TETRAGRAPH

Next-Generation TetraGraph®

Quick Reference Guide





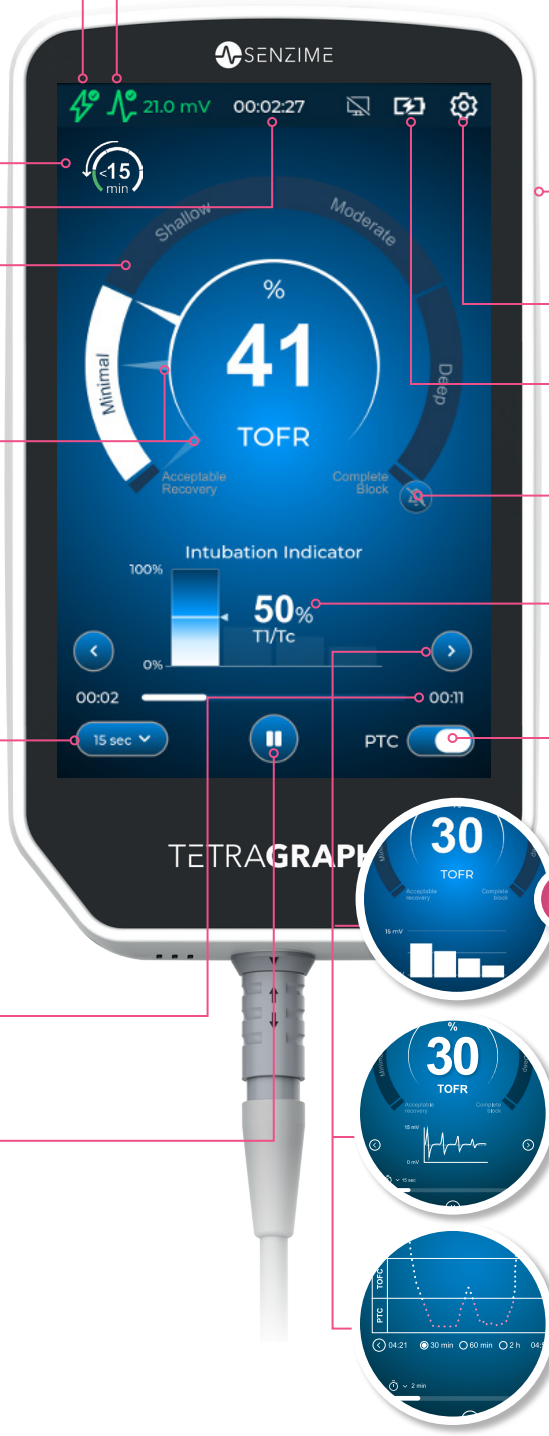
SENZIME

TETRAGRAPH
Buttonology

Predictive Recovery icon will appear in upper left-hand corner of screen

Optimal stimuli settings found (or supramaximal stimulus found) indicated in green

Good sensor placement is indicated by signal strength in green.



Case timer

TetraGraph® Level-of-Block Gauge™

Power Button

Settings

Battery indicator

The faded arrows indicate which way the needle is trending

Case Alert

Intubation readiness indicator

Change time interval between every reading

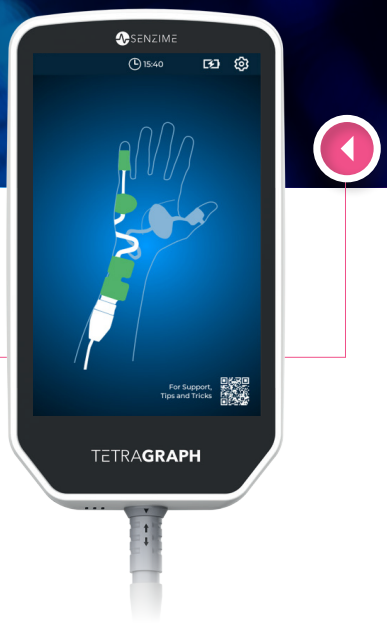
Automatic PTC™ on/off

Change view from Intubation Indicator to bar graph, EMG curve, or trend graph

Time until next measurement

Pause button

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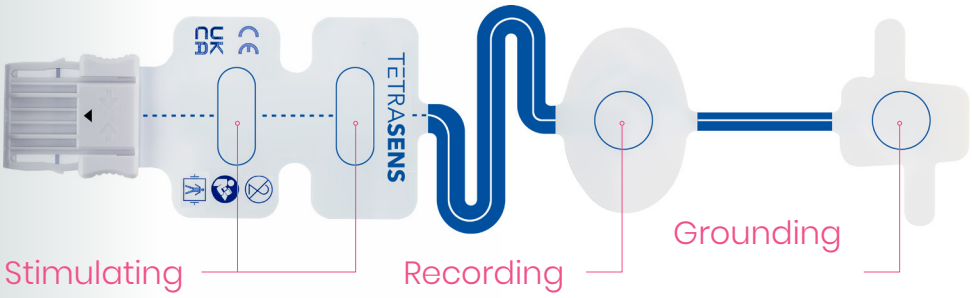


1 Setup

Turn on Monitor | If the monitor is not connected to power, ensure adequate battery charge.

2

Place Sensor | Prepare skin, place stimulating electrodes on ulnar nerve, attach recording electrode to Abductor Digiti Minimi (ADM) muscle or Adductor Pollicis (AP) muscle, and position grounding electrode away from recording electrode.





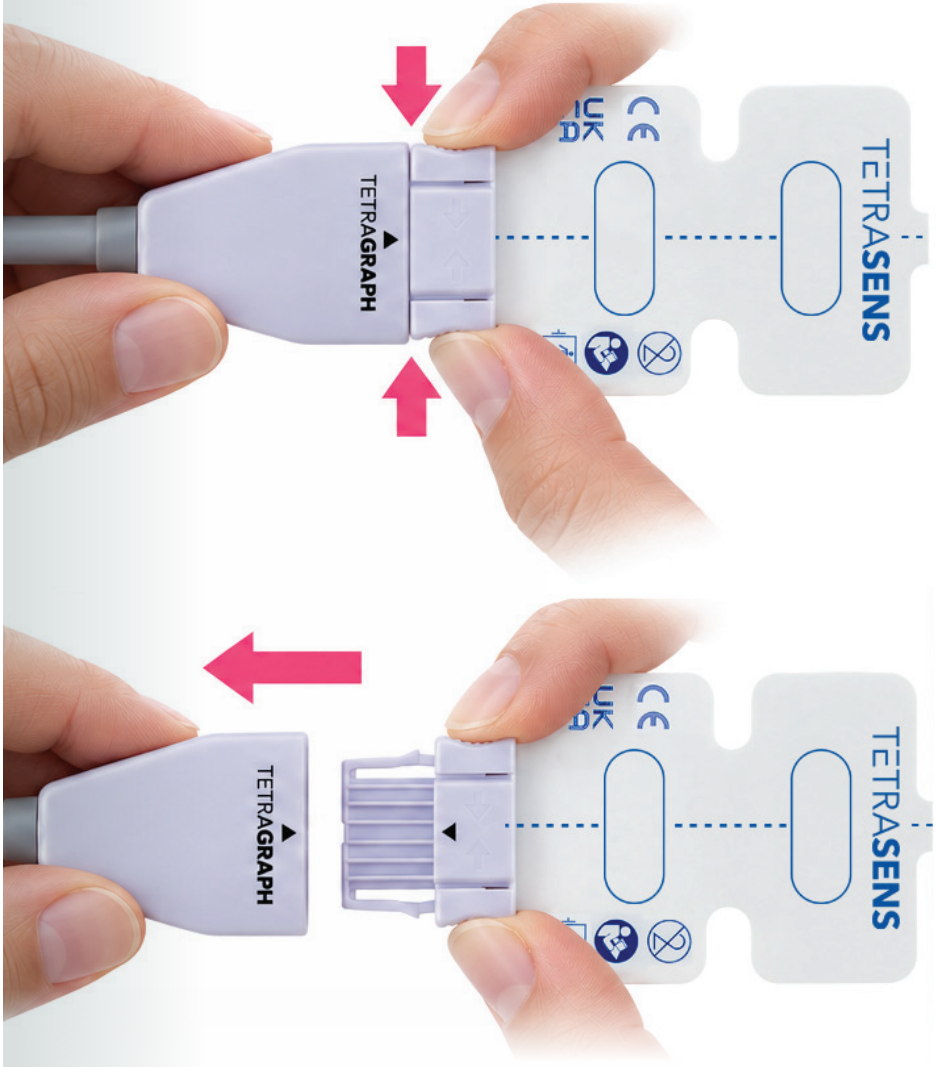
ADM AP FHB

Important:
Please read the complete TetraGraph User Manual, including warnings and cautions section, before operating the device to ensure safe and correct use.

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3

Connect Cable to Sensor | A quick, single click sound confirms a proper connection.

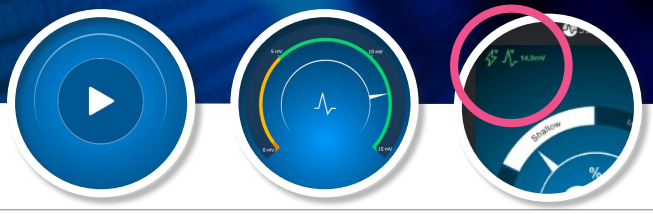


Disconnect the cable
Press both sensor wings
Press and hold both wings on the sensor connector

Pull the connector straight out
Keep the wings pressed and pull the connector straight out

Hold the connector, not the cable.

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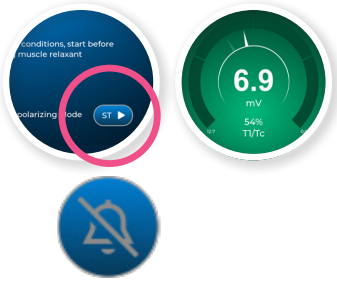


4 Intraoperative Monitoring

Press Auto Play | Press before administering NMBAs to optimize sensor placement feedback.

The monitor will automatically select the optimal stimulus and assess signal strength. Strive for 5 — 8 is great — as this signal strength indicates proper sensor placement.

During the case | The faded arrows move along the Level-of-Block Gauge as the depth of paralysis changes.



If using depolarizing agents: Select ST for Single-Twitch mode. The screen background will turn green to confirm activation.

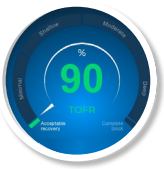
Press and hold the bell icon, then drag it to the desired threshold on the Level-of-Block Gauge. A visual alert is displayed when the threshold is reached, with an audible alert when enabled.

TetraGraph® Automatic PTC™
Automatic PTC enters Deep Block Mode when TOFC=0 and conditions are appropriate.



5 Confirm Recovery

Ensure Acceptable Recovery | Confirm TOFR ≥ 90% prior to extubation. Recovery may occur spontaneously or following administration of a reversal agent.



Predictive Recovery | TetraGraph estimates the likelihood of reaching TOFR 0.90 spontaneously within the next 15 minutes.

Five segments represent the predicted recovery period, with each segment corresponding to three minutes. Use Predictive Recovery to help guide if a reversal agent is needed or not.

Wait and Reassess

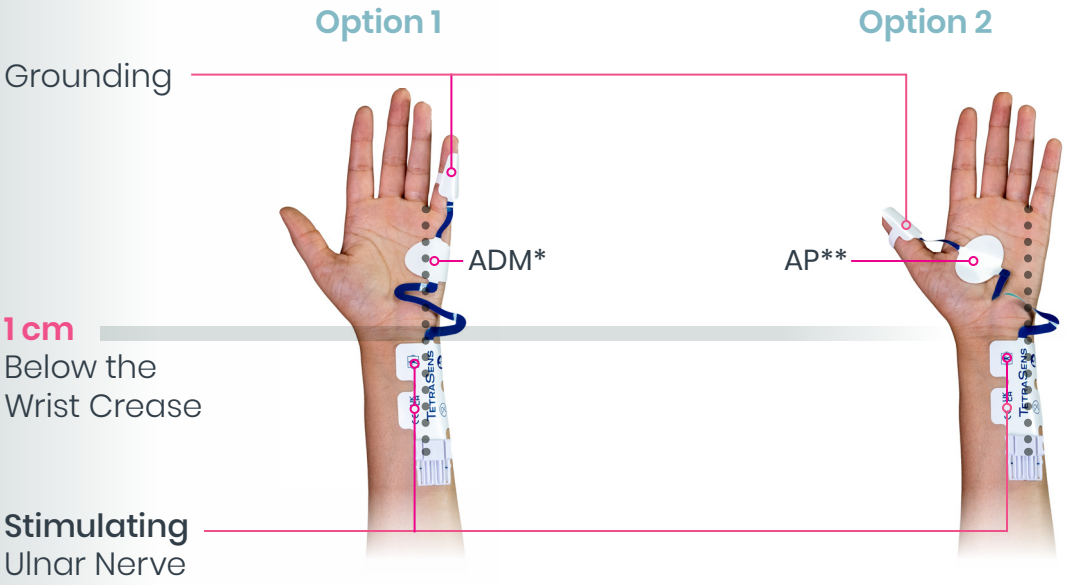


Consider Reversal

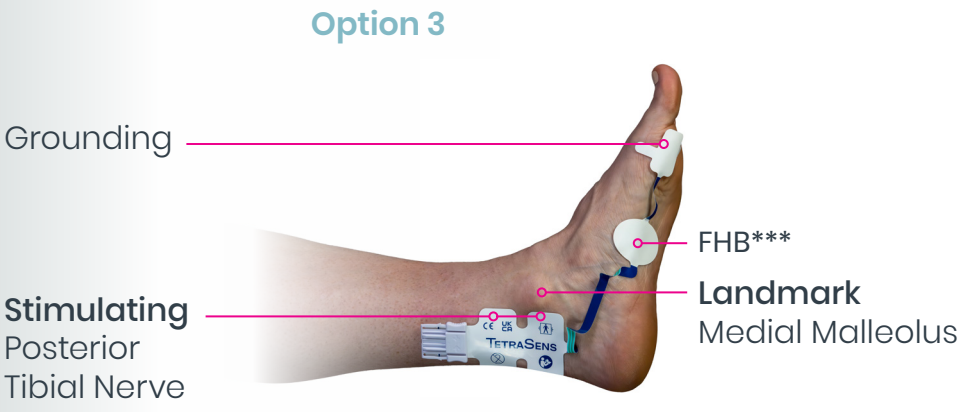


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Sensor Placement

Ulnar Nerve



Posterior Tibial Nerve



*Abductor Digiti Minimi muscle
**Adductor Pollicis muscle
***Flexor Hallucis Brevis muscle

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Level-of-Block Gauge™



Acceptable Recovery | TOFR ≥ 90%

Minimal Block | TOFR 40–89%

Shallow Block | TOFR < 40%

Moderate Block | TOFC 1–3

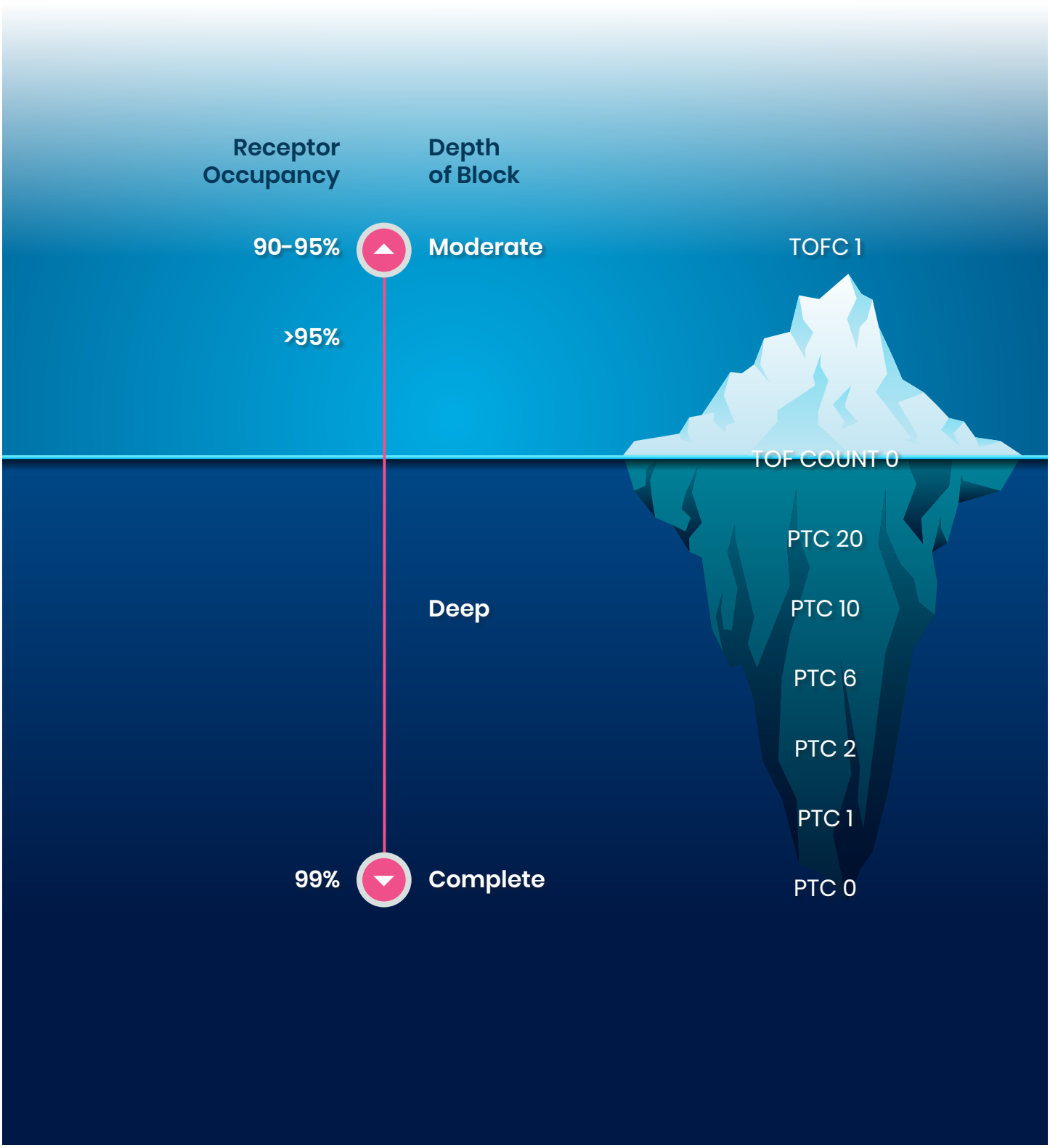
Deep Block | TOFC 0 with PTC 1–20

Complete Block | TOFC 0 with PTC 0

ASA Practice Guidelines on Neuromuscular Blockade, 2023.

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PTC: The Tip of the Iceberg



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Sensor Placement Feedback

Strive for **Five** | Eight is **Great**

Signal strength measures the strength (amplitude) of the first twitch. It is recommended to measure signal strength before administering muscle relaxants. If you start the device after NMBAs have been given, TetraGraph® will display an estimated signal strength.

After pressing Auto Play, TetraGraph will measure signal strength.



0 mV (red):
No signal—check placement

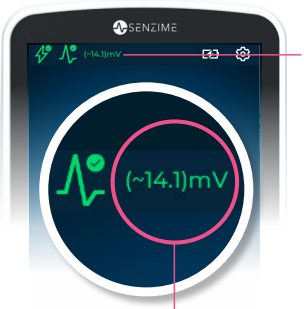
< 5 mV (orange):
Poor—consider repositioning of the sensor

≥ 5-8 mV (yellow-green):
Acceptable, reliable readings

≥ 8 mV (green):
Good, optimal readings



Sensor Connection Guidance
Automatic lead-off detection screen.



Throughout the case, signal strength is displayed in the upper-left corner of the screen. The corresponding icon indicates signal quality.

If you start the device after NMBAs have been given, **estimated signal strength** will be displayed in parentheses.

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Sensor Placement Matters

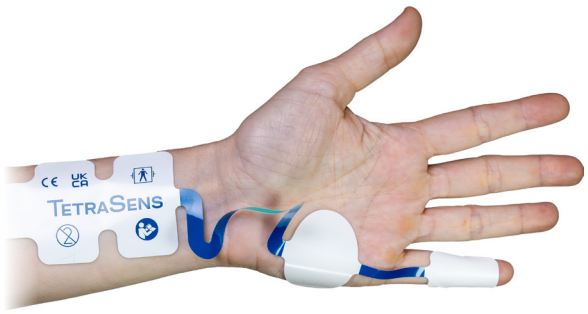
Good Signal Strength ≥5mV



Good placement on ulnar nerve.

Higher signal strength=higher intraoperative sensitivity

Low or No Signal Strength <5mV



Sensor placed in center of wrist, not over ulnar nerve



Sensor placed too far from wrist crease



Sensor placed on radial side, not over ulnar nerve

Paralytic Dosing & Reversal Management

Intubation & Intraoperative Management

Rocuronium Dosing Guidelines – Elective Intubation (Non-RSI)

Intubation Dose: Rocuronium Bromide 0.6 mg/kg (IBW)
- Dose adjusted for sex: Dose reduction for females (15%)
- Dose adjusted for age: For each year > 55 (1%/year)

Incremental Dosing
- 20% of ED_{95}Dose (ED_{95}Dose Rocuronium = 0.3 mg/kg)

Redosing Indications via Quantitative Monitoring

Redose @ TOFC of 3
- If profound block is necessary, redose at PTC 1.

Avoid total twitch loss (PTC of 0)
- Avoid redosing in last 30 minutes of the procedure

Extubation Timing
- TOFR ≥ 90% via Quantitative Monitor

Reversal Management

Quantitative TOF Value	Reversal Agent and Dose†
TOFR ≥ 90%	Reversal not required
TOFR > 40%	Neostigmine 40 mcg/kg (Max 5mg)*
TOFR < 40% **TOFC 3, 2, or 1**	Sugammadex 2 mg/kg**
TOFC 0 **PTC ≥ 1** **PTC 0** (non-emergent)	Sugammadex 4 mg/kg**
PTC 0 (emergent) Can't intubate/ventilate	Sugammadex 16 mg/kg**

†After Rocuronium or Vecuronium

This guide is based on published literature. Clinicians should use their own judgment.

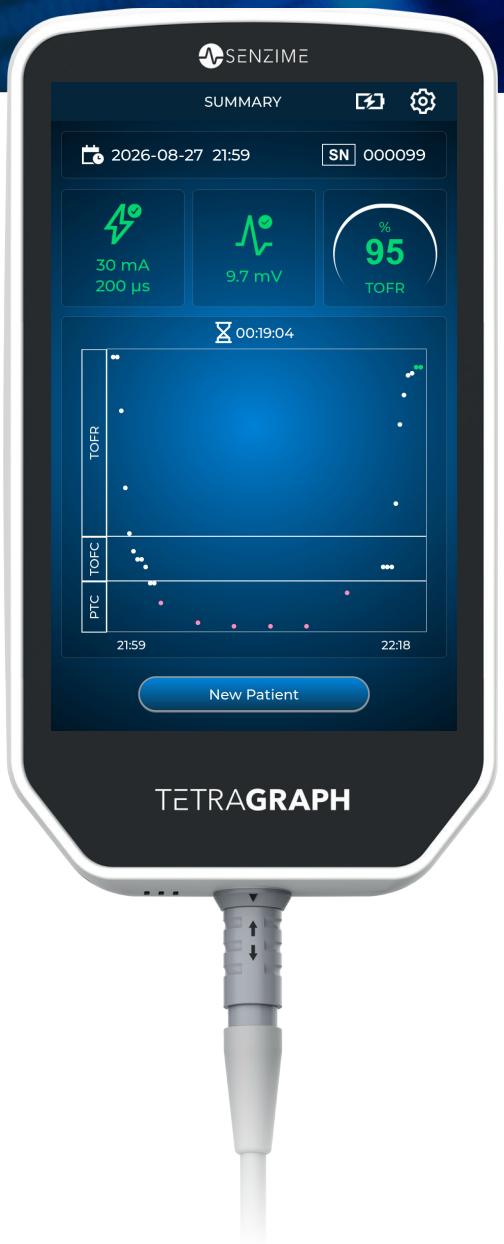
*Neostigmine dosed on Ideal Body Weight; Neostigmine requires time to work; time reversal with expected extubation time. If ≥ 90% TOFR is not achieved in **15 minutes**, dose with 2 mg/kg Sugammadex and confirm 90%

**Sugammadex dosed on Actual Body Weight. .

1. S. R. Thilen et al., *Anesthesiology*. 138, 13–41 (2023).
2. Merck & Co., Inc., Bridion® dosing considerations.

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End of Case Summary
Displays an overview of the case, including case duration, stimulation setting, signal strength, final measurement, and trend when the case was paused or stopped.



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