

# INFOGRAPHICS IN ANESTHESIOLOGY

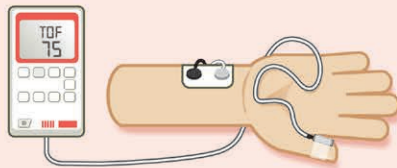
Complex Information for Anesthesiologists Presented Quickly and Clearly

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

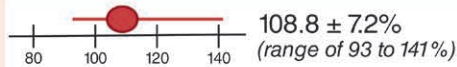
Nemes *et al.*<sup>1</sup> simultaneously compared acceleromyography to electromyography (EMG) using an ipsilateral, same nerve, same muscle technique in 48 patients using ulnar nerve stimulation of the adductor pollicis.

### 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.<sup>2</sup>



#### Mean baseline TOF:



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

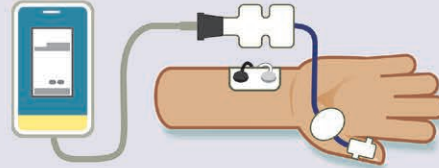
**QUALITY CONTROL**

**CALIBRATE BEFORE USE**

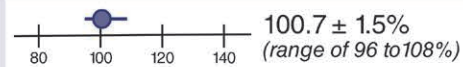
Calibration and normalization are crucial for acceleromyography, and improved bias and precision.

### 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