NIM NERVE MONITORING SYSTEMS

Intraoperative NIM nerve monitoring systems enable surgeons to identify, confirm, and monitor motor nerve function to help reduce the risk of nerve damage during various procedures, including ENT and general surgeries.



**NIM-Response 3.0 for ENT surgery**

NIM 3.0 NERVE MONITORS

Based on more than 20 years of experience, the NIM-Response® 3.0 and NIM-Neuro® 3.0 offer advanced nerve monitoring technology with an easy-to-use interface. NIM® systems monitor EMG activity from multiple muscles. If there is a change in nerve function, the NIM system may provide audible and visual warnings to help reduce the risk of nerve damage.

Our NIM 3.0 systems feature an intuitive touchscreen, three simple user modes, and default or custom settings. They also offer:



**NIM-Neuro 3.0 for neurotology**

* Monitoring during bipolar cautery
* Artifact detection software
* [Stim Bur](https://www.medtronic.com/it-it/operatori-sanitari/products/ear-nose-throat/nerve-monitoring/nim-nerve-monitoring-systems/related-nerve-monitoring-products.html#stimbur) integration for the Visao® Drill
* Real-time continuous monitoring with the [APS® Electrode](https://www.medtronic.com/it-it/operatori-sanitari/products/ear-nose-throat/nerve-monitoring/nim-nerve-monitoring-systems/related-nerve-monitoring-products.html#aps)
* Control from the surgical field
* Multiple USB ports for easy documentation

CHOOSE YOUR NERVE MONITORING SYSTEM

NIM-RESPONSE 3.0

* Monitors up to four channels of nerve-muscle combinations at a time
* Frequently used in ENT surgery, skull-based, and head and neck procedures

NIM-NEURO 3.0

* Monitors up to eight channels of nerve-muscle combinations
* Typically used during complex and delicate surgeries, such as glomus or acoustic tumor removals
* Microscope overlay imports the NIM signal through select high-end microscopes as the surgeon operates

ONGOING SERVICE AND SUPPORT

Upon installation of our NIM Nerve Monitoring System, we provide thorough on-site training for you and your staff, as well as ongoing service and training as needed – including a dedicated [NIM HelpLine](https://www.medtronic.com/it-it/operatori-sanitari/products/ear-nose-throat/nerve-monitoring/nim-nerve-monitoring-systems/manuals-technical-resources.html).

HOW IT WORKS



Our NIM® Nerve Monitoring System is an electromyographic (EMG) monitor for intraoperative use during various surgeries, including ENT and general surgical procedures in which a nerve may be at risk due to unintentional manipulation. NIM nerve monitoring electrodes are placed in the appropriate muscle locations in the patient for the procedure being performed. (Color-coded placement guides are included in the NIM software.)

These electrodes are connected to the NIM Nerve Monitoring System, which continuously monitors EMG activity from muscles innervated by the affected nerve. When a particular nerve has been activated or stimulated, the NIM System warns the surgeon and operating room staff, providing both visual alerts on the color touchscreen monitor and audio feedback to help minimize trauma to the nerve.

Surgeons can use monopolar and bipolar stimulating probes and dissection instruments with the NIM Nerve Monitoring System to assist in early nerve identification and confirmation. These tools may be used to locate, identify, and map the particular nerve and branches, as well as verify nerve function and integrity.

By combining sophisticated hardware electronics and intuitive software, our NIM Nerve Monitoring Systems help surgeons perform critical procedures while preserving nerve function and improving patient safety.

WHY NERVE MONITORING IS NEEDED

### NERVE INJURY DURING ENT, HEAD AND NECK, AND OTHER SURGERIES

Even with a detailed knowledge of anatomy and surgical skill, motor nerves can sometimes be difficult to identify during surgery due to disease, a previous operation, or normal anatomical variations.

Patients can suffer temporary or permanent damage if a nerve is irritated or injured. For example, during [skull-based surgery](https://www.medtronic.com/it-it/operatori-sanitari/therapies-procedures/ear-nose-throat/otology-neurotology-lateral-skull-base-surgery.html), the facial nerve is commonly exposed and at risk for injury. Since this nerve controls all movements and expressions of the face, damaging this nerve can have devastating physical and emotional results.

Sometimes minor irritation or stretching of the facial nerve can lead to temporary or permanent symptoms of nerve damage, such as facial weakness, numbness, or twitching. Severing the facial nerve, although rare, causes facial paralysis that resembles the effects of a stroke.

Similarly, the recurrent laryngeal nerve, a branch of the vagus nerve, is one of the nerves at risk during neck dissections, including [thyroid surgery](https://www.medtronic.com/it-it/operatori-sanitari/therapies-procedures/ear-nose-throat/head-neck-surgery.html). Damaging this nerve can severely affect an individual’s ability to speak, swallow, and aspirate. Clinical evidence demonstrates the benefits of intraoperative nerve monitoring for nerve preservation and as a risk-minimizing tool.1-13

Medtronic’s NIM® Nerve Monitoring Systems help surgeons locate and identify the nerve, monitor and control manipulation effects on the nerve, and confirm nerve integrity prior to completing the surgery.