An Evaluation of Ultrasound-Guided Regional Block Anesthesia in Outpatient Hand Surgery

Daniel Calem  
*Thomas Jefferson University, daniel.calem@jefferson.edu*

Armen C. Voskeridjian, MD  
*Thomas Jefferson University*

Michael Rivlin, MD  
*Thomas Jefferson University, michael.rivlin@jefferson.edu*

Pedro Beredjiklian, MD  
*Thomas Jefferson University, pedro.beredjiklian@rothmaninstitute.com*

Mark L. Wang, MD, PhD  
*Thomas Jefferson University, Mark.Wang@jefferson.edu*

Let us know how access to this document benefits you

Follow this and additional works at: [https://jdc.jefferson.edu/si_hs_2021_phase1](https://jdc.jefferson.edu/si_hs_2021_phase1)

†Part of the [Orthopedics Commons](https://jdc.jefferson.edu/orthopedics), [Public Health Commons](https://jdc.jefferson.edu/public_health), and the [Surgery Commons](https://jdc.jefferson.edu/surgery)

**Recommended Citation**


This Article is brought to you for free and open access by the Jefferson Digital Commons. The Jefferson Digital Commons is a service of Thomas Jefferson University's Center for Teaching and Learning (CTL). The Commons is a showcase for Jefferson books and journals, peer-reviewed scholarly publications, unique historical collections from the University archives, and teaching tools. The Jefferson Digital Commons allows researchers and interested readers anywhere in the world to learn about and keep up to date with Jefferson scholarship. This article has been accepted for inclusion in Phase 1 by an authorized administrator of the Jefferson Digital Commons. For more information, please contact: JeffersonDigitalCommons@jefferson.edu.
An Evaluation of Ultrasound-Guided Regional Block Anesthesia in Outpatient Hand Surgery

1. Armen C. Voskeridjian, MD
2. Daniel Calem, BA
3. Michael Rivlin, MD
4. Pedro K. Beredjiklian, MD
5. Mark L. Wang, MD, PhD

Introduction: The utilization of ultrasound-guided peripheral nerve blocks in orthopedic surgery has increased in popularity as the anesthesia of choice for the management of perioperative pain. Peripheral nerve blockade has been shown to increase overall surgical efficiency, improve patient satisfaction, reduce postoperative narcotic use, and decrease the duration of facility admissions, while increasing overall cost-effectiveness. To date, scant literature exists regarding the safety and efficacy of ultrasound-guided supraclavicular blocks used in common hand surgery procedures, and the rate of neurologic and vascular complications remains unknown.

Objective: The purpose of this study was to examine the effectiveness and complication rate of supraclavicular nerve blocks in hand surgery.

Methods: With institutional review board approval, 713 cases of outpatient upper extremity surgery, performed by three board certified orthopedic hand surgeons at a single ambulatory surgery center over a consecutive period of 2 years, were retrospectively reviewed. Adverse outcomes related to regional blocks were identified through reviewing the electronic medical
record of the immediate 24-hour postoperative telephone call and the first postoperative visit note within two weeks of surgery.

**Results:** 20 patients (2.8%) reported an excessively long block and 1 patient reported inadequate pain control in the PACU (0.1%), but no clinically significant pulmonary or neurovascular complications were identified.

**Conclusion:** Ultrasound-guided supraclavicular block was associated with a high success rate and low complication rate. This technique as described may be safe for outpatients, although larger numbers of subjects will be required to make this statement with certainty.