

INFOGRAPHICS IN ANESTHESIOLOGY

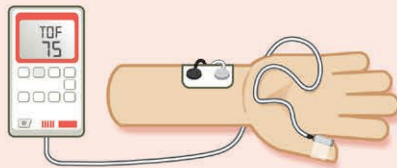
Complex Information for Anesthesiologists Presented Quickly and Clearly

Acceleromyography vs. Electromyography: Making a Twitch, Checking It Twice

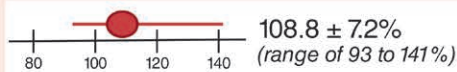
Nemes *et al.*¹ simultaneously compared acceleromyography to electromyography (EMG) using an ipsilateral, same nerve, same muscle technique in 48 patients using ulnar nerve stimulation of the adductor pollicis.

Acceleromyography

Twitches are measured by an accelerometer, which requires the thumb to move freely and device calibration with normalization of train-of-four (TOF) measurements.²



Mean baseline TOF:



When normalized acceleromyography showed TOF > 80%, **the bias was 1.3** toward acceleromyography (limits of agreement -14.0 to 16.6).

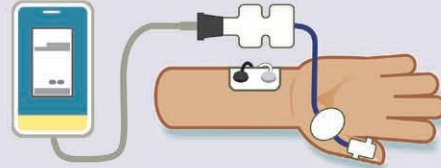
QUALITY CONTROL

CALIBRATE BEFORE USE

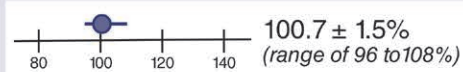
Calibration and normalization are crucial for acceleromyography, and improved bias and precision.

Electromyography

EMG measures the compound potential of the adductor pollicis, which does not require thumb movement or calibration, but is susceptible to electrical noise in the OR.



Mean baseline TOF:



When EMG showed TOF > 80%, **the bias was -0.5** toward EMG (limits of agreement -14.7 to 13.6).

EMG uses a noise filter which decreases sensitivity to early TOF recovery. EMG had higher precision and greater reliability.



For assessing recovery from neuromuscular block, EMG is a better indicator of readiness for safe tracheal extubation.

OR, operating room.

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1. Nemes R, Lengyel S, Nagy G, Hampton DR, Gray M, Renew JR, Tassonyi E, Fülesdi B, Brull SJ: Ipsilateral and simultaneous comparison of responses from acceleromyography- and electromyography-based neuromuscular monitors. *ANESTHESIOLOGY* 2021; 135:597–611
2. Bowdle A, Michaelsen K: Quantitative twitch monitoring: What works best and how do we know? *ANESTHESIOLOGY* 2021; 135:558–611