Stellate Ganglion Block for Post-traumatic Stress: Brief Overview

Stellate Ganglion Block (SGB)—a medical procedure that treats post-traumatic stress disorder (PTSD) symptoms—is an injection of local anesthetic in the neck to temporarily block the cervical sympathetic chain which controls the body's fight-or-flight response. Due to its safety, success rate, and rapid onset of relief, SGB is gaining wide acceptance among providers who care for those suffering from invisible injuries of trauma.

Background. SGB has been used safely for over 100 years for many conditions. In the last 12+ years, SGB was discovered to provide relief of PTSD symptoms as well. SGB is not a standalone treatment; rather, in conjunction with trauma-focused psychotherapy, SGB has been used to treat thousands of patients with a success rate of approximately 80%. SGB serves as an invaluable adjunct to talk therapy by mitigating an independent predictor of poor response to therapy (hyperarousal symptoms).

Evidence. Since 1990, there have been 18 original studies published in the peer-reviewed medical literature documenting SGB's safety and effectiveness in treating PTSD symptoms. In November 2019, a large multicenter, randomized clinical trial was published in JAMA Psychiatry demonstrating twice the effect of SGB over a sham (placebo) procedure. With "gold standard" Level 1 evidence supporting SGB, many clinicians believe this procedure should be incorporated into standard PTSD care.

Conclusion. The science exists today to improve our approach to a disorder that affects over 10 million Americans with PTSD by applying safe, effective neuroscience-informed treatment with the Stellate Ganglion Block. SGB has been used effectively to treat PTSD from a variety of traumatic experiences, including sexual trauma. SGB offers a particularly effective option for those experiencing symptoms associated with PTSD such as: irritability, poor sleep, and difficulty concentrating. SGB does not replace, but rather enhances standard mental health and medical treatments for PTSD.

Recommendation. Behavioral health providers should consider utilizing SGB in conjunction with standard trauma-focused care for PTSD patients. Referral to a center with

experience administering SGB for post-traumatic stress symptoms is strongly recommended. The expertise exists in the medical community now to advise on when and for whom an SGB could be beneficial.

Select References (Select Figures on reverse): available at: https://sgbtreatmentcenter.com/

1. Lynch, JH. Stellate ganglion block treats posttraumatic stress: An example of precision mental health. *Brain Behav*. 2020; 00:e01807. https://doi.org/10.1002/brb3.1807

2. Rae Olmsted KL, Bartoszek M, Mulvaney S, et al. Effect of stellate ganglion block treatment on posttraumatic stress disorder symptoms: a randomized clinical trial. *JAMA Psychiatry*. 2019:1-9.

3. Mulvaney SW, Lynch JH, Hickey MJ, et al. Stellate ganglion block used to treat symptoms associated with combat-related post-traumatic stress disorder: a case series of 166 patients. *Mil Med*. 2014 Oct 1;179:1133-40.

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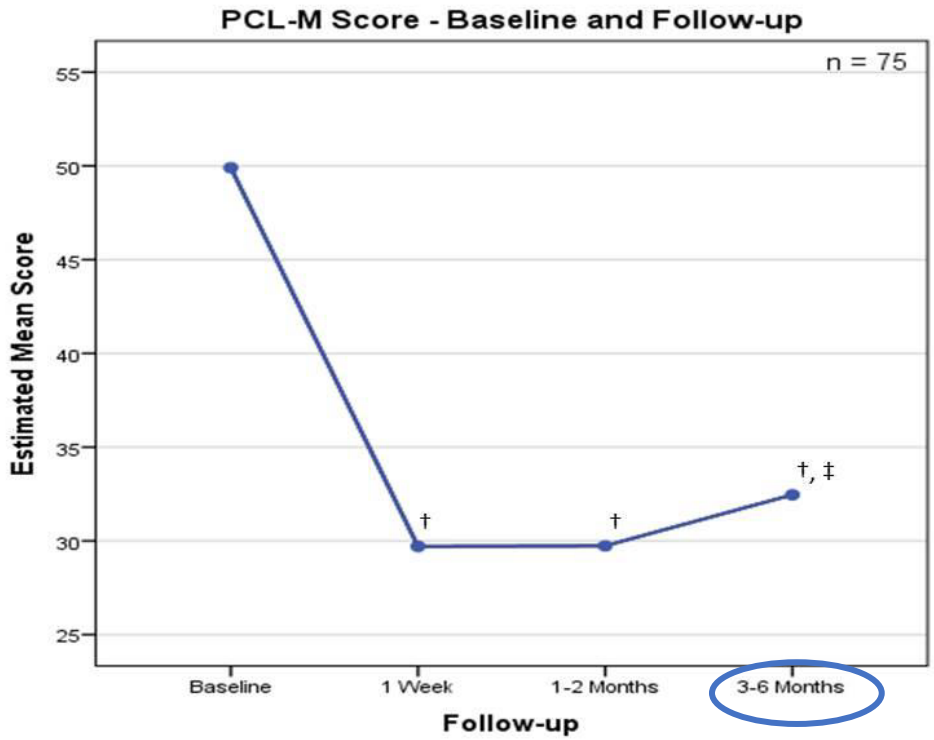

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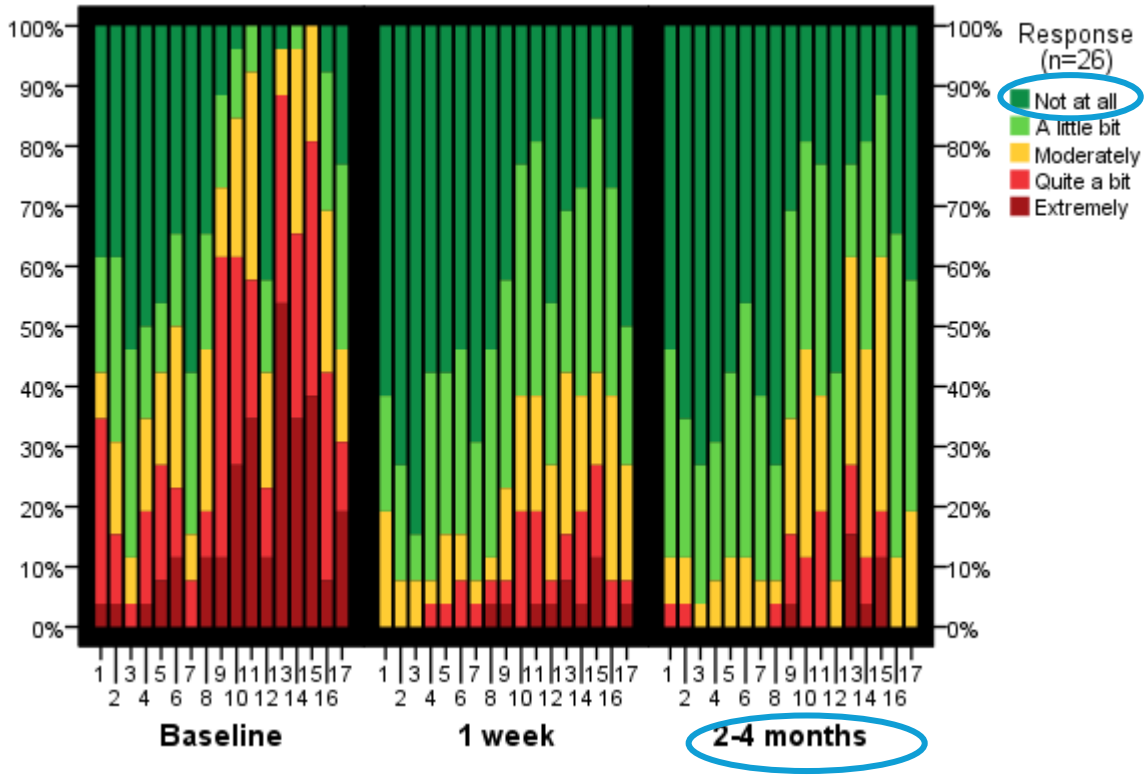
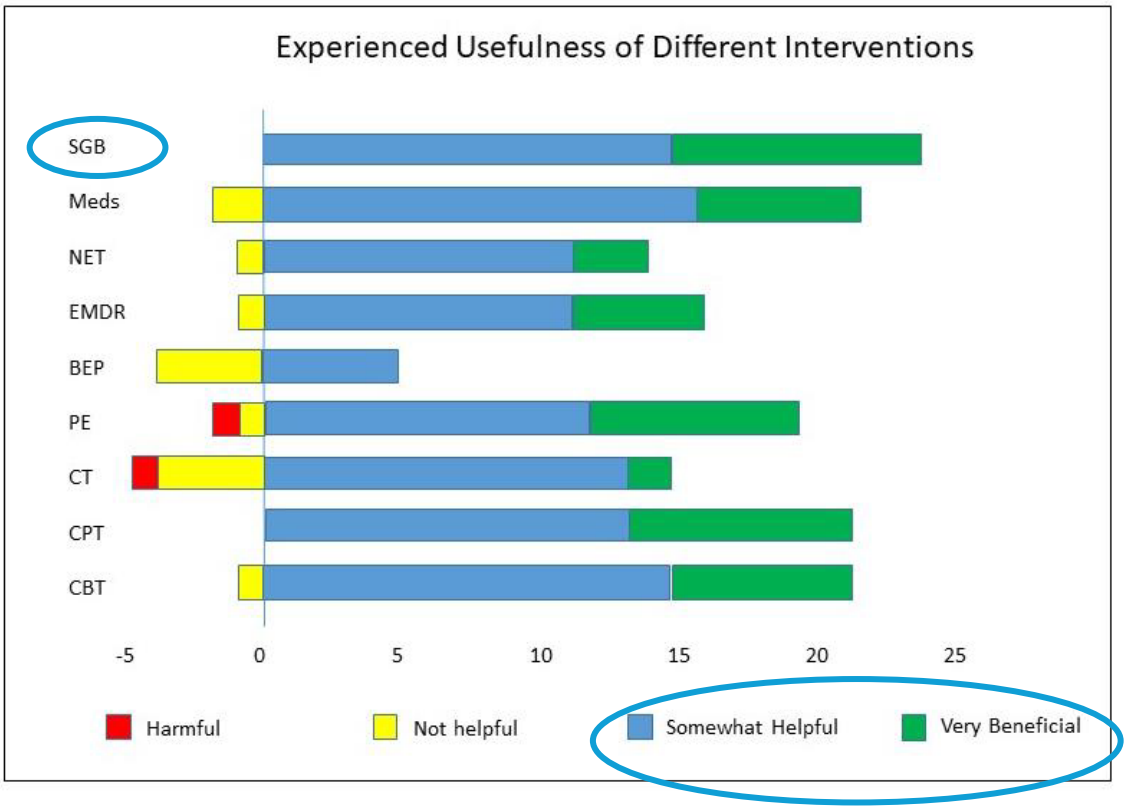
Baseline and follow-up Posttraumatic Stress Disorder Checklist-Military (PCL-M) scores following SGB (n=75). † Indicates a significant decrease in mean PCL-M score from baseline ($p<0.05$)

Mulvaney SW, Lynch JH, Hickey MJ, et al. Stellate ganglion block used to treat symptoms associated with combat-related post-traumatic stress disorder: a case series of 166 patients. Mil Med. 2014 Oct 1;179:1133-40.



PTSD Symptoms decrease after SGB: Response frequency for individual PCL-M questions (1-17) at baseline (pre-SGB), 1-week post-SGB, and 2-4 months post-SGB.

Lynch JH, Mulvaney SW, Kim EH, de Leeuw JB, Schroeder MJ, Kane SF. Effect of stellate ganglion block on specific symptom clusters for treatment of post-traumatic stress disorder. *Mil Med*. 2016 Sep 1;181:1135-41.



Usefulness of SGB compared to Standard Recommended Interventions for PTSD

SGB = Stellate Ganglion Block; Meds = Medications; NET = Narrative Exposure Therapy; EMDR = Eye Movement Desensitization and Reprocessing; BEP = Brief Eclectic Psychotherapy; PE = Prolonged Exposure Therapy; CT = Cognitive Therapy; CPT = Cognitive Processing Therapy; CBT = Cognitive Behavioral Therapy (American Psychological Association, 2017)

Based on a **2020 survey of behavioral health clinicians with firsthand experience utilizing SGB** for their patients with trauma-related conditions:

1) 95% of respondents would recommend SGB to a behavioral health colleague
2) Zero respondents characterized SGB as "Harmful"
3) Among all of the psychological interventions in the 2017 American Psychological Association CPG for the Treatment of PTSD in Adults, SGB was found to be at least as useful as the highest rated standard interventions.

Given the feedback from this study, behavioral health providers should consider utilizing SGB in conjunction with standard trauma-focused care. *

Lynch JH, Muench PD, Okiishi JC, Means GE, Mulvaney SW. Behavioral Health Clinicians Endorse Stellate Ganglion Block as a Valuable Intervention in the Treatment of Trauma-related Disorders. *J Investigative Med*: 2021 Mar. http://dx.doi.org/10.1136/jim-2020-001693

*Two senior psychologists' perspective at: https://thriveglobal.com/stories/a-new-model-for-trauma-care-the-fusion-of-biological-and-psychological-approaches/