

Neuromonitoring in ENT surgery

In parotid surgery, iatrogenic injury can be significantly reduced by neuromonitoring

Otorhinolaryngological surgery is delicate, complex and highly precise, as for example in surgery of the parotid gland. Protection of the branches of the facial nerve, which pervade the parotid in a fan-shaped arrangement, represents a particular challenge for surgeons. For many years, intraoperative neuromonitoring (IONM) has been a well-established method to help surgeons to monitor and localise nerve fibres in the surgical area and control their function in order to increase patient safety.

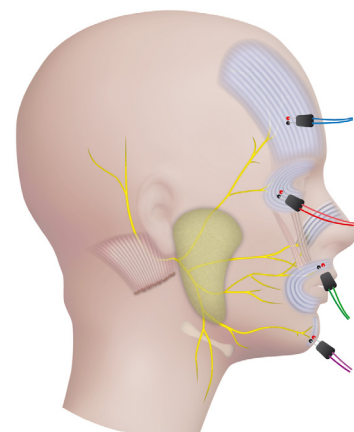


SAVING NERVES – MINIMISING RISKS

In parotid surgery, the facial nerve is at risk. Thanks to facial nerve monitoring, damage to the delicate nerve branches within the parotid and its immediate surroundings can be avoided.

Neuromonitoring is used in **two ways**:

- » Signals and spontaneous activities resulting from contact of the surgical instruments with the nerve branches and from mechanical manipulation of the nerves are indicated acoustically and visually.
- » Hand-held probes can be used to locate and indicate individual nerve branches within the parotid. These instruments stimulate the nerves electrically. The resulting muscle contractions are reported visually and acoustically.



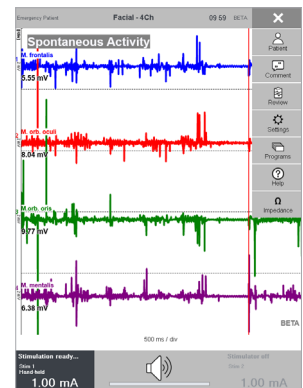
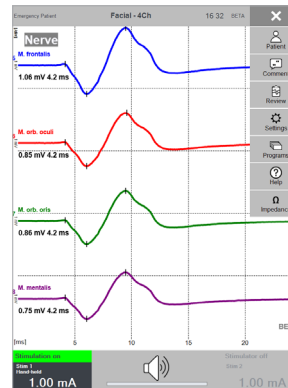
Where tympanoplasty is performed or a cochlear implant inserted, inomed's neuromonitoring is a useful tool that helps prevent nerve injury during milling near the bony facial canal. During mastoidectomy procedures, neuromonitoring techniques are used to reduce the risk of nerve injury during milling in the vicinity of the bony facial canal.



Measurement mode

A hand-held stimulation probe locates nerve branches during surgery, and their function is monitored throughout the procedure.

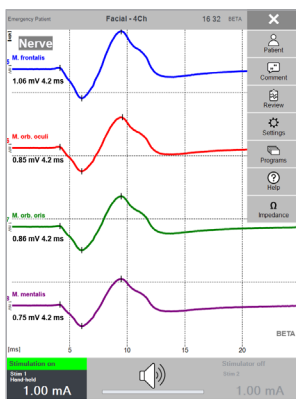
Bipolar probes are highly selective and can be used to monitor nerve branches and their function in the immediate vicinity, whereas monopolar probes have a wider field of action. Electrodes are placed in the corresponding indicator muscle to record electrophysiological signals. If there is any significant change in the amplitude or latency of the muscle responses during surgery, the surgeon is informed visually and acoustically. This also happens if spontaneous activity should occur. Any spontaneous activity detected is automatically recorded and can be annotated for documentation.



HL7-Ready



Network communication based on the **HL7 standard** for synchronization with the hospital management system.



or



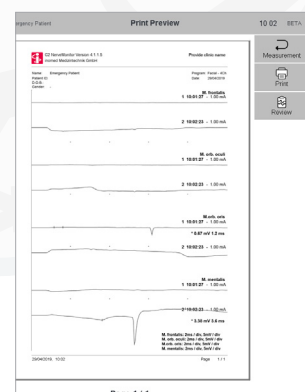
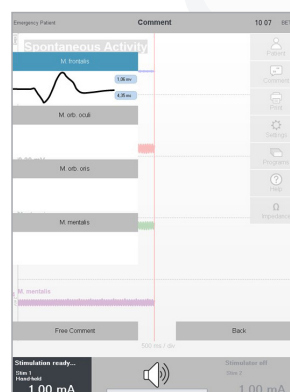
Channel Ident

Intuitive channel identification thanks to individual acoustic output.

The different channels can be clearly identified acoustically by their sound. The channel with the highest detected EMG amplitude is always the one to give acoustic signal. The user can freely choose whether the sounds are to be assigned to the channels from high to low or from low to high. The Channel Ident function is available for triggered EMG signals.

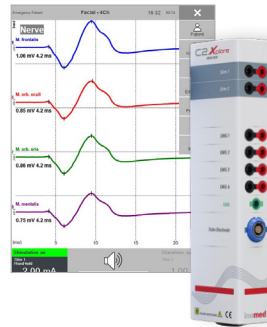
Documentation

Thanks to the intuitive comment function of the C2 software, all relevant events can be controlled at any time, also retrospectively.





Art. No. **508 288**
C2 Xplore
 for intraoperative nerve monitoring. Easy to use Neuromonitor with two integrated stimulation channels, loudspeaker, footswitch and mains lead



Art. No. **508 541**
Application package „Thyroid and ENT“
 consisting of software license „Thyroid and ENT“, Head Box and license for 4-Channel recording



Art. No. **510 025**
Mute sensor
 to suppress HF interference signals, cable length 5 m
 › Delivered non-sterile
 › Disinfectable

› STIMULATION

Art. No. **522 610**

Art. No. **522 603**

Art. No. **525 603**



Micro Fork Probe straight
 fork distance 2 mm, fork length 3 mm, 1.5 mm touchproof connector, work element length 45 mm, cable length 3 m
 › Single use
 › EO sterilized



BCS Probe, bipolar concentric, angled 30°
 1.5 mm touchproof connector, work element length 45 mm, cable length 3 m
 › Single use
 › EO sterilized



Stimulation Probe, monopolar, angled 30°
 active tip 2 mm, with SDN counter electrode, 1.5 mm touchproof connector, work element length 45 mm, cable length 3 m
 › Single use
 › EO sterilized



› RECORDING

2-channel set for 5 applications

4-channel set for 4 applications



Art. No. **534 641**
 electrodes blue/yellow



Art. No. **534 643**
 electrodes blue, yellow, grey, violet



Art. No. **534 671**
 electrodes blue/red



Double Needle 2-channel set
 with SDN Trigon electrode green, 5 electrodes each, blue/yellow or blue/red, 1.5 mm touchproof connector, needle length 12 mm, needle distance 2.5 mm
 › Single use
 › EO sterilized

Double Needle 4-channel set
 with SDN Trigon electrode green, 4 electrodes each blue, yellow, grey, violet, 1.5 mm touchproof connector, needle length 12 mm, needle distance 2.5 mm
 › Single use
 › EO sterilized