YES
(20) E6 – Sleep disturbance		0 = NO 1 = YES
<i>E subtotals</i>	<i>E Sev =</i>	<i># E Sx =</i>

<i>PTSD totals</i>	<i>Past Month</i>	
	<i>Total Sev</i>	<i>Total # Sx</i>
<i>Sum of subtotals (B+C+D+E)</i>		

<i>F. Duration of disturbance</i>	<i>Current</i>
(22) Duration of disturbance $\geq$ 1 month?	0 = NO 1 = YES

<i>G. Distress or impairment (need 1 for diagnosis)</i>	<i>Past Month</i>	
	<i>Sev</i>	<i>Cx (Sev $\geq$ 2)?</i>
(23) Subjective distress		0 = NO 1 = YES
(24) Impairment in social functioning		0 = NO 1 = YES
(25) Impairment in occupational functioning		0 = NO 1 = YES
<i>G subtotals</i>	<i>G Sev =</i>	<i># G Cx =</i>

<i>Global ratings</i>	<i>Past Month</i>
(26) Global validity	
(27) Global severity	
(28) Global improvement	

<i>Dissociative symptoms (need 1 for subtype)</i>	<i>Past Month</i>	
	<i>Sev</i>	<i>Sx (Sev $\geq$ 2)?</i>
(29) 1 -- Depersonalization		0 = NO 1 = YES
(30) 2 -- Derealization		0 = NO 1 = YES
<i>Dissociative subtotals</i>	<i>Diss Sev =</i>	<i># Diss Sx =</i>

<i>PTSD diagnosis</i>	<i>Past Month</i>	
PTSD PRESENT – ALL CRITERIA (A-G) MET?	0 = NO 1 = YES	
With dissociative symptoms	0 = NO 1 = YES	
(21) With delayed onset ($\geq$ 6 months)	0 = NO 1 = YES	

Suggested Talking Points for CAPS Introduction and Closure

Introduction- SCREENING ADMINISTRATION

***Get the appropriate person on the phone, without stating the reason for the call (we're thinking most phone numbers will be cell, which will make this easy), and then:

Hello, this is Dr. [FIRST and LAST NAME] calling about the CAPS for the SGB for PTSD Study. Your site coordinator set up this interview for you as the last step in determining whether you are eligible for the study. Is now still a good time for you? The interview should take about an hour.

YES- Great, then let's get started. If you start to feel uncomfortable, please tell me so we can talk about it. We ask your permission to record this interview for quality control purposes. Is it okay for me to record this interview? This will not affect your eligibility for participating in the study.

You may recall that during your online screening, you took an assessment which asked about difficult or stressful things that sometimes happen to people- whether they happened to you, you witnessed them, or any other sort of experience. These are things like natural disasters, fires or explosions, and combat. For purposes of this interview today, I would like you to focus on the event you said was the worst for you...

NO- OK, no problem. Let's take a moment now to reschedule the interview.

Conclusion- SCREENING ADMINISTRATION

OK, that concludes the CAPS- thank you for your time. Your Research Coordinator will be in touch with you in the next couple of days to let you know whether you are eligible for the study.

IF THE PARTICIPANT ASKS WHETHER THEY "PASSED" THE CAPS- I'm afraid I'm not able to say. I have to record some scoring values and then the other study staff will determine whether you are eligible for the study based on all of the information they have gathered from you thus far.

IF THE PARTICIPANT HAS FURTHER QUESTIONS- Please direct any questions you may have to your Research Coordinator (the person with whom you've met or spoken with previously about the study).

If they're not sure who their RC is-

Womack Army Medical Center- TBN [INSERT CONTACT INFO]

Tripler Army Medical Center- TBN [INSERT CONTACT INFO]

Landstuhl Regional Medical Center- TBN [INSERT CONTACT INFO]

Brooke Army Medical Center – TBN [INSERT CONTACT INFO]

Introduction- STUDY CONCLUSION ADMINISTRATION

***Get the appropriate person on the phone, without stating the reason for the call (we're thinking most phone numbers will be cell, which will make this easy), and then:

Hello, this is Dr. [FIRST and LAST NAME] calling about the CAPS for the SGB for PTSD Study. You may recall we spoke about two months ago. Your site coordinator set up this interview for you as the last step in your participation in the study. Is now still a good time for you? The interview should take about an hour.

YES- Great, then let's get started. Just like last time, if you start to feel uncomfortable, please tell me so we can talk about it. May we record this interview for quality control purposes?

You may recall that during your online screening about 2 months ago, you took an assessment which asked about difficult or stressful things that sometimes happen to people - whether they happened to you, you witnessed them, or any other sort of experience. These are things like natural disasters, fires or explosions, and combat. For purposes of this interview today, I would like you to focus on the event you said was the worst for you...

NO- OK, no problem, but it is important that this interview be done as close as possible to exactly 8 weeks after your first study procedure. Let's take a moment now to reschedule the interview.

Conclusion- STUDY CONCLUSION ADMINISTRATION

OK, that concludes the CAPS- thank you for your time.

IF THE PARTICIPANT HAS FURTHER QUESTIONS- Please direct any questions you may have to your Research Coordinator (the person with whom you've met or spoken with previously about the study).

If they're not sure who their RC is-

Womack Army Medical Center- TBN [INSERT CONTACT INFO]

Tripler Army Medical Center- TBN [INSERT CONTACT INFO]

Landstuhl Regional Medical Center- [TBN INSERT CONTACT INFO]

Brooke Army Medical Center – TBN [INSERT CONTACT INFO]

DISTRESSED RESPONDENT PROTOCOL (DRP) (DECEMBER 22, 2022)

Overview

Due to the nature of the sample targeted for the Stellate Ganglion Block (SGB) Study and the nature of the clinical interview questions asked during data collection, it is possible that a respondent will indicate during the course of their interactions with the clinical interviewer (CI) that he or she poses a likely threat to his or her own safety or the safety of others. It is essential that SGB project staff members be prepared to handle these situations appropriately.

All clinical interviewers (CIs) will be instructed to be alert to signs of distress or agitation, or indication of imminent danger of harm to oneself or another based on indirect and direct statements made by respondents. In all such circumstances, the CI will follow the protocol outlined in this document.

There are essentially two situations that would constitute imminent danger of harm:

1. A respondent tells the interviewer that he/she intends to hurt or kill himself or herself, has a plan, and has a means to carry out that plan.
2. A respondent tells the interviewer that he/she intends to hurt or kill a specific person, has a plan, and has a means to carry out that plan.

In cases where imminent danger is or may be involved, the CI will call and text Dr. Rhonda Karg (919-641-5460) to discuss the situation and to decide what steps, if any, should be taken to ensure the safety of the respondent (or intended target of other-directed harm by the respondent). If Dr. Karg is not available, the CI should call and text Ms. Kristine Rae Olmsted (919-632-4079) or Mr. Russ Peeler (919-995-0959) when appropriate based on the instructions in the tables below. Ms. Rae Olmsted and Mr. Peeler will discuss the situation with Dr. Karg, who will recommend what action, if any beyond documenting the situation in an incident form, should be taken. If the respondent's commanding officer (or emergency contact/local emergency service) needs to be called due to imminent danger (*Scenarios 2 or 4*), Dr. Karg will contact Ms. Rae Olmsted (919-632-4079) and Mr. Peeler (919-995-0959). Because Ms. Rae Olmsted and Mr. Peeler do not have clinical training, they will simply be made aware that the *Distressed Respondent Protocol* has been enacted so they can contact the respondent's commanding officer (or emergency contact/local emergency service). Any questions about whether to contact the respondent's commanding officer (or emergency contact/local emergency service) will be deferred to Dr. Karg. The following table will be printed on the inside cover of the clinical interviewer handbook and in the instructions for handling distressed respondents:

Call:	Cell Phone Numbers:
Dr. Rhonda Karg	919-641-5460
Kristine Rae Olmsted	919-632-4079
Russ Peeler	919-995-0959

All information gathered from or about a respondent will be entered directly onto an Incident Report form and submitted electronically to Dr. Karg, Ms. Rae Olmsted, and Mr. Peeler within an hour of the interview. No records will ever be written on paper.

All CIs hired to work on this study will confirm that these guidelines are consistent with all legal and ethical guidelines by which they must abide. They will report that they are under no obligation to, nor will they, convey any information about this study or about respondents to anyone not involved with this study except in the emergency situations described in this document. They also will confirm understanding that they are under no legal or ethical obligation to provide mental health services or counseling to a respondent beyond referring individuals to other resources or contacting authorities as specified in this document. Moreover, RTI legal counsel Chris Buchholz confirmed via e-mail to David Cunningham on April 25, 2007 that in his judgment the guidelines are consistent with all pertinent “duty to warn” laws in the states in which the certification recruiter, CIs, and respondents reside because the individuals working on the project, even the CIs clinically trained in mental health issues, will not be participating in a medical or psychological professional capacity.

Although some situations may require consultation with IRB representatives, we believe these procedures will provide comprehensive guidelines to protect the safety of our human subjects.

Specific Guidelines

If respondents report any of the issues listed below during any interactions with the CI, including before, during, or after a telephone interview, the staff member will immediately refer to the scenario chart below and follow the instructions provided. Details of all incidents will be documented on the Incident Report form and reported to project management staff immediately.

- Has had **any suicidal thoughts in the past two weeks**, including
 - passive suicidal thoughts (i.e., thoughts or wishes about his/her death **in the absence of** thoughts about specific ways s/he could die or attempt suicide, plans for how s/he could die or attempt suicide, or intention of dying or attempting suicide) **[SCENARIO 1]** or
 - active suicidal thoughts (i.e., thoughts or wishes about his/her death **combined with** thoughts about specific ways s/he could die or attempt suicide, plans for how s/he could die or attempt suicide, the intention of dying or attempting suicide, the means to carry out that plan, and will not promise you that s/he will not hurt him/herself) **[SCENARIO 2]**
- Has had **any homicidal thoughts in the past two weeks**, including
 - passive homicidal thoughts (i.e., thoughts or wishes about seriously harming someone else **in the absence of** thoughts about specific ways in which s/he could seriously harm another person, plans for how s/he could seriously harm another person, intentions of seriously harming another person) **[SCENARIO 3]** or
 - active homicidal thoughts (i.e., thoughts or wishes about seriously harming someone else **combined with** thoughts about specific ways s/he could seriously harm another person, plans for how s/he could seriously harm another person, the intention of seriously harming another person, and the means to carry out that plan) **[SCENARIO 4]**

Scenario Chart		
Scenario Number	Individual at Risk of Harm	Imminent Danger?
1	Self	No
2	Self	Possible / Yes
3	Other(s)	No
4	Other(s)	Possible / Yes
5	No risk of harm; respondent is agitated or upset	No

Scenario Number	Individual at Risk of Harm	Imminent Danger?
1	Self	No
STEPS		
A. CI COMPLETES INTERVIEW AND THEN READS TO RESPONDENT (R): When you agreed to participate in this interview, I stated that I would not tell anyone what you have told me unless it was necessary to protect you or other people. You told me earlier that you have recently had thoughts or wishes about your death or dying. B. CI READS TO R: Do you have a doctor, counselor, or someone you can talk to about how you are feeling now? IF YES: I strongly suggest that you contact this person immediately so you can talk to him or her about how you have been feeling, especially about the thoughts you've been having about death and dying. Would you be willing to do that? IF YES: Okay. There is also the National Suicide Prevention Lifeline, which provides 24/7, free and confidential support for people in distress. Their number is 1-800-273-8255, and you can press "1" at the menu to be routed to the Veterans Crisis Line. If you are calling from a U.S. state or territory, you can also reach the Veterans Crisis Line by dialing "988," then pressing "1." [Appropriate telephone numbers will be provided in Germany.] THANK R FOR THEIR PARTICIPATION IN THE STUDY AND END CALL. IF NO: I strongly suggest that you contact the National Suicide Prevention Lifeline, which provides 24/7, free and confidential support for people in distress. Their number is 1-800-273-8255, and you can press "1" at the menu to be routed to the Veterans Crisis Line. If you are calling from a U.S. state or territory, you can also reach the Veterans Crisis Line by dialing "988," then pressing "1." If you feel that this is an emergency now or later, you should go to a hospital emergency room right away. If you are not able to get to an emergency room immediately, you should call 911 for assistance. [Appropriate telephone numbers will be provided in Germany.] THANK R FOR THEIR PARTICIPATION IN THE STUDY AND END CALL. C. WHEN CALL IS COMPLETED, CI CALLS DR. KARG TO DEBRIEF. CI FILLS OUT INCIDENT REPORT AND SUBMITS IT TO DR. KARG, COPYING MS. RAE OLMSTED AND MR. PEELER ON THE CC LINE (RHONDA.KARG@GMAIL.COM, KROLMSTED@RTI.ORG, AND RVP@RTI.ORG).		

Scenario Number	Individual at Risk of Harm	Imminent Danger?
2	Self	Possible / Yes
STEPS		
A. CI ENDS INTERVIEW AND THEN READS TO R: When you agreed to participate in this interview, I promised that I would not tell anyone what you have told me unless it was necessary to protect you or other people. You told me earlier that you are thinking about harming yourself. We will need to contact [<i>for active duty</i>: someone in your command; <i>for non-active duty</i>: the person you gave as your emergency contact] so he or she can contact you and keep you safe. I'm going to put you on a brief hold to contact my supervisor, but I will quickly switch back and stay on the line with you until someone (someone from your command) arrives. CI STAYS ON THE LINE UNTIL HELP ARRIVES. B. CI PUTS RESPONDENT ON HOLD AND CALLS AND TEXT MESSAGES DR. KARG TO DEBRIEF. IF SHE IS NOT AVAILABLE, THE CI TEXT MESSAGES AND CALLS MS. RAE OLMSTED OR MR. PEELER TO DEBRIEF. C. MS. RAE OLMSTED OR MR. PEELER CALLS THE COMMANDING OFFICER (EMERGENCY CONTACT) AND READS THIS STATEMENT: <u>To Commanding Officer:</u> I work for RTI International, a research company in North Carolina, and we are conducting a research study. During an interview with a respondent, the respondent told me that (he/she) is thinking about killing or harming him-/herself. I am concerned about this individual's safety. I am going to provide you with the respondent's contact information so you can reach out to him/her. Section 2. <u>To emergency contact:</u> I work for RTI International, a research company in North Carolina, and we are conducting a research study. During an interview with [R's name], he/she told me that he/she is thinking about hurting themselves or making a suicide attempt. I am concerned about [R's name]'s safety and they listed you as their emergency contact. Do you have his/her phone number so that you can reach out to him/her? D. MS. RAE OLMSTED OR MR. PEELER GIVE R'S NAME, TELEPHONE NUMBER, ADDRESS (IF KNOWN), AND RESPONDENT'S IDENTIFYING INFORMATION TO COMMANDING OFFICER (OR EMERGENCY CONTACT). END CALL. E. AFTER HELP ARRIVES, CI THANKS R FOR HIS/HER INTEREST IN THE STUDY AND INSTRUCTS RESPONDENT TO GO TO NEAREST EMERGENCY ROOM IF THE SUICIDAL THOUGHTS PERSIST OR REOCCUR. ENDS CALL. F. CI FILLS OUT INCIDENT REPORT AND SUBMITS IT TO DR. KARG, COPYING MS. RAE OLMSTED AND MR. PEELER ON THE CC LINE. G. MS. RAE OLMSTED OR MR. PEELER ADD INFORMATION TO THE INCIDENT REPORT, AS APPROPRIATE, AND SUBMITS IT TO DR. WALTERS (bwalterssqb2@gmail.com), COPYING R. PEELER OR MS. RAE OLMSTED,		

**RESPECTIVELY, AND DR. KARG. (RHONDA.KARG@GMAIL.COM,
KROLMSTED@RTI.ORG, AND RVP@RTI.ORG).**

Scenario Number	Individual at Risk of Harm	Imminent Danger?
3	Other(s)	No

STEPS

A. CI COMPLETES INTERVIEW AND THEN READS TO R: When you agreed to participate in this interview, I promised that I would not tell anyone what you have told me unless it was necessary to protect you or other people. You told me earlier that you have recently had thoughts or wishes about seriously harming someone else. Do you have a doctor, counselor, or someone you can talk to about how you are feeling now?

IF YES, CI READS TO R: I strongly suggest that you contact this person immediately so you can talk to him or her about how you have been feeling, especially about the thoughts you've been having about seriously harming someone else. Would you be willing to do that?

IF YES, CI READS TO R: Okay. There is also the National Suicide Prevention Lifeline, which provides 24/7, free and confidential support for people in distress. Their number is 1-800-273-8255, and you can press "1" at the menu to be routed to the Veterans Crisis Line. If you are calling from a U.S. state or territory, you can also reach the Veterans Crisis Line by dialing "988," then pressing "1."

[Appropriate telephone numbers will be provided in Germany.] THANK R FOR HIS/HER PARTICIPATION IN THE STUDY AND END CALL.

IF NO, CI READS TO R: I strongly suggest that you contact the National Suicide Prevention Lifeline, which provides 24/7, free and confidential support for people in distress. Their number is 1-800-273-8255, and you can press "1" at the menu to be routed to the Veterans Crisis Line. If you are calling from a U.S. state or territory, you can also reach the Veterans Crisis Line by dialing "988," then pressing "1." If you feel that this is an emergency now or later, you should go to a hospital emergency room right away. If you are not able to get to an emergency room immediately, you should call 911 for assistance. **[Appropriate telephone numbers will be provided in Germany.] THANK R FOR HIS/HER PARTICIPATION IN THE STUDY AND END CALL.**

B. WHEN CALL IS COMPLETED, CI CALLS DR. KARG TO DEBRIEF. CI FILLS OUT INCIDENT REPORT AND SUBMITS IT TO DR. KARG, COPYING MS. RAE OLMSTED AND MR. PEELER ON THE CC LINE.

Scenario Number	Individual at Risk of Harm	Imminent Danger?
4	Other(s)	Possible / Yes
STEPS		
A. CI ENDS INTERVIEW AND ENDS CALL. When you agreed to participate in this interview, I promised that I would not tell anyone what you have told me unless it was necessary to protect you or other people. You told me earlier that you are thinking about harming somebody else. We will need to contact [<i>for active duty</i>: someone in your command; <i>for non-active duty</i>: the local emergency service] to keep others safe and so that you can get the support you need. They should be in contact with you soon. I'm going to end our call and contact my supervisor so that we can make sure that [<i>for active duty</i>: someone in your command; <i>for non-active duty</i>: the local emergency services] is able to keep you and others safe. B. WHEN CALL IS COMPLETED, CI CALLS DR. KARG TO DEBRIEF AND DETERMINE NEXT STEPS. IF SHE IS NOT AVAILABLE, THE CI CALLS MS. RAE OLMSTED OR MR. PEELER TO DEBRIEF. CI FILLS OUT INCIDENT REPORT AND SUBMITS IT TO DR. KARG, COPYING MS. RAE OLMSTED AND MR. PEELER ON THE CC LINE (RHONDA.KARG@GMAIL.COM, KROLMSTED@RTI.ORG, AND RVP@RTI.ORG). C. MS. RAE OLMSTED OR MR. PEELER CALL THE COMMANDING OFFICER (EMERGENCY SERVICE) AND READ THIS STATEMENT: I work for RTI International, a research company in North Carolina, and we are conducting a research study. During an interview with a respondent, the respondent told a staff member that (he/she) is thinking about killing or harming another individual. I am concerned about this individual's safety. I am going to provide you with the respondent's contact information. D. MS. RAE OLMSTED OR MR. PEELER GIVES R'S NAME, TELEPHONE NUMBER, ADDRESS (IF KNOWN), AND VICTIM'S IDENTIFYING INFORMATION TO COMMANDING OFFICER (OR LOCAL EMERGENCY SERVICES). END CALL. E. MS. RAE OLMSTED OR MR. PEELER ADD INFORMATION TO THE INCIDENT REPORT. IF MR. PEELER COMPLETES THE INCIDENT REPORT, THEN HE SHOULD SUBMIT IT TO MS. RAE OLMSTED ONCE COMPLETED.		

Scenario Number	Individual at Risk of Harm	Imminent Danger?
5	No risk of harm; respondent is agitated or upset	No
STEPS		
A. CI ENDS INTERVIEW AND THEN READS TO R: I know these questions are very personal, and they seemed to be upsetting you. Do you have a doctor or someone you can talk to about how you are feeling? IF YES, CI READS TO R: I suggest that you call that individual immediately so that she or he can help you talk about and work through how you are feeling. There is also the National Suicide Prevention Lifeline, which provides 24/7, free and confidential support for people in distress. Their number is 1-800-273-8255, and you can press "1" at the menu to be routed to the Veterans Crisis Line. If you are calling from a U.S. state or territory, you can also reach the Veterans Crisis Line by dialing "988," then pressing "1." <i>[Appropriate telephone numbers will be provided in Germany.]</i> THANK R FOR HIS/HER PARTICIPATION IN THE STUDY AND END CALL. IF NO, CI READS TO R: I suggest that you contact the National Suicide Prevention Lifeline, which provides 24/7, free and confidential support for people in distress. Their number is 1-800-273-8255, and you can press "1" at the menu to be routed to the Veterans Crisis Line. If you are calling from a U.S. state or territory, you can also reach the Veterans Crisis Line by dialing "988," then pressing "1." If you feel that this is an emergency now or later, you should go to a hospital emergency room right away or call 911 for assistance. <i>[Appropriate telephone numbers will be provided in Germany.]</i> THANK R FOR HIS/HER PARTICIPATION IN THE STUDY AND END CALL. B. WHEN CALL IS COMPLETED, CI CALLS DR. KARG TO DEBRIEF. CI FILLS OUT INCIDENT REPORT AND SUBMITS IT TO DR. KARG, COPYING MS. RAE OLMSTED AND MR. PEELER ON THE CC LINE (RHONDA.KARG@GMAIL.COM, KROLMSTED@RTI.ORG, AND RVP@RTI.ORG).		

GUIDANCE FOR ALL INTERVIEWS WHICH DO NOT FALL INTO THE FIVE SCENARIOS ABOVE:

For all interviews where the respondents do not report any of the issues noted in the five scenarios above, the CI ENDS INTERVIEW AND THEN READS TO R: I know these questions are very personal and the topics can be upsetting to discuss. If you need to talk to someone about how you are feeling, there is a Veterans Crisis Line that you can call where counselors familiar with military culture are available to talk at any time of the day or night. Their toll-free number is 1-800-273-8255, then press "1." If you are calling from a U.S. state or territory, you can also reach the Veterans Crisis Line by dialing "988," then pressing "1."
THANK R FOR HIS/HER PARTICIPATION IN THE STUDY AND END CALL.

SHORT BLESSED SCALE

THE SHORT BLESSED SCALE IS TO BE COMPLETED AT ANY POINT DURING THE CAPS-5 INTERVIEW IF THE PARTICIPANT APPEARS TO BE COGNITIVELY IMPAIRED.

ERROR SCORES

SB-1. What year is it now? _____
CIRCLE 4 FOR ANY ERROR 0 4

SB-2. What month is it now? _____
CIRCLE 3 FOR ANY ERROR 0 3

Please repeat this phrase after me: John Brown, 42 Market Street, Chicago.

NO SCORE – FOR ITEM SB-6.

SB-3. About what time is it? _____
CIRCLE 3 FOR ANY ERROR 0 3

SB-4. Please count backwards from 20 to 1.
[20, 19, 18, 17, 16, 15, 14, 13, 12, 11, 10, 9, 8, 7, 6, 5, 4, 3, 2, 1]
2 PER ERROR 0 2 4

SB-5. Please say the months of the year in reverse order.
[DEC, NOV, OCT, SEP, AUG, JUL, JUN, MAY, APR, MAR, FEB, JAN]
2 PER ERROR 0 2 4

SB-6. Please repeat the phrase I asked you to repeat before.
[JOHN BROWN/ 42 MARKET STREET/ CHICAGO]
2 PER ERROR 0 2 4 6 8 10

TOTAL NUMBER OF ERRORS IN SB-1 TO SB-6: _____

IF THE TOTAL NUMBER OF ERRORS IS GREATER THAN 10, TERMINATE THE INTERVIEW.

8.11 M.I.N.I.-PLUS SUICIDALITY ITEMS

In the past 2 months, did you...

	Yes	No
a. Want to harm yourself or to hurt or to injure yourself?	☐	☐
b. Think about suicide?	☐	☐
c. Have a suicide plan?	☐	☐
d. Take any active steps to prepare to injure yourself or to prepare for a suicide attempt in which you expected or intended to die?	☐	☐
e. Deliberately injure yourself without intending to kill yourself?	☐	☐
f. Attempt suicide?	☐	☐
g. Did you ever make a suicide attempt?	☐	☐

[If participant responds “yes” on any M.I.N.I.-Plus item above, the items below will be asked. See protocol sections 6.2.3.4 and 6.4.4 for details.]

Do you currently...

Yes No

- Want to harm yourself or to hurt or to injure yourself?
- Think about suicide?
- Have a suicide plan?
- Plan any active steps to prepare to injure yourself or to prepare for a suicide attempt in which you expect or intend to die?

8.12 AUDIT

How often do you have a drink containing alcohol?

- Never
- Monthly or less
- Two to four times a month
- Two to three times a week
- Four or more times a week

How many drinks containing alcohol do you have on a typical day when you are drinking?

- 1 or 2
- 3 or 4
- 5 or 6
- 7, 8, or 9
- 10 or more
- Don't Drink

How often do you have six or more drinks on one occasion?

- Never
- Less than monthly
- Monthly
- Weekly
- Daily or almost daily

How often during the last year have you found that you were not able to stop drinking once you had started?

- Never
- Less than monthly
- Monthly
- Weekly
- Daily or almost daily

How often during the last year have you failed to do what was normally expected from you because of drinking?

- Never
- Less than monthly
- Monthly
- Weekly
- Daily or almost daily

How often during the last year have you needed a first drink in the morning to get yourself going after a heavy drinking session?

- Never
- Less than monthly
- Monthly
- Weekly
- Daily or almost daily

How often during the last year have you had a feeling of guilt or remorse after drinking?

- Never
- Less than monthly
- Monthly
- Weekly
- Daily or almost daily

How often during the last year have you been unable to remember what happened the night before because you had been drinking?

- Never
- Less than monthly
- Monthly
- Weekly
- Daily or almost daily

Have you or someone else been injured as a result of your drinking?

- No
- Yes, but not in the last year
- Yes, during the last year

Has a relative or friend or a doctor or another health worker been concerned about your drinking or suggested you cut down?

- No
- Yes, but not in the last year
- Yes, during the last year

8.13 GAD-7

Over the last 2 weeks, how often have you been bothered by the following problems?

	Not at all	Several days	More than half the days	Nearly every day
a. Feeling nervous, anxious or on edge				
b. Not being able to stop or control worrying				
c. Worrying too much about different things				
d. Trouble relaxing				
e. Being so restless that it is hard to sit still				
f. Becoming easily annoyed or irritable				
g. Feeling afraid as if something awful might happen				

8.14 K6

During the past 30 days, about how often did you feel...	All of the time	Most of the time	Some of the time	A little of the time	None of the time
a. Nervous?					
b. Hopeless?					
c. Restless or fidgety?					
d. So depressed that nothing could cheer you up?					
e. That everything was an effort?					
f. Worthless?					

8.15 PHQ-9

Over the *last 2 weeks*, how often have you been bothered by any of the following problems?

	Not at all	Several days	More than half the days	Nearly every day
a. Little interest or pleasure in doing things	☐	☐	☐	☐
b. Feeling down, depressed, or hopeless	☐	☐	☐	☐
c. Trouble falling or staying asleep, or sleeping too much	☐	☐	☐	☐
d. Feeling tired or having little energy	☐	☐	☐	☐
e. Poor appetite or overeating	☐	☐	☐	☐
f. Feeling bad about yourself – or that you are a failure or have let yourself or your family down	☐	☐	☐	☐
g. Trouble concentrating on things, such as reading the newspaper or watching television	☐	☐	☐	☐
h. Moving or speaking so slowly that other people could have noticed? Or the opposite – being so fidgety or restless that you have been moving around a lot more than usual	☐	☐	☐	☐
i. Thoughts that you would be better off dead or of hurting yourself in some way	☐	☐	☐	☐

If you checked off *any* problems above, how *difficult* have these problems made it for you to do your work, take care of things at home, or get along with other people?

- ☐ Not difficult at all
- ☐ Somewhat difficult
- ☐ Very difficult
- ☐ Extremely difficult

8.16 SF-12

In general, would you say your health is:

- ☐ Excellent
- ☐ Very Good
- ☐ Good
- ☐ Fair
- ☐ Poor

During a typical day, does your health now limit you in the following activities? If so, how much?

MODERATE ACTIVITIES, such as moving a table, pushing a vacuum cleaner, bowling, or playing golf:

- ☐ Yes, Limited a Lot
- ☐ Yes, Limited a Little
- ☐ No, Not Limited at All

Climbing SEVERAL flights of stairs:

- ☐ Yes, Limited a Lot
- ☐ Yes, Limited a Little
- ☐ No, Not Limited at All

During the past month, have you had any of the following problems with your work or other regular activities as a result of your physical health?

ACCOMPLISHED LESS than you would like:

- ☐ Yes
- ☐ No

Were limited in the KIND of work or other activities:

- ☐ Yes
- ☐ No

During the past month, were you limited in the kind of work you do or other regular activities as a result of any emotional problems (such as feeling depressed or anxious)?

ACCOMPLISHED LESS than you would like:

- ☐ Yes
- ☐ No

Didn't do work or other activities as CAREFULLY as usual:

- ☐ Yes
- ☐ No

During the PAST MONTH, how much did PAIN interfere with your normal work (including both work outside the home and housework)?

- ☐ Not At All
- ☐ A Little Bit
- ☐ Moderately
- ☐ Quite A Bit
- ☐ Extremely

The next three questions are about how you feel and how things have been during the past month. For each question, please give the one answer that comes closest to the way you have been feeling.

How much of the time during the past month...

Have you felt calm and peaceful?

- ☐ All of the Time
- ☐ Most of the Time
- ☐ A Good Bit of the Time
- ☐ Some of the Time
- ☐ A Little of the Time
- ☐ None of the Time

Did you have a lot of energy?

- ☐ All of the Time
- ☐ Most of the Time
- ☐ A Good Bit of the Time
- ☐ Some of the Time
- ☐ A Little of the Time
- ☐ None of the Time

Have you felt downhearted and blue?

- ☐ All of the Time
- ☐ Most of the Time
- ☐ A Good Bit of the Time
- ☐ Some of the Time
- ☐ A Little of the Time
- ☐ None of the Time

During the past month, how much of the time has your PHYSICAL HEALTH OR EMOTIONAL PROBLEMS interfered with your social activities (like visiting with friends, relatives, etc.)?

- ☐ All of the Time
- ☐ Most of the Time
- ☐ A Good Bit of the Time
- ☐ Some of the Time
- ☐ A Little of the Time
- ☐ None of the Time

8.17 Changes in Sexual Functioning Questionnaire (CSFQ)

ADMINISTRATION

Desire and pleasure questions the same for men and women. Separate male and female items for arousal and orgasm questions (see next pages).

SCORING

To score the CSFQ, sum the numerical value of each of the 14 items. For example, in Item 1, a response of “some enjoyment or pleasure” has a numerical value of 3, whereas a response of “much enjoyment or pleasure” has a numerical value of 4. Items 10 and 14 are reverse-scored: for example, on Item 10, a response of “never” has a numerical value of 5, whereas a response of “every day” has a value of 1.

To calculate the Total CSFQ score, add up the values of the responses for all 14 items. Items 10 & 14 are not included in the subscale scores but are included in the total CSFQ score.

To calculate subscale scores, add up the values for only the items that correspond to a particular subscale.

Pleasure: Item 1

Desire/frequency: Items 2 + 3

Desire/interest: Items 4 + 5 + 6

Arousal/excitement: Items 7 + 8 + 9

Orgasm/completion: Items 11 + 12 + 13

Total CSFQ score: Items 1 through 14, or add all subscale scores plus items 10 & 14

Interpretation of scores:

Threshold scores were established by non-overlap of the 95% confidence intervals (CI) between patient’s and normal’s mean scores. CSFQ threshold scores indicating sexual dysfunction:

	Men	Women
Pleasure	≤ 4	≤ 4
Desire/frequency	≤ 8	≤ 6
Desire/interest	≤ 11	≤ 9
Arousal/excitement	≤ 13	≤ 12
Orgasm/completion	≤ 13	≤ 11
Total score	≤ 47	≤ 41

CSFQ - MALE VERSION

NOTE: This is a questionnaire about sexual activity and sexual function. By sexual activity, we mean sexual intercourse, masturbation, sexual fantasies and other activity.

1. Compared with the most enjoyable it has ever been, how enjoyable or pleasurable is your sexual life right now?

- ☐ 1-No enjoyment or pleasure
- ☐ 2-Little enjoyment or pleasure
- ☐ 3-Some enjoyment or pleasure
- ☐ 4-Much enjoyment or pleasure
- ☐ 5-Great enjoyment or pleasure

2. How frequently do you engage in sexual activity (sexual intercourse, masturbation, etc.) now?

- ☐ 1-Never
- ☐ 2-Rarely (once a month or less)
- ☐ 3-Sometimes (more than once a month, up to twice a week)
- ☐ 4-Often (more than twice a week)
- ☐ 5-Every day

3. How often do you desire to engage in sexual activity?

- ☐ 1-Never
- ☐ 2-Rarely (once a month or less)
- ☐ 3-Sometimes (more than once a month, up to twice a week)
- ☐ 4-Often (more than twice a week)
- ☐ 5-Every day

4. How frequently do you engage in sexual thoughts (thinking about sex, sexual fantasies) now?

- ☐ 1-Never
- ☐ 2-Rarely (once a month or less)
- ☐ 3-Sometimes (more than once a month, up to twice a week)
- ☐ 4-Often (more than twice a week)
- ☐ 5-Every day

5. Do you enjoy books, movies, music or artwork with sexual content?

- ☐ 1-Never
- ☐ 2-Rarely (once a month or less)
- ☐ 3-Sometimes (more than once a month, up to twice a week)
- ☐ 4-Often (more than twice a week)
- ☐ 5-Every day

6. How much pleasure or enjoyment do you get from thinking about and fantasizing about sex?

- ☐ 1-No enjoyment or pleasure
- ☐ 2-Little enjoyment or pleasure
- ☐ 3-Some enjoyment or pleasure
- ☐ 4-Much enjoyment or pleasure
- ☐ 5-Great enjoyment or pleasure

7. How often do you have an erection related or unrelated to sexual activity?

- ☐ 1-Never
- ☐ 2-Rarely (once a month or less)
- ☐ 3-Sometimes (more than once a month, up to twice a week)
- ☐ 4-Often (more than twice a week)
- ☐ 5-Every day

8. Do you get an erection easily?

- ☐ 1-Never
- ☐ 2-Rarely (much less than half the time)
- ☐ 3-Sometimes (about half the time)
- ☐ 4-Often (much more than half the time)
- ☐ 5-Always

9. Are you able to maintain an erection?

- ☐ 1-Never
- ☐ 2-Rarely (much less than half the time)
- ☐ 3-Sometimes (about half the time)
- ☐ 4-Often (much more than half the time)
- ☐ 5-Always

10. How often do you experience painful, prolonged erections?

- ☐ 5-Never
- ☐ 4-Rarely (once a month or less)
- ☐ 3-Sometimes (more than once a month, up to twice a week)
- ☐ 2-Often (more than twice a week)
- ☐ 1-Every day

11. How often do you have an ejaculation?

- ☐ 1-Never
- ☐ 2-Rarely (once a month or less)
- ☐ 3-Sometimes (more than once a month, up to twice a week)
- ☐ 4-Often (more than twice a week)
- ☐ 5-Every day

12. Are you able to ejaculate when you want to?

- ☐ 1-Never
- ☐ 2-Rarely (much less than half the time)
- ☐ 3-Sometimes (about half the time)
- ☐ 4-Often (much more than half the time)
- ☐ 5-Always

13. How much pleasure or enjoyment do you get from your orgasms?

- ☐ 1-No enjoyment or pleasure
- ☐ 2-Little enjoyment or pleasure
- ☐ 3-Some enjoyment or pleasure
- ☐ 4-Much enjoyment or pleasure
- ☐ 5-Great enjoyment or pleasure

14. How often do you have painful orgasm?

- ☐ 5-Never
- ☐ 4-Rarely (once a month or less)
- ☐ 3-Sometimes (more than once a month, up to twice a week)
- ☐ 2-Often (more than twice a week)
- ☐ 1-Every day

CSFQ - FEMALE VERSION

NOTE: This is a questionnaire about sexual activity and sexual function. By sexual activity, we mean sexual intercourse, masturbation, sexual fantasies, and other activity.

1. Compared with the most enjoyable it has ever been, how enjoyable or pleasurable is your sexual life right now?

- ☐ 1-No enjoyment or pleasure
- ☐ 2-Little enjoyment or pleasure
- ☐ 3-Some enjoyment or pleasure
- ☐ 4-Much enjoyment or pleasure
- ☐ 5-Great enjoyment or pleasure

2. How frequently do you engage in sexual activity (sexual intercourse, masturbation, etc.) now?

- ☐ 1-Never
- ☐ 2-Rarely (once a month or less)
- ☐ 3-Sometimes (more than once a month, up to twice a week)
- ☐ 4-Often (more than twice a week)
- ☐ 5-Every day

3. How often do you desire to engage in sexual activity?

- ☐ 1-Never
- ☐ 2-Rarely (once a month or less)
- ☐ 3-Sometimes (more than once a month, up to twice a week)
- ☐ 4-Often (more than twice a week)
- ☐ 5-Every day

4. How frequently do you engage in sexual thoughts (thinking about sex, sexual fantasies) now?

- ☐ 1-Never
- ☐ 2-Rarely (once a month or less)
- ☐ 3-Sometimes (more than once a month, up to twice a week)
- ☐ 4-Often (more than twice a week)
- ☐ 5-Every day

5. Do you enjoy books, movies, music or artwork with sexual content?

- ☐ 1-Never
- ☐ 2-Rarely (once a month or less)
- ☐ 3-Sometimes (more than once a month, up to twice a week)
- ☐ 4-Often (more than twice a week)
- ☐ 5-Every day

6. How much pleasure or enjoyment do you get from thinking about and fantasizing about sex?

- ☐ 1-No enjoyment or pleasure
- ☐ 2-Little enjoyment or pleasure
- ☐ 3-Some enjoyment or pleasure
- ☐ 4-Much enjoyment or pleasure
- ☐ 5-Great enjoyment or pleasure

7. How often do you become sexually aroused?

- ☐ 1-Never
- ☐ 2-Rarely (once a month or less)
- ☐ 3-Sometimes (more than once a month, up to twice a week)
- ☐ 4-Often (more than twice a week)
- ☐ 5-Every day

8. Are you easily aroused?

- ☐ 1-Never
- ☐ 2-Rarely (much less than half the time)
- ☐ 3-Sometimes (about half the time)
- ☐ 4-Often (much more than half the time)
- ☐ 5-Always

9. Do you have adequate vaginal lubrication during sexual activity?

- ☐ 1-Never
- ☐ 2-Rarely (much less than half the time)
- ☐ 3-Sometimes (about half the time)
- ☐ 4-Often (much more than half the time)
- ☐ 5-Always

10. How often do you become aroused and then lose interest?

- ☐ 5-Never
- ☐ 4-Rarely (much less than half the time)
- ☐ 3-Sometimes (about half the time)
- ☐ 2-Often (much more than half the time)
- ☐ 1-Always

11. How often do you experience an orgasm?

- ☐ 1-Never
- ☐ 2-Rarely (much less than half the time)
- ☐ 3-Sometimes (about half the time)
- ☐ 4-Often (much more than half the time)
- ☐ 5-Always

12. Are you able to have an orgasm when you want to?

- ☐ 1-Never
- ☐ 2-Rarely (much less than half the time)
- ☐ 3-Sometimes (about half the time)
- ☐ 4-Often (much more than half the time)
- ☐ 5-Always

13. How much pleasure or enjoyment do you get from your orgasms?

- ☐ 1-No enjoyment or pleasure
- ☐ 2-Little enjoyment or pleasure
- ☐ 3-Some enjoyment or pleasure
- ☐ 4-Much enjoyment or pleasure
- ☐ 5-Great enjoyment or pleasure

14. How often do you have painful orgasm?

- ☐ 5-Never
- ☐ 4-Rarely (once a month or less)
- ☐ 3-Sometimes (more than once a month, up to twice a week)
- ☐ 2-Often (more than twice a week)
- ☐ 1-Every day

8.18 TINNITUS HANDICAP INVENTORY (THI)

Tinnitus Handicap Inventory (THI)

This form is for informational purposes only and should not take the place of consultation and evaluation by a healthcare professional.

Your Name: _____ Date: _____

Instructions: The purpose of this questionnaire is to identify, quantify, and evaluate the difficulties that you may be experiencing because of tinnitus. Please do not skip any questions. When you have answer all the questions, add up your total score, based on the values for each response.

1. Because of your tinnitus, is it difficult for you to concentrate?	Yes (4)	Sometimes (2)	No (0)
2. Does the loudness of your tinnitus make it difficult for you to hear people?	Yes (4)	Sometimes (2)	No (0)
3. Does your tinnitus make you angry?	Yes (4)	Sometimes (2)	No (0)
4. Does your tinnitus make you feel confused?	Yes (4)	Sometimes (2)	No (0)
5. Because of your tinnitus, do you feel desperate?	Yes (4)	Sometimes (2)	No (0)
6. Do you complain a great deal about your tinnitus?	Yes (4)	Sometimes (2)	No (0)
7. Because of your tinnitus, do you have trouble falling to sleep at night?	Yes (4)	Sometimes (2)	No (0)
8. Do you feel as though you cannot escape your tinnitus?	Yes (4)	Sometimes (2)	No (0)
9. Does your tinnitus interfere with your ability to enjoy your social activities (such as going out to dinner, to the movies)?	Yes (4)	Sometimes (2)	No (0)
10. Because of your tinnitus, do you feel frustrated?	Yes (4)	Sometimes (2)	No (0)
11. Because of your tinnitus, do you feel that you have a terrible disease?	Yes (4)	Sometimes (2)	No (0)
12. Does your tinnitus make it difficult for you to enjoy life?	Yes (4)	Sometimes (2)	No (0)
13. Does your tinnitus interfere with your job or household responsibilities?	Yes (4)	Sometimes (2)	No (0)
14. Because of your tinnitus, do you find that you are often irritable?	Yes (4)	Sometimes (2)	No (0)
15. Because of your tinnitus, is it difficult for you to read?	Yes (4)	Sometimes (2)	No (0)
16. Does your tinnitus make you upset?	Yes (4)	Sometimes (2)	No (0)
17. Do you feel that your tinnitus problem has placed stress on your relationships with members of your family and friends?	Yes (4)	Sometimes (2)	No (0)
18. Do you find it difficult to focus your attention away from your tinnitus and on other things?	Yes (4)	Sometimes (2)	No (0)
19. Do you feel that you have no control over your tinnitus?	Yes (4)	Sometimes (2)	No (0)
20. Because of your tinnitus, do you often feel tired?	Yes (4)	Sometimes (2)	No (0)
21. Because of your tinnitus, do you feel depressed?	Yes (4)	Sometimes (2)	No (0)
22. Does your tinnitus make you feel anxious?	Yes (4)	Sometimes (2)	No (0)
23. Do you feel that you can no longer cope with your tinnitus?	Yes (4)	Sometimes (2)	No (0)
24. Does your tinnitus get worse when you are under stress?	Yes (4)	Sometimes (2)	No (0)
25. Does your tinnitus make you feel insecure?	Yes (4)	Sometimes (2)	No (0)

The sum of all responses is your THI Score >>>

8.19 PROMIS – SLEEP DISTURBANCE – SHORT FORM

The APA is offering a number of “emerging measures” for further research and clinical evaluation. These patient assessment measures were developed to be administered at the initial patient interview and to monitor treatment progress. They should be used in research and evaluation as potentially useful tools to enhance clinical decision-making and not as the sole basis for making a clinical diagnosis. Instructions, scoring information, and interpretation guidelines are provided; further background information can be found in DSM-5. The APA requests that clinicians and researchers provide further data on the instruments’ usefulness in characterizing patient status and improving patient care at <http://www.dsm5.org/Pages/Feedback-Form.aspx>.

Measure: LEVEL 2—Sleep Disturbance—Adult (PROMIS—Sleep Disturbance— Short Form)

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LEVEL 2—Sleep Disturbance—Adult*

*PROMIS—Sleep Disturbance—Short Form

Name: _____ Age: _____

Sex: ☐ Male ☐ Female Date: _____

If the measure is being completed by an informant, what is your relationship with the individual receiving care? _____

In a typical week, approximately how much time do you spend with the individual receiving care? _____ hours/week

Instructions to patient: On the DSM-5 Level 1 cross-cutting questionnaire that you just completed, you indicated that *during the past 2 weeks* you (the individual receiving care) have been bothered by “problems with sleep that affected your sleep quality over all” at a mild or greater level of severity. The questions below ask about these feelings in more detail and especially how often you (the individual receiving care) have been bothered by a list of symptoms **during the past 7 days**. Please respond to each item by marking (✓ or x) one box per row.

							Clinician Use
In the past SEVEN (7) DAYS....							
		Not at all	A little bit	Somewhat	Quite a bit	Very much	
1. My sleep was restless.		☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	
2. I was satisfied with my sleep.		☐ 5	☐ 4	☐ 3	☐ 2	☐ 1	
3. My sleep was refreshing.		☐ 5	☐ 4	☐ 3	☐ 2	☐ 1	
4. I had difficulty falling asleep.		☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	
In the past SEVEN (7) DAYS....							
		Never	Rarely	Sometimes	Often	Always	
5. I had trouble staying asleep.		☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	
6. I had trouble sleeping.		☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	
7. I got enough sleep.		☐ 5	☐ 4	☐ 3	☐ 2	☐ 1	
In the past SEVEN (7) DAYS....							
		Very Poor	Poor	Fair	Good	Very good	
8. My sleep quality was...		☐ 5	☐ 4	☐ 3	☐ 2	☐ 1	
Total/Partial Raw Score:							
Prorated Total Raw Score:							
T-Score:							

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INSTRUCTIONS TO CLINICIANS

The DSM-5 Level 2—Sleep Disturbance—Adult measure is the 8-item PROMIS Sleep Disturbance Short Form that assesses the pure domain of sleep disturbance in individuals age 18 and older. The measure is completed by the individual prior to a visit with the clinician. If the individual receiving care is of impaired capacity and unable to complete the form (e.g., an individual with dementia), a knowledgeable informant may complete the measure as done in the DSM-5 Field Trials. However, the PROMIS Sleep Disturbance Short Form has not been validated as an informant report scale by the PROMIS group. Each item asks the patient (or informant) to rate the severity of the patient's sleep disturbance **during the past 7 days**.

SCORING AND INTERPRETATION

Each item on the measure is rated on a 5-point scale (1=never; 2=rarely; 3=sometimes; 4=often; and 5=always) with a range in score from 8 to 40 with higher scores indicating greater severity of sleep disturbance. The clinician is asked to review the score on each item on the measure during the clinical interview and indicate the raw score for each item in the section provided for "Clinician Use." The raw scores on the 8 items should be summed to obtain a total raw score. Next, the T-score table should be used to identify the T-score associated with the individual's total raw score and the information entered in the T-score row on the measure.

Note: This look-up table works only if all items on the form are answered. If 75% or more of the questions have been answered; you are asked to prorate the raw score and then look up the conversion to T-Score. The formula to prorate the partial raw score to Total Raw Score is:

(Raw Sum X Number of Items on the Short Form)

Number of items that were actually answered

If the result is a fraction, round to the nearest whole number. For example, if 6 of 8 items were answered and the sum of those 6 responses was 20, the prorated raw score would be $20 \times 8/6 = 26.67$. The T-score in this example would be that T-score associated with the rounded whole number raw score (in this case 27, for a T-score of 57.3).

The T-scores are interpreted as follows:

Less than 55 = None to slight
55.0—59.9 = Mild
60.0—69.9 = Moderate
70 and over = Severe

Note: If more than 25% of the total items on the measure are missing the scores should not be used. Therefore, the individual receiving care (or informant) should be encouraged to complete all of the items on the measure.

FREQUENCY OF USE

To track change in the severity of the individual's sleep disturbance over time, the measure may be completed at regular intervals as clinically indicated, depending on the stability of the individual's symptoms and treatment status. For individuals with impaired capacity, it is preferred that completion of the measures at follow-up appointments is by the same knowledgeable informant. Consistently high scores on a particular domain may indicate significant and problematic areas for the individual that might warrant further assessment, treatment, and follow-up. Your clinical judgment should guide your decision.

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Raw Score	T-score	SE*
8	28.9	4.8
9	33.1	3.7
10	35.9	3.3
11	38.0	3.0
12	39.8	2.9
13	41.4	2.8
14	42.9	2.7
15	44.2	2.7
16	45.5	2.6
17	46.7	2.6
18	47.9	2.6
19	49.0	2.6
20	50.1	2.5
21	51.2	2.5
22	52.2	2.5
23	53.3	2.5
24	54.3	2.5
25	55.3	2.5
26	56.3	2.5
27	57.3	2.5
28	58.3	2.5
29	59.4	2.5
30	60.4	2.5
31	61.5	2.5
32	62.6	2.5
33	63.7	2.6
34	64.9	2.6
35	66.1	2.7
36	67.5	2.8
37	69.0	3.0
38	70.8	3.2
39	73.0	3.5
40	76.5	4.4

*SE = Standard Error on T-score metric

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8.20 MODIFIED BRIEF TRAUMA QUESTIONNAIRE

The following questions ask about events that may be extraordinarily stressful or disturbing for almost everyone. Please circle “Yes” or “No” to report what has happened to you.

If you answer “Yes” for an event, please answer any additional questions that are listed on the right side of the page to report: (1) whether you thought your life was in danger or you might be seriously injured; and (2) whether you were seriously injured.

If you answer “No” for an event, go on to the next event.

Event	Has this ever happened to you?	If the event happened, did you think your life was in danger or you might be seriously injured?	If the event happened, were you seriously injured?
1. Have you ever served in a war zone, or have you ever served in a noncombat job that exposed you to war-related casualties (for example, as a medic or on graves registration duty?)	No Yes	No Yes	No Yes
2. Have you ever been in a serious car accident, or a serious accident at work or somewhere else?	No Yes	No Yes	No Yes
3. Have you ever been in a major natural or technological disaster, such as a fire, tornado, hurricane, flood, earthquake, or chemical spill?	No Yes	No Yes	No Yes
4. Have you ever had a life-threatening illness such as cancer, a heart attack, leukemia, AIDS, multiple sclerosis, etc.?	No Yes	No Yes	N/A
5. Before age 18, were you ever physically punished or beaten by a parent, caretaker, or teacher so that: you were very frightened; or you thought you would be injured; or you received bruises, cuts, welts, lumps or other injuries?	No Yes	No Yes	No Yes
6. Not including any punishments or beatings you already reported in Question 5, have you ever been attacked, beaten, or mugged by anyone, including friends, family members or strangers?	No Yes	No Yes	No Yes

7. Has anyone ever made or pressured you into having some type of unwanted sexual contact? <u>Note:</u> By sexual contact we mean any contact between someone else and your private parts or between you and some else's private parts	No Yes	No Yes	No Yes
8. Have you ever been in any other situation in which you were seriously injured, or have you ever been in any other situation in which you feared you might be seriously injured or killed?	No Yes	N/A	No Yes
9. Has a close family member or friend died violently, for example, in a serious car crash, mugging, or attack?	No Yes	N/A	No Yes
10. Have you ever witnessed a situation in which someone was seriously injured or killed, or have you ever witnessed a situation in which you feared someone would be seriously injured or killed? <u>Note:</u> Do not answer "yes" for any event you already reported in Questions 1-9	No Yes	N/A	N/A

Appendix C: Current Approved Study Informed Consent Form (ICF)

As of July 31, 2023, the template ICF vABCDEFGHI and associated ICFs for BAMC and TAMC were approved by BRANY and OHRO. The BAMC ICF was not yet approved in eIRB and while the TAMC ICF was eIRB-acknowledged, enrollment at TAMC was halted pending further ICF updates.

BIOMEDICAL RESEARCH ALLIANCE OF NEW YORK LLC

Institution

Consent to Participate in a Research Study

PROTOCOL TITLE: A Multisite, Longitudinal, Observational Study of Posttraumatic Stress Disorder and Other Symptoms among Service Members Receiving Stellate Ganglion Blocks for the Treatment of Non-pain Conditions at Military Treatment Facilities (SGB Cohort Study)

WHO IS CONDUCTING THIS RESEARCH?

STUDY SPONSOR: RTI International. Walter Reed Army Institute of (WRAIR) is collaborating on the investigation of molecular responses (blood collection).

SOURCE OF FUNDING: United States Army Medical Research Acquisition Activity (USAMRAA), grant numbers W81XWH2020011-W81XWH18SBAA1; W81XWH-15-9-0001

PRINCIPAL INVESTIGATOR:

Site PI: [NAME]

[TITLE]

[EMAIL]

Study PI: Kristine Rae Olmsted, MSPH

RTI International

krolmsted@rti.org

LOCATION OF THE RESEARCH: [SITE]

PHONE NUMBER: [PHONE NUMBER/24 HOUR NUMBER]

KEY INFORMATION ABOUT THIS RESEARCH STUDY

You may be eligible to take part in a research study. This form gives you important information about the study. Please take time to review this information carefully. You should talk to the researchers about the research study and ask them any questions you have. You may also want to talk to others (for example, your friends, family, or your doctor) about your participation in this study. If you decide to take part in this research study, you will be asked to sign this document. Before you sign this document, be sure you understand what the research study is about, including the risks and possible benefits to you.

Please tell these researchers if you are taking part in another research study.

You do not have to take part in this research study if you don't want to. You may also leave the research study at any time. If you choose not to take part in this research study or if you leave the study before it is finished, there will be no penalty and your decision will not affect your future care at [SITE].

The following table is a summary of key information to help you to understand why you may or may not want to take part in this research study.

Purpose	- To observe if the symptoms of posttraumatic stress disorder (PTSD) or other non-pain conditions will decrease after treatment with stellate ganglion block (SGB). - To observe if SGB is associated with sleep-related physiological changes, such as changes in heart rate or respiration rate. - To examine how your body, especially how the specialized cells in your blood, respond to the SGB procedure.
Experimental/ Investigational	You will not receive any experimental drugs or procedures as part of this study. You will already be receiving an SGB for a non-pain-related problem as part of your clinical care, independent of this study.
Voluntary Participation	Your decision to be in this study is voluntary.
Withdrawal	If you decide to be in this study and then change your mind, you can leave the study at any time without penalty.
Length of Participation	12 months (one year)
Procedures	You will be asked to do the following: - Complete various study questionnaires at your first study assessment and then at 1 week and 2, 4, 6, 9 and 12 months after that. These questionnaires/assessments will include questions about, for example, how you are feeling and your day-to-day functioning. You will be asked to do a computer-based performance assessment four times, once before and once shortly after your SGB, once the week after your SGB, and again at two months after your SGB. Wear a smartwatch for 6 months to monitor your sleep and heart and respiration changes. - Provide blood samples at the beginning of the study and then again at 2 months and 6 months after your upcoming SGB.
Risks	There are not expected to be any physical risks to you as part of this study beyond those associated with drawing your blood (discomfort, bleeding/bruising, risk of infection).
Benefit	There is no benefit to you from taking part in this study.
Costs	There are no costs to you for taking part in this study.
Confidentiality	There are steps in place to help protect the privacy and confidentiality of your personal health information and study information.
This summary does not include all of the information you need to know before deciding whether or not to take part in this research study. Additional detail is given in the full consent document which is on the pages that follow. Be sure to read the rest of this consent form before deciding to take part in this research study.	

INFORMED CONSENT FORM

DISCLOSURE OF FINANCIAL INTERESTS AND OTHER PERSONAL ARRANGEMENTS:

The Department of Defense (DoD), the sponsor of this study, is providing funds to RTI International and to Walter Reed Army Institute of Research (WRAIR) to conduct this research study. There are no financial or other conflicts of interest to disclose.

WHAT IS THE PURPOSE AND DURATION OF THIS RESEARCH AND WHO WILL TAKE PART?

The purpose of this research study is to learn about whether numbing a set of nerves and nerve cells (the stellate ganglion) on the right or left side of your neck is helpful in decreasing symptoms of non-pain conditions like posttraumatic stress disorder (PTSD), improving your sleep, and possibly decreasing other symptoms. This research will also help us to learn more about conditions such as PTSD and the effect of SGB on your body. This added knowledge will increase our ability to diagnose and better treat conditions such as PTSD.

The stellate ganglion is a relay station for the “fight or flight” response, and the procedure being studied is called a stellate ganglion block (SGB). SGB has been used for almost a 100 years to treat pain in the head, neck, and arms. In recent years, a number of doctors have also used SGB to treat PTSD and other non-pain conditions, including some here at [SITE]. This research study will enroll a total of about 300 participants at several military health facilities, one of which is [SITE], over a period of about 18 months. Additionally, for the last 120 (approximately) participants, we will use smartwatches to monitor sleep, heart and respiration changes and will collect blood samples to see how SGB impacts your body. As one of the last 120 (approximately) participants enrolled into this study, you will be included in the blood and smartwatch data collection portion of the study.

You are being asked to take part in this research study because you are scheduled to receive an SGB for treatment of a non-pain condition. Following that SGB (which does not need to be your first SGB), you may receive one or several more; it will be entirely up to you and your healthcare provider to decide what is best for you going forward.

While you are taking part in this study, you will be asked to make three clinic visits in addition to the visit for your SGB: one before your SGB, one shortly after your SGB, and one two months after your SGB. You will meet with the study Research Coordinator (RC) each time. You will do online study questionnaires at 2, 4, 6, 9 and 12 months after your first assessment and CAPS-5 evaluations by phone three times (once before your SGB, the second at about 6 months after that treatment, and then the third a year afterward. If you would like, you may be able to do the questionnaires at the RC’s office.

You will also be asked to wear a Garmin smartwatch continuously for the first six months that you are participating in the study. The purpose of this part of the study is to learn about whether SGB is associated with changes in physiological indicators associated with sleep. RTI International will obtain your Garmin-collected physiological data via the Garmin Connect mobile application and RTI’s SIGMA+ Health mobile app (“app”). The apps will be associated with a “dummy” email address that will be created for you and which will not contain any personally identifiable information. By signing this consent form, you give RTI International permission to access your Garmin data through your associated “dummy” Garmin Connect account. Once this step is completed, RTI will be able to pull information from the Garmin cloud to RTI’s secure servers for analysis and processing. Only physiological health data (e.g., heart rate, respiration rate, sleep) and activity level data (e.g., steps, time spent in moderate and

intense activity zones) will be transferred. If Garmin provides additional information that is considered unnecessary for the purposes of this study, RTI will remove that information at the point of receipt. Additionally, we would like to collect blood samples for you at three timepoints: (1) around the time when you receive your SGB, then again (2) about two months after this upcoming SGB, and finally (3) about six months after your upcoming SGB. The blood will be analysed to determine selected genomic changes, endocrine and metabolic markers in an effort to understand what changes in these molecular pathways will lead to successfully treating PTSD with SGB. We will arrange for you to have these three blood draws at a commercial laboratory, ExamOne, a Quest Diagnostic company. We will pay for your travel (taxi, etc.) to and from this appointment (\$80 per blood draw). If you prefer to have the blood draw done at your home, we will arrange for this to be done there by an ExamOne staff member. The blood samples will be labeled with a unique ID number and will not be identified with any personal information. We will maintain a list linking the sample ID number to your study ID and this list will be kept securely and only shared with a very limited number of study team members.

WHAT WILL HAPPEN IF YOU DECIDE TO BE IN THIS RESEARCH STUDY?

If you decide to take part in this research study, you will be asked to do the following:

Screening (via phone; about 5 minutes)

You will be asked:

- Whether or not you are a U.S. citizen and whether you have off-duty Internet access. You must be both a U.S. citizen (you may not take part if you are covered by the General Data Protection Regulation or other non-U.S. rules governing data privacy) and have off-duty Internet access.

Informed Consent Visit (RC's office; about 30 minutes)

You will be asked to sign this consent form. If you are unable to come to [SITE] for this visit, a remote telephone and digital consent will be obtained, and you will sign a physical consent form when you come to the RC's office to undergo your baseline assessment and pre-SGB neurocognitive performance evaluation. You will also be scheduled to do a CAPS-5 interview with a different member of the study team. You will receive a Garmin smartwatch for sleep, heart rate and physical activity monitoring. This must be worn daily for 6 months.

Baseline Blood Collection (ExamOne – local office or your home; 30 minutes)

- A total of approximately 4 ½ teaspoons of blood will be collected in five tubes. This blood collection will be done after you have consented to be in the study and during the three days before you have your SGB procedure. You will be asked to fast for at least 6 hours prior to the blood draw and your appointment for the blood draw will be scheduled before 10 AM local time, as long as that suits you.
- A complete blood count (CBC) and a complete metabolic panel (CMP) will be run immediately. The remainder of the samples will be stored securely at the ExamOne laboratory until these are sent to collaborating investigators at WRAIR for processing and genomic analysis. None of the blood test results will be included in your medical record- they are being collected for study purposes only.

Baseline CAPS-5 (via phone; about 60 to 90 minutes)

This will be done after you have screened as eligible and signed this consent form. It is a 30-item interview that you will do over the phone with a trained civilian clinical psychologist, and it will take about an hour to an hour and a half to do. Please note that no diagnosis of PTSD or any other mental health condition will be entered into your military or any other medical record as a result of this screening interview.

Baseline Assessment/performance evaluation (RC's office; about 45 minutes)

You will do the following assessments on the RC's computer prior to your SGB procedure:

- Demographic and personal information questionnaire
- Emergency/secondary contact information questionnaire
- Tobacco use questionnaire
- Psychotropic medication use questionnaire
- Pain intensity rating item
- SGB history item
- PTSD Checklist for DSM-5 (PCL-5)
- M.I.N.I-Plus Suicidality Items
- GAD-7 (anxiety questionnaire)
- AUDIT (alcohol use questionnaire)
- K6 (serious mental illness questionnaire)
- PHQ-9 (depression questionnaire)
- SF-12 (questionnaire about your general functioning)
- THI (questionnaire about ringing in the ears)
- CSFQ (questionnaire about sexual functioning)
- CPT-3 (a 15-minute evaluation of cognitive performance, including inattentiveness, impulsivity, sustained attention, and vigilance)
- PROMIS sleep self-report questionnaire

Post-SGB performance evaluation, post-procedure, directly after release from recovery (RC's office; about 15 minutes)

- CPT-3

Week 1 (2-7 days post procedure) performance evaluation (RC's office; about 15 minutes)

- CPT-3

Month 2 performance evaluation (RC's office; about 15 minutes)

- CPT-3

Month 2 follow-up (online; about 35 minutes)

You will be asked to do the following assessments on the secure study website during your off-duty hours and using your Internet-enabled device:

- Confirmation of emergency and secondary contact information
- Tobacco use questionnaire
- Psychotropic medication use questionnaire
- Pain intensity rating item
- Whether you have had additional SGB since the one which qualified you to be in this study, and if so, the dates, sides of your neck, and for what reasons
- Whether you have had a new traumatic experience since the SGB which qualified you to be in this study, and if so, you will be asked to report on any traumatic experience you may have experienced since the previous assessment
- PCL-5
- M.I.N.I.-Plus
- GAD-7
- AUDIT-C, a shorter version of the AUDIT you did previously
- K6
- PHQ-9
- SF-12
- THI
- CSFQ
- PROMIS sleep self-report

You may choose to do this in the RC's office at the time of your Month 2 performance evaluation.

Month 2 Blood Collection (ExamOne – local office or your home; 30 minutes)

- A total of approximately 4 teaspoons of blood will be collected in four tubes. This blood collection should occur 2 months after your upcoming SGB (within a three day window on either side). You will be asked to fast for at least 6 hours prior to the blood draw and your appointment for the blood draw will be scheduled before 10 AM local time, as long as that suits you.
- A complete blood count (CBC) will be run immediately. The remainder of the samples will be stored securely at the ExamOne laboratory until these are sent to collaborating investigators at WRAIR for processing and genomic analysis. None of the blood test results will be included in your medical record- they are being collected for study purposes only.

Month 4 follow-up (online; about 35 minutes)

You will be asked to do the following assessments on the secure study website during your off-duty hours and using your Internet-enabled device:

- Confirmation of emergency and secondary contact information
- Tobacco use questionnaire
- Psychotropic medication use questionnaire
- Pain intensity rating item

- Whether you have had additional SGBs since your last follow-up, and if so, the dates, sides of your neck, and for what reasons
- Whether you have had a new traumatic experience since your last follow-up, and if so, you will answer the Brief Trauma Questionnaire (BTQ)
- PCL-5
- M.I.N.I.-Plus
- GAD-7
- AUDIT-C
- K6
- PHQ-9
- SF-12
- THI
- CSFQ
- PROMIS sleep self-report

If you prefer, you may come to the RC's office and do the assessments there.

Month 6 follow-up (online; about 35 minutes)

You will be asked to do the following assessments on the secure study website during your off-duty hours and using your Internet-enabled device:

- Confirmation of emergency and secondary contact information
- Tobacco use questionnaire
- Psychotropic medication use questionnaire
- Pain intensity rating item
- You will be asked whether you have had additional SGB your last follow-up, and if so, the dates, sides of your neck, and for what reasons
- You will be asked whether you have had a new traumatic experience since your last follow-up, and if so, you will be asked to report on any traumatic experience you may have experienced since the previous assessment.
- PCL-5
- M.I.N.I.-Plus
- GAD-7
- AUDIT-C
- K6
- PHQ-9
- SF-12
- THI
- CSFQ
- PROMIS sleep self-report

If you prefer, you may come to the RC's office and do the assessments there.

Month 6 CAPS-5 (by phone; about 60 to 90 minutes)

- You will be asked to complete this 30-item interview again over the phone, and it will take about an hour to an hour and a half to do.

Month 6 Blood Collection (ExamOne – local office or your home; 30 minutes)

- A total of approximately 4 teaspoons of blood will be collected in four tubes. This blood collection should occur 6 months after your upcoming SGB (within a three day window on either side). You will be asked to fast for at least 6 hours prior to the blood draw and your appointment for the blood draw will be scheduled before 10 AM local time, as long as that suits you.
- A complete blood count (CBC) will be run immediately. The remainder of the samples will be stored securely at the ExamOne laboratory until these are sent to collaborating investigators at the WRAIR for processing and genomic analysis. None of the blood test results will be included in your medical record- they are being collected for study purposes only.

****** When you have completed all of the Month 6 assessments and blood collection, collection from the Garmin smartwatch will cease and no further blood collection will be done. ******

Month 9 follow-up (on-line; about 35 minutes)

You will be asked to complete the following assessments on the secure study website during your off-duty hours and using your Internet-enabled device:

- Confirmation of emergency and secondary contact information
- Tobacco use questionnaire
- Psychotropic medication use questionnaire
- Pain intensity rating item
- Whether you have had additional SGB since your last follow-up, and if so, the dates, sides of your neck, and for what reasons
- Whether you have had a new traumatic experience since your last follow-up, and if so, you will be asked to report on any traumatic experience you may have experienced since the previous assessment M.I.N.I.-Plus
- GAD-7
- AUDIT-C
- K6
- PHQ-9
- SF-12
- THI
- CSFQ
- PROMIS sleep self-report

If you prefer, you may come to the RC's office and do the assessments there.

Month 12 (final) follow-up (on-line; about 35 minutes)

You will be asked to do the following assessments on the secure study website during your off-duty hours and using your Internet-enabled device:

- Confirmation of emergency and secondary contact information
- Tobacco use questionnaire
- Psychotropic medication use questionnaire
- Pain intensity rating item
- Whether you have had additional SGB since your last follow-up, and if so, the dates, sides of your neck, and for what reasons
- Whether you have had a new traumatic experience since your last follow-up, and if so, you will be asked to report on any traumatic experience you may have experienced since the previous assessment
- PCL-5
- M.I.N.I.-Plus
- GAD-7
- AUDIT
- K6
- PHQ-9
- SF-12
- CSFQ
- THI
- PROMIS sleep self-report

If you prefer, you may come to the RC's office and do the assessments there.

Month 12 CAPS-5 (by phone; about 60 to 90 minutes)

- You will be asked to complete this 30-item interview again over the phone, and it will take about an hour to an hour and a half to do.

After completion of these assessments, your participation in the study will end.

WHAT ARE THE RISKS OR DISCOMFORTS FROM BEING IN THIS RESEARCH?

As you are undergoing an SGB for clinically appropriate reasons and will receive it whether or not you consent to take part in this study, the risks or discomforts associated with the procedure are not considered part of this research.

The risks of being in this study are as follows:

- Although efforts are made to protect your research study records, it is possible that your privacy/confidentiality may be breached, including an unplanned loss of your records.
- No more than minimal physical risks of the blood draws (discomfort, bruising/bleeding, infection).

There is also the possibility that your symptoms (from PTSD or any other cause) may worsen while you are taking part in the study, although there is no reason to expect that this risk is more than the risk during the course of your usual health care. There is a small risk that doing the CPT-3 evaluation or answering questions and talking about your symptoms may cause you some distress.

Although all risks that we know about have been described previously, other currently unknown risks may occur or may be discovered during future studies.

NEW INFORMATION

You will be notified in a timely way if important new findings become known that may affect your willingness to continue in the study.

Clinically Relevant Research Results

The overall results of this study may or may not be available to you at the end of the study. The study doctor will also explain if and when you will receive individual research results that may have clinical significance.

WHAT ARE THE POSSIBLE BENEFITS FROM THIS RESEARCH?

There is no direct benefit to you from being in this research.

Others may benefit in the future from the information learned during this study. The possible benefit to future patients and doctors is a better understanding of the value of SGB in the treatment of non-pain symptoms, including PTSD symptoms.

WHAT ARE THE ALTERNATIVES TO TAKING PART IN THIS RESEARCH?

You may choose not to take part in this research study.

WILL I RECEIVE COMPENSATION FOR MY PARTICIPATION IN THIS RESEARCH?

Yes, for taking part in this study during off-duty hours, you will be given gift cards as follows:

Baseline assessment	\$25
Baseline CAPS-5:	\$60
Baseline performance + Post-SGB performance:	\$35
Week 1 performance:	\$35
Month 2 performance	\$35
Month 2 assessment:	\$25
Month 4 assessment:	\$25
Month 6 assessment:	\$25
Month 6 CAPS-5:	\$60
Month 9 assessment:	\$30
Month 12 assessment:	\$30
Month 12 CAPS-5:	\$60
Blood Draw 1 (Baseline):	\$50
Blood Draw 2 (2 months):	\$50
Blood Draw 3 (6 months):	\$50

An automated system will generate/email an Amazon electronic gift card to the email address that you provide to us. The system is programmed to run at midnight on each business day so you will receive the gift card details the day following your visit. You may receive up to a total of \$595 for completing all the evaluations.

You will be able to keep the Garmin smart watch after completing the 6-month physiological data

collection study.

ARE THERE ADDITIONAL COSTS FOR PARTICIPATING IN THIS RESEARCH?

There may be additional costs to you for taking part in this research study, such as childcare costs and travel costs. You will not be reimbursed for these.

HOW WILL YOUR PRIVACY AND THE CONFIDENTIALITY OF YOUR RESEARCH RECORDS BE PROTECTED?

Records of your participation in this research study may only be disclosed in accordance with state and federal law, including the Federal Privacy Act, 5 U.S.C.552a, and its implementing regulations. DD Form 2005, Privacy Act Statement - Military Health Records, contains the Privacy Act Statement for the records. A copy of DD Form 2005 can be given to you upon request, or you can read online at: <https://www.esd.whs.mil/Portals/54/Documents/DD/forms/dd/dd2005.pdf>.

Procedures to protect the confidentiality of the data in this study include the Principal Investigator at your study site keeping your research records. These records may be looked at by staff from the medical center at which you are being treated, the Institutional Review Board (IRB) at your installation, DoD higher level review, the DoD Office of Human Research Oversight, and RTI International. The study investigators may connect your research record to your DoD medical record or Tricare records for research purposes. Additionally, a representative of the DoD may inspect research records. There are other regulatory bodies in the DoD and within the organizations mentioned previously that may want to look at your data as well. Only in very rare circumstances will any of these organizations connect your name with your data. The main function of these regulatory bodies is to ensure your safety and protection and that the researchers are conducting this study in an ethical manner according to established policies and regulations. These duties include making sure that the research participants are protected.

Confidentiality of your records will be protected as much as possible under existing regulations and laws but cannot be guaranteed. Complete confidentiality cannot be promised, particularly for military personnel, because information bearing on your health may be required to be reported to appropriate medical or command authorities to ensure the proper execution of the military mission, including evaluation of fitness for duty. As an example, if you tell us that you are going to harm or kill yourself or someone else, that you know of a child being abused, or that you are engaging in significant illegal activities, we may need to give this information to your military command or to civilian authorities to ensure that you are safe and that others around you are safe. If you are active duty and threaten harm to yourself or someone else, your command **will** be notified. In addition, if, during one of your online assessments, you indicate a significant risk of suicide, your device screen will display a message to that effect and recommend that you go to your emergency department for assistance; we also will ask you to confirm that you will not act on any suicidal thoughts before you get to the emergency department. The study team will be notified and, if you are active duty, they will contact your CQ/duty phone number as soon as possible, or if not successful then your 1st Sergeant or Commanding Officer. If you are a veteran or retiree, the study team will contact the person you provided as your emergency contact if you threaten to harm *yourself* and the local emergency service if you threaten to harm *anyone else*. Depending on site policy, Behavioral Health may be notified by the following business day. Otherwise, we will keep everything confidential. You will be assigned a study identification number, which will be generated by a computer and will contain no identifying characteristics (like your date of birth or Social Security number). There will be a master list linking this study identification number to your name, but

only the study identification number will be used to label your study records. Your name will not appear in any published paper or presentation related to this study.

Because we know that confidentiality of your information and securing your data is very important, we are taking several steps to protect your confidentiality and web-stored data as securely as possible. All data sent between you and the researchers will be protected by state-of-the-art encryption technology at both ends of the exchange. This should reduce the already-rare risk of unauthorized people gaining access to the data. The level of information security we are using will be like that used for internet credit card transactions.

Researchers will make every effort to protect your privacy and confidentiality; however, there are risks of breach of information security and information loss. Researchers will need to have a special password to access your data. Only authorized study personnel (providers, investigators, and high level-administrators) will have this access to your data. The web portal has been developed so that only you will be able to log in using a personalized password. You will be given a study identification number at the time of enrollment that you will use for all communications done on the web. This will help protect your identity and information.

At the end of the data collection period of this study, all the research information that was stored on the web server will be transferred to a non-web-based storage computer for evaluation. All identifying information will be destroyed 7 years after the completion of the study. De-identified research data, with no link to your personal information, will be kept indefinitely.

This research study meets the confidentiality requirements of the Health Insurance Portability and Accountability Act of 1996 (HIPAA).

AUTHORIZATION TO USE AND DISCLOSE PROTECTED HEALTH INFORMATION FOR THIS RESEARCH:

You are being asked for permission to use and disclose your protected health information (PHI) for this research study. PHI is defined as individually identifiable health information.

The Health Insurance Portability & Accountability Act of 1996, Public Law 104-191 (also known as HIPAA), establishes privacy standards to protect your health information. This law requires the researchers to obtain your authorization (by signing this document) before they use or disclose your protected health information for research purposes in the study listed above.

WHAT PERSONAL IDENTIFIERS AND/OR PROTECTED HEALTH INFORMATION (PHI) MAY BE USED AND DISCLOSED IN THIS RESEARCH?

The identifiers or PHI collected, used, or disclosed are below:

- Names - Phone numbers	E-mail addresses
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HOW WILL YOUR PHI BE USED OR DISCLOSED IN THIS RESEARCH?

Name, phone number, and email address will be used to contact you about your scheduled office visits, to remind you when it is time for you to do the follow up assessments via the web, and to send you your gift cards. We will also ask your doctor for information about your SGB.

The use and disclosure of your PHI is necessary to be able to conduct the research described. Records of your participation in this research may only be disclosed in accordance with state and federal law, including the Privacy Act (5 U.S.C. 552a) and HIPAA and its implementing regulations (45 CFR 160 & 164).

Note: PHI of military service members may be used or disclosed without your authorization to military command authorities to ensure the proper execution of the military mission, including evaluation of fitness for duty.

By signing this document, you give your permission for information gained from your participation in this research to be published in medical literature, discussed for educational purposes, and used generally to further medical science. You will not be personally identified; all information will be presented as anonymous data.

WITH WHOM MAY YOUR PHI BE SHARED THROUGH THIS RESEARCH?

- The [SITE] Institutional Review Board
 - [Regional Medical Command] or Department of Defense representatives
- Command or Department of Defense representatives
- State and Federal Government representatives, when required by law (such as the Food and Drug Administration)
- DoD Office of Human Research Oversight
- RTI International
- Walter Reed Army Institute of Research (WRAIR)

Those listed previously who are covered entities under HIPAA agree to safeguard your PHI by using and disclosing it only as permitted by you in this Authorization or as directed by state and federal law.

You need to be aware that some parties receiving your PHI may not have the same obligations to safeguard your PHI and may re-disclose your PHI to parties not named previously. If your PHI is re-disclosed, it may no longer be protected by state or federal privacy laws.

You do not have to sign this document. If you decide not to sign this document:

It will not affect your treatment, payment, or enrollment in any health plans or affect your eligibility for benefits.

- You will not be allowed to participate in the research.

After signing this document, you can change your mind and:

- Notify the Principal Investigator in writing that you have withdrawn your permission to disclose or use your protected health information (revoke the Authorization).
- Send your written letter to [SITE PI NAME] (address listed at end of this consent) to inform them of your decision. Your revocation is not effective until your letter is received.
- Researchers may continue to use and disclose your PHI that was obtained before your revocation became effective to the extent that the researchers have taken action based on your earlier authorization. Researchers may also continue to use or disclose your PHI as necessary to maintain

the integrity or reliability of the current research as, for example, to account for your withdrawal from the study, to conduct misconduct investigations, or to report adverse events.

- If you revoke the Authorization, you will not be allowed to continue to participate in the research.

You will not be able to access your research records during your participation in this research. This is done to ensure the research results are reliable. After the completion of the research, you have the right to see or copy your research records related to the research listed previously. A Request for Access must be made in writing to Kristine Rae Olmsted, RTI International, P.O. Box 12194, Research Triangle Park, NC 27709.

If you have not already received a copy of the brochure entitled “Military Health System Notice of Privacy Practices,” you may request one, or it is available online at:

<https://www.health.mil/Military-Health-Topics/Privacy-and-Civil-Liberties/HIPAA-Compliance-within-the-MHS/Notice-of-Privacy-Practices>

If you have any questions or concerns about your privacy rights, you should contact the Human Protections Administrator, [SITE HPA OR IRB CONTACT INFORMATION]. You may also contact the RTI HIPAA Privacy Officer Martha Wewer, (919)-485-2742, 3040 East Cornwallis Road, Durham, NC 27709 or privacy@RTI.org.

This Authorization does not have an expiration date.

Your signature at the end of this document acknowledges that you authorize Ms. Kristine Rae Olmsted and appropriate study staff to use and disclose your PHI collected about you for research purposes as described previously.

WHAT HAPPENS IF YOU ARE INJURED AS A RESULT OF THIS RESEARCH?

For medical emergencies, call 911. If you think that you have a research-related injury, notify your site Principal Investigator, [NAME], immediately at [CONTACT PHONE] or [SITE] main line [MAIN SITE PHONE NUMBER] to page them.

If you are injured because of your participation in this research and you are a DoD healthcare beneficiary (e.g., active duty military, dependent of active duty military, retiree) you are entitled to medical care for your injury within the DoD healthcare system, as long as you remain a DoD healthcare beneficiary. Transportation to and from hospitals or clinics will not be provided. No reimbursement is available if you incur medical expenses to treat research-related injuries. No compensation is available for research-related injuries. No other compensation will be offered by the sponsor or RTI or the Biomedical Research Alliance of New York. You are not waiving any legal rights.

Collection of Identifiable Private Information or Identifiable Biospecimens:

- Identifiers might be removed from your identifiable private information or identifiable biospecimens. After such removal, any information or biospecimens that may have been collected from you could be used for future research studies or distributed to another investigator for future research studies without your additional informed consent (or consent from your legally authorized representative).

WHAT HAPPENS IF I WITHDRAW FROM THIS RESEARCH?

You may withdraw your consent at any time and stop further participation in this research study without affecting your eligibility for care or any other benefits to which you are entitled. Should you choose to withdraw, you must contact the site Principal Investigator, [SITE PI NAME AND PHONE], and inform them of your intention to discontinue (stop) your participation.

If you are receiving treatment as part of this research study, you will no longer be eligible for such research-related treatment, but your condition can continue to be treated in accordance with existing standards of medical care by your personal physician.

Please note that withdrawing your consent to take part in this research does not fully revoke (cancel) your HIPAA authorization to use/disclose your protected health information. To make that revocation, please send a letter to the Principal Investigator as discussed earlier in this document.

The Principal Investigator of this research study may terminate (end) your participation in this research study at any time if they determine this to be in your best interest, if you are unable to comply with the procedures required, or if you no longer meet eligibility criteria.

VOLUNTARY PARTICIPATION:

The decision to take part in this research study is completely voluntary on your part. You will be informed if significant new findings develop during the course of this research study that may impact your decision to continue participation.

CONTACT INFORMATION:

You may contact the Principal Investigator at the number below if you have any questions or requests for information relating to this research study or your participation in it, if you want to voice a complaint or concern about this research, or if you have a study-related injury

Principal Investigator:

The Principal Investigator or a member of the research staff will be available to answer any questions throughout this study.

Study Principal Investigator: Kristine Rae Olmsted, MSPH
Phone: 919-597-1953
Mailing Address: 3040 East Cornwallis Road, Durham, NC 27709

Site Principal Investigator: [NAME]
Phone: [PHONE]
Mailing Address: [ADDRESS]

Institutional Review Board (IRB) Office

If you have any questions about your rights as a research subject (participant) or complaints regarding this research study, or you are unable to reach the research staff, you may contact a person

independent of the research team at the Biomedical Research Alliance of New York Institutional Review Board at 516-318-6877. Questions, concerns or complaints about research can also be registered with the Biomedical Research Alliance of New York Institutional Review Board at www.branyirb.com/concerns-about-research.

SUMMARY OF PERMISSIONS

At the end of the data collection period of the larger SGB Cohort Study, all the research information that was stored on the web server will be transferred to a non-web-based storage computer for evaluation. All identifying information will be destroyed 7 years after the completion of the study. De-identified research data, with no link to your personal information, will be kept indefinitely. After such de-identification, the information could be used for future research studies or distributed to another investigator for future research studies without your additional informed consent (or consent from your legally authorized representative).

You understand that there is a possibility that the blood, which you are providing during this study, may also be used in other research studies and could potentially have some commercial applicability. These blood samples (de-identified) may be stored for future use at WRAIR for an indefinite period but will be destroyed at the close of the study unless you provide permission to allow the researchers to store the samples longer. Because the molecular/genetics testing is for research purposes only, the results of the tests will not be disclosed to you. If you decide later that you do not want the remaining banked sample and information to be used for future genetics testing research on this project, you can contact the Principal Investigator, Kristine Rae Olmsted (Telephone: (919) 541-8035; Email: krolmsted@rti.org) and the study team will destroy the remaining blood sample.

- **Blood Collection**

Please initial one of the following options related to the blood collection aspect of this study:

_____ I consent to donate blood samples (serum, blood cells) for this and any future research study. My samples may be shared with other researchers.

_____ I consent to donate blood samples (serum, blood cells) for this and any other project conducted by the investigators in this study. My samples will not be shared with other researchers without my permission.

_____ I consent to donate blood samples (serum, blood cells) for this study. My samples will not be shared with other researchers without my permission. Please contact me again for permission to use my samples for any other research project.

- **Considerations specific to data collection through Garmin**

By signing this consent form,

- You are giving permission for the transfer of your physiological data (i.e., the data collected through the Garmin smart watch) to Garmin. You also are agreeing with the Garmin general and Connect privacy policies, which are included with this consent form. Your location data will NOT be transferred or used for this research study. Garmin will keep your data for as long as your “dummy” account is considered active. Once the study ends (or if you withdraw from the study), your “dummy” Garmin account will be deleted and Garmin will stop collecting and storing your

physiological data.

- You are also agreeing to comply with the Garmin terms of use, which are included with this consent form. Any activity that violates applicable laws, rules, regulations, or orders – or any Garmin terms of use, including any fraudulent, inappropriate, or potentially harmful behavior – will result in prompt restriction of further use.
- You are also agreeing to release Garmin from, and waive, any claims of liability.

In addition to the measures taken to protect your confidentiality as described above, confidentiality of your Garmin smartwatch-collected data will be protected as much as possible under existing regulations and laws but cannot be guaranteed. Complete confidentiality cannot be promised, particularly for military personnel, because information bearing on your health may be required to be reported to appropriate medical or command authorities to ensure the proper execution of the military mission, including evaluation of fitness for duty. Otherwise, we will keep everything confidential. You will be assigned a study identification number, which will be generated by a computer and will contain no identifying characteristics. There will be a master list linking this study identification number to your name, but only the study identification number will be used to label your physiological data. Your name will not appear in any published paper or presentation related to this study.

Researchers will make every effort to protect your privacy and confidentiality; however, there are risks of breach of information security and information loss. Researchers will need to have a special password to access your data. Only authorized study personnel will have this access to your data. The “dummy” email account associated with the Garmin Connect app will be generated by study staff and will not be associated with your own email address(es), meaning that the Garmin Connect account cannot be linked to your identity.

- **Future uses of your data**

Do you consent to be contacted about other possible future uses of your data from this study, after your personal participation is over? Please initial below.

I do _____

I do not _____

IF THERE IS ANY PART OF THIS DOCUMENT THAT YOU DO NOT UNDERSTAND, ASK THE INVESTIGATOR BEFORE SIGNING. YOU MAY CONSULT WITH YOUR PERSONAL PHYSICIAN OR LEGAL ADVISOR, IF YOU WISH.

A copy of this document will be given to you for your records.

SIGNATURE OF PARTICIPANT

By signing, I agree to take part in this research study.

Printed Name of Participant

Signature of Participant

Date

.....

SIGNATURE OF INDIVIDUAL ADMINISTERING CONSENT (consenting the participant)

(Can only be signed by an investigator or staff whose name is listed in the protocol and on the Delegation of Authority Log, and approved to administer consent)

Printed Name of Person Consenting Participant

Signature of Person Consenting Participant

Date

Appendix D: Abstract for Poster Presentation at 2023 Military Health System Research Symposium

Preliminary Findings from a Prospective Cohort Study of Stellate Ganglion Block for Treatment of Posttraumatic Stress Disorder and Other Non-pain Conditions

Kristine L. Rae Olmsted, MSPH¹, Russ Vandermaas-Peeler, MA¹, Shannon M. Blakey, PhD¹, Shawn Hirsch, MPH¹, Kat Asman, MSPH¹, Dennis Wallace, PhD², Murrey Olmsted, PhD¹, Camara Wooten, BA¹, Rhonda S. Karg, PhD³, Bradford B. Walters, MD, PhD⁴

¹RTI International, Research Triangle Park, NC

²Independent Contractor, Raleigh, NC

³Independent Contractor, Asheville, NC

⁴Independent Contractor, Chapel Hill, NC

Learning Objectives

1. *Characterize methods being used in an ongoing longitudinal cohort study of SGB being used to treat PTSD and other non-pain conditions*
2. *Describe preliminary findings of the study*
3. *Discuss conclusions and implications for Next Generation Military Personnel*

Introduction

Posttraumatic stress disorder (PTSD) affects a significant proportion of military Service Members (SMs) and Veterans, and appears to significantly contribute to SM suicide. First-line treatments can be problematic, and they are not universally effective. In addition, more than 80 percent of SMs with PTSD have comorbid mental health (MH) conditions. Untreated or undertreated PTSD and other MH disorders interfere with operational readiness as well as retention of skilled military personnel. Effective, fast-acting, and acceptable treatment options are needed to address the needs of Next Generation SMs.

Stellate ganglion block (SGB) may fill this gap. The stellate ganglion is a cluster of nerves and nerve fibers located in proximity to the C7 vertebra and plays a significant role in mediation of the sympathetic nervous system. Originally used to treat select pain conditions, SGB has been shown to be effective in treating symptoms of PTSD⁶. Despite more than 30 publications in the peer-reviewed literature, questions remain about optimal timing or sequencing of SGB procedures, SGB's long-term effects, and SGB's possible adverse effects among SMs with PTSD and possibly with comorbid MH conditions. The purpose of this study is to answer questions about SGB via a longitudinal cohort study being conducted as part of routine clinical care at one of four U.S. military treatment facilities (MTFs). We will present our study rationale, assessments, preliminary findings, and implications for Next Generation SMs.

Materials and Methods

Up to 300 SMs and Veterans are being recruited from four U.S. MTFs (Womack Army Medical Center, Brooke Army Medical Center, Tripler Army Medical Center, and Landstuhl Regional Medical Center) for our prospective cohort study. Individuals scheduled to receive SGB for a non-pain condition are contacted and asked by an in-facility research coordinator if they wish to participate in the study. Those willing to participate, after providing written, informed consent, complete a Clinician-Administered PTSD Scale for the DSM-5 (CAPS-5) over the phone with a licensed clinical psychologist. While we are assessing a host of MH conditions, PTSD symptoms as characterized by the CAPS-5 are our primary outcome of interest. The study is evaluating symptom trajectory over time for PTSD, generalized anxiety, depression, alcohol use, sleep, and other related conditions. In addition, we are assessing the impact of SGB on

neurocognitive functioning (via a computerized continuous performance test of attention) and sleep (via wearables and self-report). Multimodal assessment includes in-person, online, and wearables-based data collection. This study will also incorporate blood-based biomarkers to augment subjective and objective data that are being collected in the cohort study.

Results

Based on a data snapshot taken in mid-February 2023, 90 participants completed the demographics visit, 71 participants had enrolled and completed the baseline visit (11 at Landstuhl, 29 at Tripler, 10 at Womack, and 21 at Brooke), and 17 participants had completed the month 2 visit. (Updated numbers will be available at the time of presentation.) Regarding the processed CPT-3 (neurocognitive) assessment data, we received records at pre-SGB procedure (n=64), immediately post-SGB procedure (n=61), week 1 (n=54), and month 2 (n=13).

The average age was 41 years, 92% were male, and 86% were active-duty SMS. Eighty percent reported a current PTSD diagnosis from a healthcare provider, and 28% reported that they have received an SGB treatment prior to enrolling into the study.

For these preliminary analyses, we report the aggregated study outcome measures at the different study visits for the accumulated data to date. The following are the mean (and standard deviations) for the baseline and month 2 measurements on the self-report questionnaires (Baseline and Month 2): PCL-5 – (47.5 (16.3)) and 36.9 (19.1)); PHQ-9 – (15.2 (5.2)) and 10.6 (7.0)); GAD-7 – (13.5 (5.0)) and 9.8 (5.3)); K6 – (12.6 (6.0)) and 8.5 (6.1)); SF-12 Physical Health T-Score – (37.4 (8.9)) and 38.7 (8.5)); SF-12 Mental Health T-Score – (40.2 (7.6)) and 43.0 (9.6)); PROMIS Sleep Disturbance T-Score – (52.7 (3.3)) and 51.7 (2.9)); AUDIT-C – (2.8 (2.9)) and 1.8 (2.3)).

Regarding the preliminary CPT-3 results, we did not observe obvious differences in neurocognitive outcome measures prior to SGB treatment and 1 week post treatment. Prior to SGB, 52% exhibited no problems for inattentiveness while 74% reported no problems one-week after treatment. Eighty-one percent did not exhibit problems with impulsivity prior to treatment and 78% reported no problems one-week post-treatment, while 75% scored within the normal range for sustained attention prior to treatment and 81% within the normal range one-week post treatment. Similar results were also observed for the vigilance outcome measure as well.

Although we don't currently have preliminary results for the CAPS-5 or wearables sleep data, we do expect to have preliminary results to discuss during the presentation. Additionally, for the presentation, we will present summaries of change in outcome measures for all participants that completed both the baseline and month 2 visit to provide a preliminary assessment of SGB treatment effects. At the time of the abstract writing, we were limited to only reporting aggregated measures at each timepoint since only 165 participants completed the month 2 visit at the time of the data snapshot.

Conclusions

Preliminary results on the subjective health questionnaires are encouraging and are suggestive of the possible beneficial effects of SGB treatment. However, it is still very early in the study, and it will be important to observe whether or not the preliminary findings continue throughout the study period and for future enrolled participants. Additionally, it will also be important to stratify our analyses by baseline demographic and possibly other characteristics so as to best parse out the true effect of SGB on PTSD and other selected outcomes.

The next steps in this observational cohort study are to continue enrollment and complete all follow-up visits. The study statisticians will then develop a demographic profile for all participants and develop appropriate comparison groups. We will then continue to accumulate, clean, and analyze data from the study's primary and secondary outcome measures.

Disclaimer

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