Medtronic
Engineering the extraordinary

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NIM-ECLIPSE™

Intraoperative neuromonitoring system

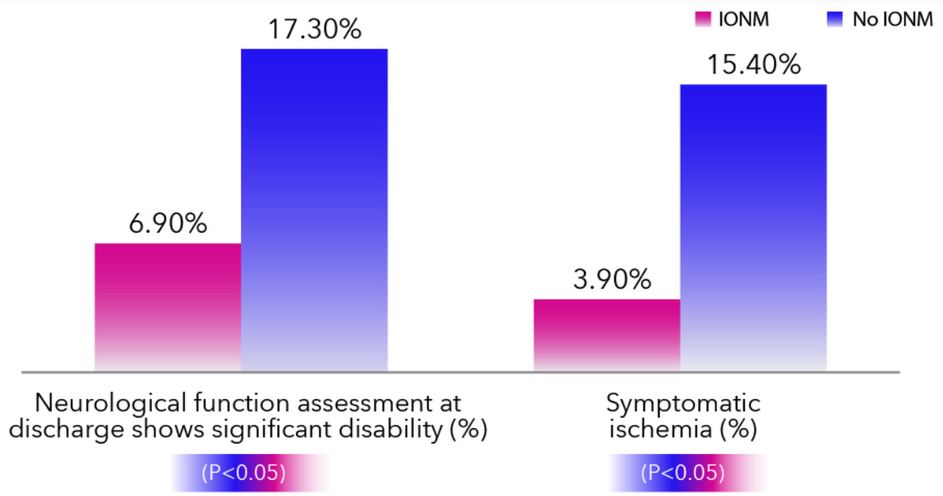
Safe and reliable neuromonitoring for patient's surgery

*The information here is meant just for learning and sharing among medical professionals, and it's not meant to advertise anything Any product information is only provided to show how to use them properly

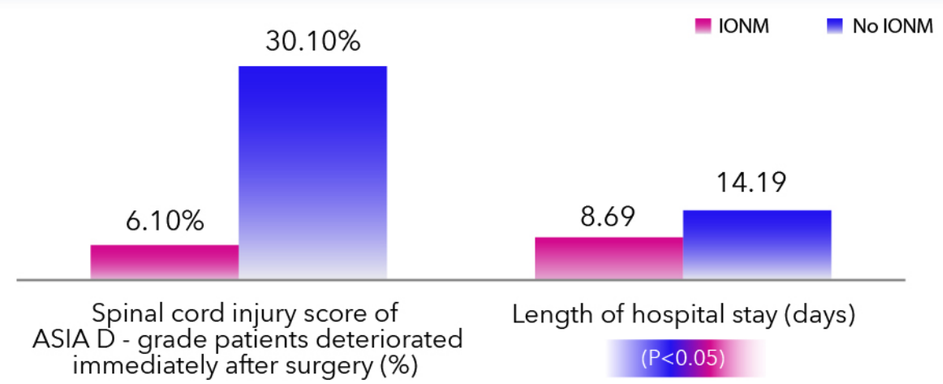
IONM provides real-time monitoring & reduces the injury risk

IONM is widely used in neurosurgery and spinal orthopedic surgeries.

Neurosurgery: IONM can reduce nerve injury to patients and lower the probability of symptomatic ischemia[1].



Spinal Orthopedics: IONM can reduce the possibility of intraoperative neurological function impairment and shorten the postoperative hospital stay[2].



1. Skrap B, Di Bonaventura R, Di Domenico M, Sturiale CL, Auricchio AM, Maugeri R, Giammalva GR, Iacopino DG, Olivi A, Marchese E, Albanese A. Has intraoperative neuromonitoring changed the surgery for unruptured middle cerebral artery aneurysms? A retrospective comparative study. Neurosurg Rev. 2023 Aug 3;46(1):191. doi: 10.1007/s10143-023-02099-w. Erratum in: Neurosurg Rev. 2023 Aug 24;46(1):209. doi: 10.1007/s10143-023-02117-x. PMID: 37535200; PMCID: PMC10400477.
2. Baig Mirza A, Vastani A, Syrris C, Boardman T, Ghani I, Murphy C, Gebreyohanes A, Vergani F, Mirallave-Pescador A, Lavrador JP, Kailaya Vasan A, Grahovac G. Intraoperative Neurophysiological Monitoring for Intradural Extramedullary Spinal Tumours. Global Spine J. 2024 May;14(4): 1304-1315. doi: 10.1177/21925682221139822. Epub 2022 Nov 21. PMID: 36411068; PMCID: PMC11289564.

The clinical value of IONM has been gradually recognized

Neurosurgery

PRACTICE GUIDELINES FOR THE SUPERVISING PROFESSIONAL_INTRAOPERATIVE NEUROPHYSIOLOGICAL MONITORING (2018)

IONM can assess neural integrity and guide navigation in at-risk neural structures during surgery.

RECOMMENDATIONS OF THE INTERNATIONAL SOCIETY OF INTRAOPERATIVE NEUROPHYSIOLOGY FOR INTRAOPERATIVE SOMATOSENSORY EVOKED POTENTIALS (2018)

Intraoperative SEPs provide valuable dorsal somatosensory system functional and localizing information.

Spinal Orthopedics

GUIDELINES FOR THE USE OF ELECTROPHYSIOLOGICAL MONITORING FOR SURGERY OF THE HUMAN SPINAL COLUMN AND SPINAL CORD (2012)

Multimodality intraoperative monitoring , including somatosensory evoked potentials and motor evoked potentials recording, during spinal cord/spinal column surgery is a reliable and valid diagnostic adjunct to assess spinal cord integrity and is recommended if utilized for this purpose.

EVIDENCE-BASED GUIDELINE UPDATE: INTRAOPERATIVE SPINAL MONITORING WITH SOMATOSENSORY AND TRANSCRANIAL ELECTRICAL MOTOR EVOKED POTENTIALS (2017)

IOM is established as effective to predict an increased risk of the adverse outcomes of paraparesis, paraplegia, and quadriplegia in spinal surgery.

*IONM: Intraoperative neurophysiological monitoring
*IOM: Intraoperative monitoring
*SEPs: Somatosensory evoked potentials

IONM benefits each player in healthcare system

Patient

- Lower nerve damage
- Reduce recovery and hospitalization time

Hospital

- Reduce the risk of surgical revision

Surgeon

- Improve surgical confidence
- Perform complex/minimally invasive surgery

Neurophysiologist

- System support makes monitoring easy to handle
- Remote monitoring helps to solve neuro-physiologist resource

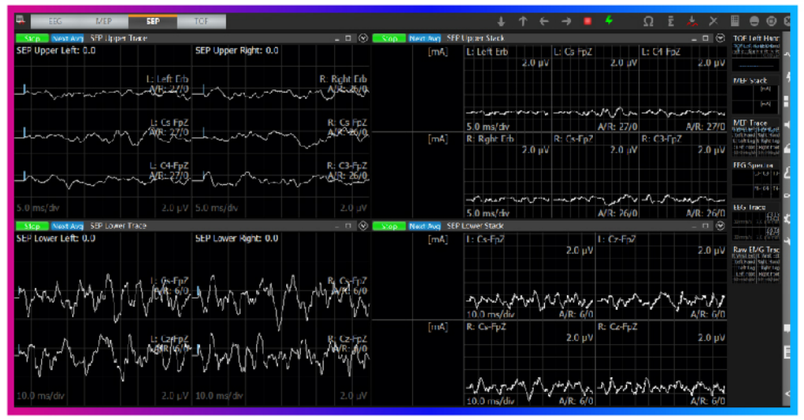
NIM-ECLIPSE™ 2-in-1 system

SD (Surgeon Directed) Mode

- 8-channel recording
- Specifically designed for surgeons, it allows direct operation by doctors
- User-friendly interface and easy to use

NS (Neurophysiologist Supported) Mode

- 16 & 32 -channel recording
- Comprehensive neuro-monitoring solution
- Versatile for spinal, neurosurgery procedures etc.



Unique SD mode to help surgeon operate directly

· Designed to be easily set up and quickly get you started

1. Connect color-coded electrodes to OPM
2. Place electrodes with the guidance of SD software
3. Select from a list of predefined protocols
4. Operate in sterile field with surgeon-controlled probe
5. Run automated pedicle screw test, neural proximity test, etc.

· Color-coded & integrated box

An 8-channel patient monitoring interface box with colored identification, which integrate preamplification and stimulation modalities

· Surgeon-controlled probes

Allow surgeons to operate directly in the sterile area

· Illustrated guidance

Convenient for beginners to start surgeries quickly

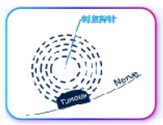
Comprehensive NS mode for simple / complex surgeries

· Preset procedure protocols & parameters

Meet various surgical needs and user-friendly

· Preamplifier A/D conversion

Enhance signal integrity and accuracy



· Neural proximity test

Identify potential nerves and protect nerve function

· User friendly Design in software

Active modalities during surgery
Parameters change on the fly
Add/Delete modality without stopping monitoring
Automatically generates summary reports

Safe and reliable neuromonitoring for patient's surgery

Expert

- SD/NS modes for different applications
- Comprehensive monitoring modalities
- Highly integrated hardware for OR Scenario
- Synergy surgery with Navigation & Power tools

Intuitive

- Easy workflow
- Predefined monitoring modules & parameter
- Multi-window & Screen customization
- Seamless experience for Neurophysiologist

Extensible

- Option of 8/16/32 Channels
- Option of All-in-one panel cart & Laptop
- Comprehensive disposables