

SOCIETY FOR SAMBA AMBULATORY ANESTHESIA
 2025 ANNUAL MEETING
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 ARIZONA BILTMORE • PHOENIX, AZ

Neuromuscular Blockade Monitoring Practices and Barriers to Adopting Current ASA Guidelines in Ambulatory Surgery Settings

By
Kelly Lebak, MD, FASA, SAMBA-F¹
 Joanna Serafin, PhD²; Kara M. Barnett, MD, FASA, SAMBA-F²; Alexander Kaizer, PhD³; Kumar Belani, MBBS, FASA, SAMBA-F⁴

¹ MetroHealth Medical Center, Cleveland, OH; ² Memorial Sloan Kettering Cancer Center New York, NY; ³ University of Colorado, Denver, CO; ⁴ University of Minnesota, Minneapolis, MN

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Introduction

- 2023 American Society of Anesthesiologists (ASA) Practice Guidelines for Monitoring and Antagonism of Neuromuscular Blockade (NMB) recommend:
 - quantitative monitoring, sugammadex for reversal, adductor pollicis muscle preferred monitoring site
- Adoption of the guidelines in ambulatory surgery settings not known
 → residual blockade particularly risky
- We surveyed anesthesia clinicians practicing in ambulatory surgery settings about their NMB practices

Image: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC10744444/>

APSP Technology Education Initiative (TEI): Quantitative Neuromuscular Monitoring (QNM)

Anesthesiology, 130:1341, 2023
 J Clin Med, 13:081, 2024

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Methods

- Anonymous, 21-question electronic survey distributed to **756 Society for Ambulatory Anesthesia (SAMBA) members** between June and August 2024 via RedCap
- IRB exemption granted; no identifiable data and no incentives for completion

Image: Illustration of a computer monitor with a checklist.

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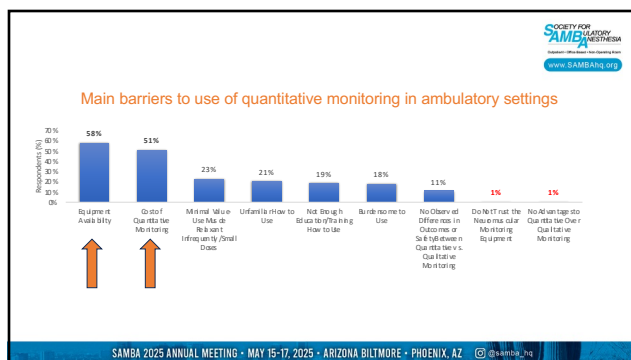
Results

- 126 (17%) responded: most anesthesiologists, >21 years of experience
- Variability in NMB practice
 - 10% rely solely on clinical assessment
 - 74% regularly use qualitative monitoring
 - 51% never used quantitative monitoring: 62% private vs 40% academic setting
- 33% confirmed a train-of-four (TOF) ratio ≥ 0.9 before extubation
- 52% monitored at the adductor pollicis muscle
- Sugammadex for deep (82%), moderate (61%), and low (36%)
- Higher-volume practitioners:
 - Less likely: Clinical assessment alone (21% vs. 9%) or quantitative assessment only (12% vs. 6%).
 - More likely: TOF ≥ 0.9 before extubation (9% vs. 37%), and use sugammadex for deep blockade reversal (65% vs. 100%).
- 85% aware of the 2023 ASA guidelines
- 92% confident in NMB practice

Image: Illustration of a person thinking, with a question mark and a lightbulb.

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Conclusions

- First study of ambulatory NMB practices
- Qualitative assessment remains predominant
- Many still rely on clinical assessment alone
- Higher-volume practitioners more are likely to confirm TOF ratio ≥ 0.9 and select sugammadex for deep blockade
- Barriers such as equipment availability and cost limit the widespread use of quantitative monitoring
- The findings highlight the need for education, resource allocation, and guideline adherence, especially in low-volume ambulatory settings
- Future studies: cases likely to benefit from quantitative monitoring if full adoption is not possible

THANK YOU!

Contact information
 Kelly Lebak, MD
 Email: klebak@metrohealth.org

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