Neuromonitoring

- Anti-shivering Drug Influences the Characteristics of Electroencephalographic Shivering Noise During Targeted Temperature Management: A Case Report
- Multimodality Monitoring for the Management of Severe Traumatic Brain Injury
- Continuous video recording with simultaneous amplitude-integrated EEG monitoring to improve seizure recognition in newborns
- Deformation of brain in normal pressure hydrocephalus is more readily associated with slow vasomotion rather than heartbeat related pulsations of intracranial pressure
- Assessment of Pupillary Light Reflex Alterations in Pediatric Diabetic Ketoacidosis-Induced Encephalopathy: A Retrospective Analysis Using Quantitative Pupillometry
- Traumatic central cord Syndrome: An integrated neurosurgical and neurocritical care perspective
- Traumatic brain injury management in the intensive care unit: standard of care and knowledge gaps
- Intraoperative neurovascular considerations for efficient intraventricular meningioma surgery: illustrative case

Neuromonitoring refers to the continuous or periodic monitoring of physiological parameters related to the nervous system. The goal of neuromonitoring is to assess the function and integrity of the nervous system in real-time, allowing clinicians to detect abnormalities or changes in neurological status and make timely decisions regarding patient care. This can be particularly important in critical care settings, surgeries involving the nervous system, or other situations where monitoring neurological function is crucial.

Aspect	Neuromonitoring (IONM)	Multimodal Neuromonitoring (MMN)
Definition	The use of **one** neurophysiological technique to monitor nervous system function.	The **simultaneous use of two or more** neuromonitoring modalities.
Examples	* SSEPs during spine surgery * EEG in carotid surgery	* SSEPs + MEPs + EMG in scoliosis surgery * MEPs + mapping in glioma
Goal	Monitor a **single functional system** (e.g., sensory or motor).	Monitor **multiple neural systems** for broader safety.
Use Cases	* Low-risk spine procedures * Resource-limited settings	* Complex brain/spinal surgeries * Brainstem or eloquent cortex lesions
Sensitivity	Lower — may miss deficits if only one pathway is monitored.	Higher — cross-checking between modalities improves detection.
Personnel Required	Usually one technologist or neurophysiologist	Typically a team (tech + neurophysiologist + surgeon coordination)
Cost and Setup	Less resource-intensive	More equipment, time, and expertise required

Neuromonitoring techniques

Neuromonitoring techniques.

Neuromonitoring indications

Neuromonitoring indications.