

Latest neuromuscular blockade guidelines to improve patient safety and satisfaction

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Depth of Blockade	Peripheral Nerve Stimulator and Qualitative Assessment	Quantitative Monitor
Complete	Posttetanic count = 0	Posttetanic count = 0
Deep	Posttetanic count ≥ 1 ; train-of-four count = 0	Posttetanic count ≥ 1 ; train-of-four count = 0
Moderate	Train-of-four count = 1–3	Train-of-four count = 1–3
Shallow*	Train-of-four count = 4; train-of-four fade present	Train-of-four ratio < 0.4
Minimal*	Train-of-four count = 4; train-of-four fade absent	Train-of-four ratio = 0.4–0.9
Acceptable recovery	Cannot be determined	Train-of-four ratio ≥ 0.9

*The quantitative threshold of train-of-four ratio of 0.4 cannot reliably be subjectively determined by the presence or absence of fade in the train-of-four ratio response. The absence of subjectively appreciated fade has been reported with a train-of-four ratio of less than 0.3, and the presence of fade has been reported with train-of-four ratio of greater than 0.7.¹⁴⁹

Credit: *Anesthesiology* (2022). DOI: 10.1097/ALN.0000000000004379

The latest guidance in addressing proper monitoring and reversal of

neuromuscular blockade drugs during general anesthesia—a major advance in patient safety and satisfaction—was published today in *Anesthesiology*.

"Practice Guidelines for Monitoring and Antagonism of Neuromuscular Blockade: A Report by the ASA Task Force on Neuromuscular Blockade" provide the American Society of Anesthesiologists' (ASA) recommendations for managing and reversing neuromuscular blockade.

Neuromuscular blocking drugs, also known as muscle relaxants, are used after anesthesia is started to ease the insertion of a breathing tube in a patient's windpipe, as well as relax the patient's muscles to prevent movement. While these drugs aid surgery, it is important to prevent any lingering effect of the muscle relaxant—known as residual paralysis—after [general anesthesia](#).

The new [practice guidelines](#) are intended to help anesthesiologists reduce the likelihood of residual paralysis and include recommendations for monitoring drug effects as well as effective approaches to adequately reverse muscle relaxation. Proper reversal of the effects of [muscle relaxants](#) helps reduce postoperative complications such as pneumonia, respiratory arrest, and reintubation, which can lead to increased time spent in the ICU and the hospital.

"ASA's evidence-based practice guidelines for the management of neuromuscular blockade during surgery will help our members and increase the safety and satisfaction of our patients," said ASA President Michael W. Champeau, M.D., FASA. "The clinical recommendations for monitoring and reversing this process will help prevent residual neuromuscular blockade so patients benefit from complete recovery, which may decrease the length of stay in the post-acute care unit (PACU) and postoperative lung complications."

ASA's practice guidelines are systematically developed recommendations to assist the physician and patient in making decisions about [health care](#). These recommendations may be adopted, modified, or rejected according to clinical needs and constraints and are not intended to replace local institutional policies. In addition, practice guidelines developed by the ASA are not intended as standards or absolute requirements, and their use cannot guarantee any specific outcome.

Practice guidelines are subject to revision as warranted by the evolution of medical knowledge, technology, and practice. They provide basic recommendations for anesthesia care that are supported by synthesis and analysis of current literature, expert and practitioner opinion, public comment, and clinical feasibility data. Practice guidelines aim to improve patient care and patient outcomes by providing up-to-date information for patient care.

More information: Stephan R. Thilen et al, 2023 American Society of Anesthesiologists Practice Guidelines for Monitoring and Antagonism of Neuromuscular Blockade: A Report by the American Society of Anesthesiologists Task Force on Neuromuscular Blockade, *Anesthesiology* (2022). [DOI: 10.1097/ALN.0000000000004379](https://doi.org/10.1097/ALN.0000000000004379)

Provided by American Society of Anesthesiologists

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