

Current Concepts Review: The Growing Evidence-Base for the Use of Complementary and Alternative Medicine for Treating Posttraumatic Stress Disorder

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U.S. Department
of Veterans Affairs

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Presenters:



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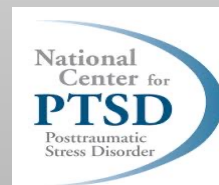
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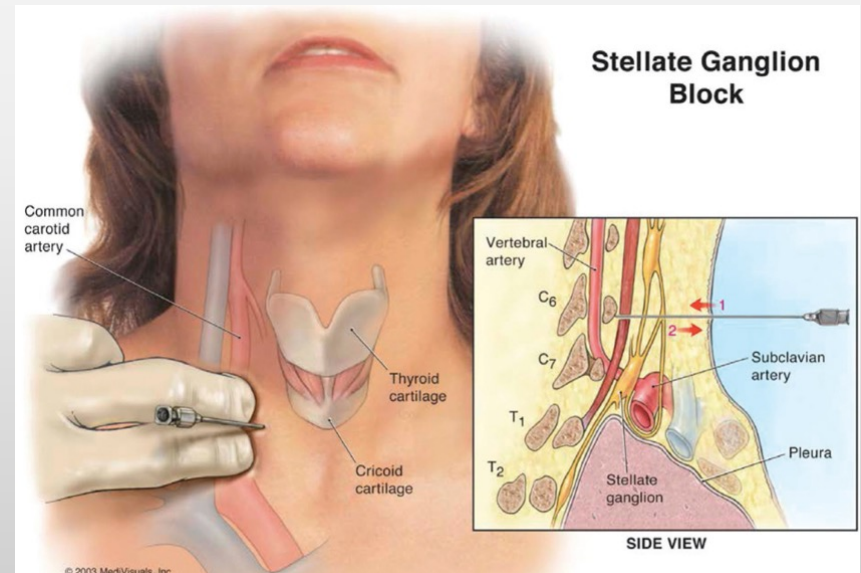


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National Center for PTSD

Stellate Ganglion Block (SGB) for PTSD

- ◆ SGB, a well-established pain management procedure, is the first promising biologic treatment that is emerging in the literature for PTSD.³⁰
 - ◆ A 5 to 10-minute procedure that involves injecting a local anesthetic at the right-sided C6/C7 cervical vertebrae
- ◆ Since 2008, numerous reports have documented SGBs rapid effects on reducing PTSD severity among veterans, active duty service members and civilian populations.³¹⁻³⁴

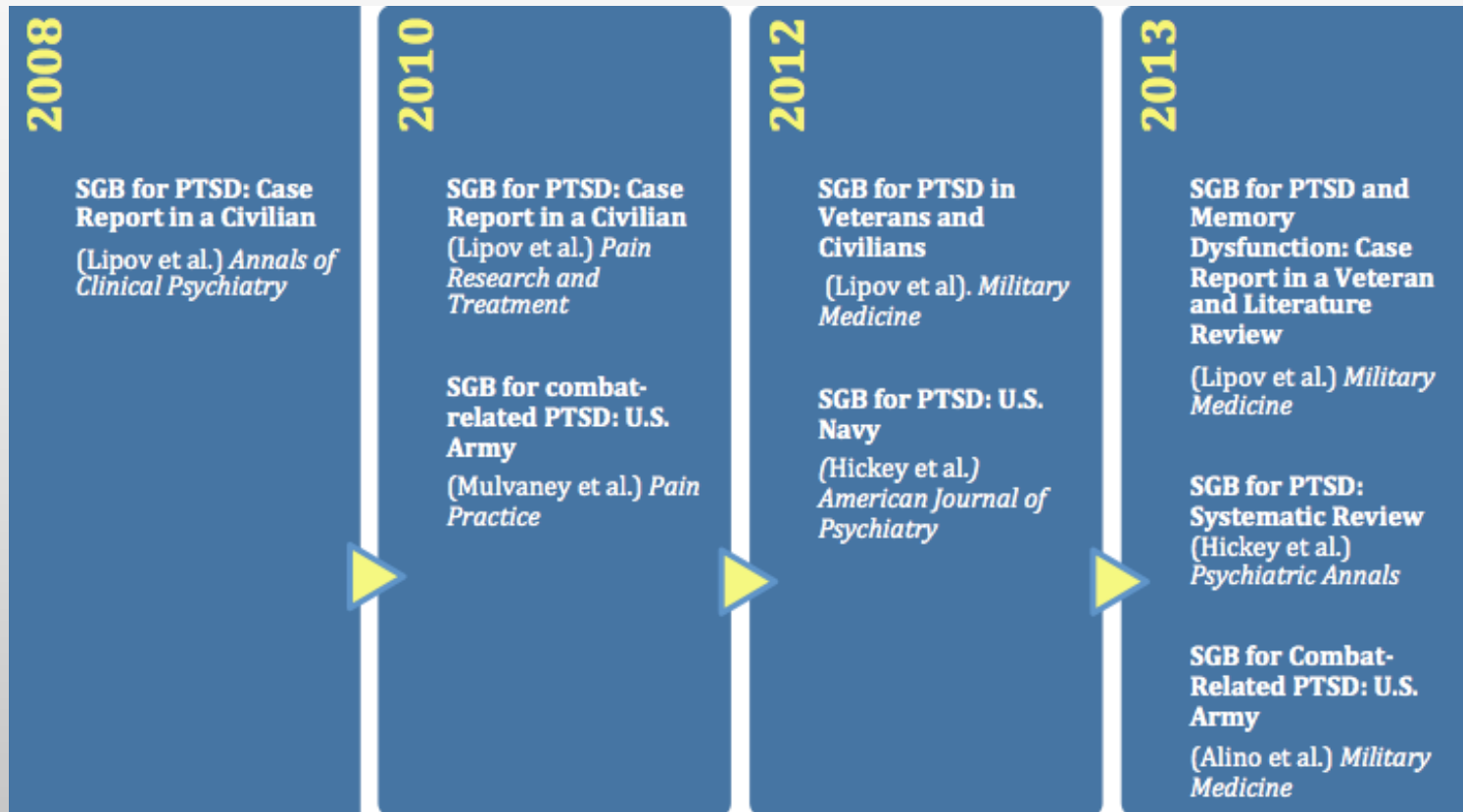


Source: Hickey AH, Navaie M, Stedje-Larsen ET, Lipov EG, McLay RN. Stellate Ganglion Block for the Treatment of Posttraumatic Stress Disorder. *Psychiatric Annals* 2013; 43(2):87-92.

Risks of Adverse Events Associated with SGB

- Mortality and morbidity related to SGB are rare.¹⁸
- The complication rate associated with SGB is extremely low at 1.7 per 1,000 procedures.¹⁹
- Categories for the potential risks of SGB include⁷:
 - ✓ **Technical complications** may include injury to the nerves and nearby viscera during needle insertion, airway compression and vasovagal attacks.
 - ✓ **Infectious complications** can result if there is a breach in the aseptic barrier, and may include local abscess, cellulitis, and osteitis of the vertebral body and transverse process.
 - ✓ **Pharmacological complications** are related to dose, volume, type of local anesthetic and site of deposition of the solution, and may include recurrent laryngeal nerve paralysis, seizures, loss of consciousness, profound, air embolism, and loss of cardioaccelerator activity.

Timeline of Emerging Preliminary Evidence for SGB and PTSD



Summary of SGB Case Reports and Case Series

- ◆ Growing number of successful case series of SGB treatment in PTSD:
 - ✓ 83 cases among veterans and civilians with refractory PTSD treated with SGB revealed significant reductions in PTSD symptoms clusters associated with re-experiencing and hyper-arousal (received, on average, 1.6 SGB injections)^{31,32,35}
 - ✓ 6 cases among active duty service members with markedly reduced PTSD symptoms observed in Army cohort (received, on average 1.3 SGBs)³³
 - ✓ 9 cases among active duty Navy and Marine Corps service members with improvement in PTSD symptoms observed by Navy physicians (received 2 SGBs)³⁴
- ◆ A randomized placebo-controlled SGB trial is actively being conducted by Navy Medicine

SGB for PTSD Treatment among Veterans and Civilians

Case Identification and Treatment²⁰⁻²³:

◆ *Cases:*

- ✓ 83 cases with diagnosed refractory PTSD from various providers were referred for SGB treatment at a private practice setting in Hoffman Estates, IL
- ✓ n=31 veterans, n=52 civilians (30 females, 22 males)
- ✓ Age range: 21-27 years; Mean age: 40 years

◆ *SGB Treatment:*

- ✓ Range of SGB injections: 1-7
- ✓ Mean number of SGB injections = 1.6

SGB for PTSD Treatment among Veterans and Civilians

Outcomes Measures and Data Analysis:

- ◆ PTSD symptom severity was measured using the PTSD Checklist, Military Version (PCL-M) composed of 17 items with Likert-type response scales capturing symptom clusters related to re-experiencing, avoidance, and hyperarousal.²⁴
- ◆ Memory function assessed using the standardized Rey Auditory Learning Test.²⁵
- ◆ A pre-post study design was used across all cases for comparative data analysis purposes:
 - ✓ Baseline PTSD symptoms were measured using PCL-M prior to SGB treatment.
 - ✓ Follow-up assessments were evaluated using PCL-M post-SGB treatment with timeframe varying from patient to patient.

SGB for PTSD Treatment among Veterans and Civilians

Results:

- ◆ Significant improvements observed in symptoms associated with **avoidance** (increased ability to feel and demonstrate affection, reduced self-isolation) and **hyperarousal** (improved sleep and concentration, reduced angry outbursts).
- ◆ Relative to patients who received one SGB, patients with multiple SGB treatments have been shown to experience greater levels of symptom relief.
- ◆ Simultaneous improvements have been observed in PTSD symptoms, alcohol use, and cognitive function in persistent PTSD cases after SGB treatment.



Courtesy of Eugene G. Lipov, M.D.

SGB Among Army Service Members with PTSD

Sample and Methods:

- ◆ Two cases at Walter Reed National Military Medical Center²⁶
- ◆ Right-side C6 cervical sympathetic chain blockade using 0.5% ropivacaine
- ◆ PCL-M used to measure PTSD symptom severity

Results:

- ◆ *Case 1:* PCL score ↓ from baseline 76 to 26 at 24 weeks following 1st SGB; PCL score ↓ from 67 to 24 at 28 weeks after 2nd SGB
- ◆ *Case 2:* PCL score ↓ from baseline 54 to 24 at 28 weeks post-treatment



Source: US Army, Walter Reed National Medical Center

SGB Among Army Service Members with PTSD

Sample and Methods:

- ◆ Four cases at Tripler Army Medical Center²⁷
- ◆ Right-side C6 cervical sympathetic chain blockade using 0.5% ropivacaine
- ◆ PCL-M used to measure PTSD symptom severity

Results:

- ◆ *Case 1:* PCL score ↓ from 64 to 22 after 1st SGB and from 35 to 29 after 2nd SGB
- ◆ *Case 2:* PCL score ↓ from baseline 85 to 18
- ◆ *Case 3:* PCL score ↓ from baseline 69 to 34
- ◆ *Case 4:* PCL score ↓ from baseline 76 to 24



Source: U.S. Army, Tripler Army Medical Center

SGB Among Navy Service Members with PTSD

Sample and Methods:

- ◆ Nine cases at Naval Medical Center San Diego²⁸
- ◆ Right-side C6 cervical sympathetic chain blockade using 0.5% ropivacaine
- ◆ Used CAPS to assess PTSD symptom severity

Results:

- ◆ Five of the 9 patients (56%) had significant ↓ in PTSD symptoms on CAPS 1 week after treatment.

Conclusions:

- ◆ Though the benefit was not universal, this series suggested that SGB may be an effective, rapid treatment for PTSD.



Source: Reid Middleton. "Naval Medical Center San Diego."