pIOM®

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Pelvic intraoperative Neuromonitoring

C2Xplore

One step ahead in IONM

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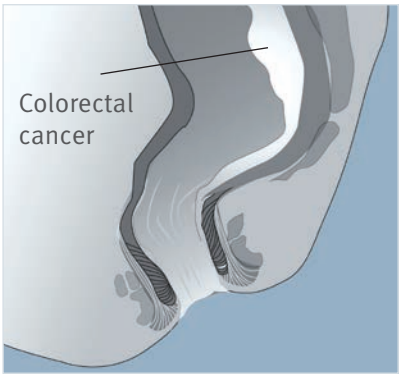
Neuromonitoring in colorectal surgery

Improved patient safety thanks to neuromonitoring of autonomic nerves

After more than twelve years of clinical research, it is now possible to localise the complex nerve structures of the autonomic nervous system in the pelvis minor and monitor their function by using the german patented pIOM® technology. Many interventions in the field of colorectal surgery which pose a risk to the complex autonomic nervous system are possible as fields of application (e.g. total mesorectal excision and resection rectopexy).

APPLICATION EXAMPLE: **TME**



Rectum with colorectal cancer

The pelvic neuromonitoring is a useful addition to the method of total mesorectal excision (TME). The **pIOM®** technology allows a more gentle surgery especially for the nerves than the normally used maximal resection. Function of the continence organs is intraoperatively monitored using the **pIOM®** technology for pelvic neuromonitoring. Therefore, the risk of nerve injury and neurogenic sequelae may potentially be minimised.
The stimulation site in the minor pelvis is the inferior hypogastric plexus and the pelvic splanchnic nerves. Urogenital and anorectal function is monitored by bladder pressure measurement and monitoring of the internal anal sphincter activity.

The procedure is simple for the surgeon and does not cause considerable surgical delay.[1]

Better quality of life for patients after surgical interventions in the pelvis minor

Statistics for postoperative anorectal and urogenital functional disorders show that a majority of patients suffer from **incontinence. and sexual dysfunction** after surgical interventions in the pelvis minor.[2]

RECTAL cancer is one of the most common forms of cancers worldwide. **pIOM®** technology can help preserve the functions inside the pelvis minor after surgery despite invasive therapy.[3]

[1] Wałęga P. et al. "Intraoperative neuromonitoring of hypogastric plexus branches during surgery for rectal cancer - preliminary report," Polski przeglad chirurgiczny, 89/2 (2017)
[2] Lent V., Junginger T., Nervenstörungen der Harnblasen- und Sexualfunktionen nach Rektumresektionen und -extirpationen, Chirurgische Allgemeine Zeitung, 12 (2012)
[3] Kauff D.W., Kneist W., Risk Factor Analysis for Newly Developed Urogenital Dysfunction after Total Mesorectal Excision and Impact of Pelvic Intraoperative Neuromonitoring - a Prospective 2-Year Follow-Up Study, Journal of Gastrointestinal Surgery, 6 (2017)

pIOM® Software application

» German patented technology

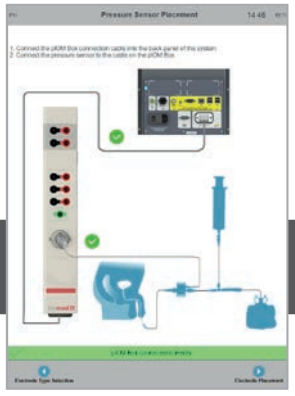
The user is guided through the intraoperative monitoring process step by step, beginning with entering the patient's data and ending with the final record for the patient's file.

WIZARD STRUCTURE

1 **Entry of patient data**

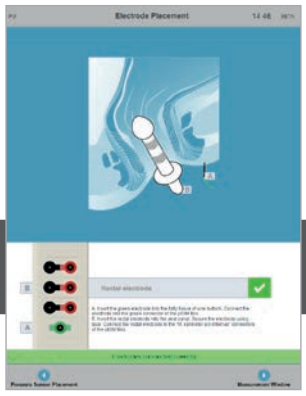
2 **Selecting type of electrode**

3 **Placing pressure sensor**

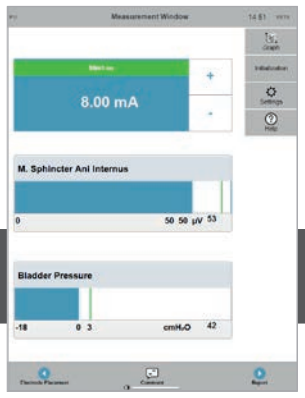


4 **Electrode placement Needle electrodes**

Rectal electrode



5 **Measurement**



6 **Documentation**

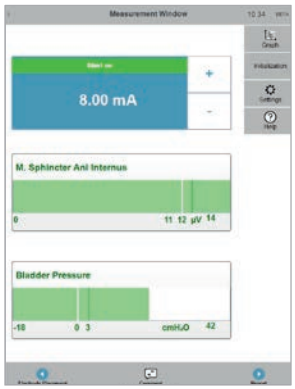
7 **Report**

APPLICATION FIELD

Rectal surgery

Measurement mode

pIOM®



The anorectal function is monitored in realtime: needle electrodes are placed in the internal and external anal sphincter. Alternatively, a non-invasive rectal electrode can be used for easier pre-operative preparation.

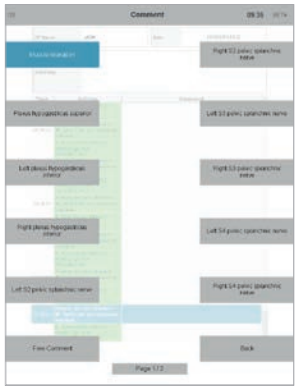
The urinary function is monitored with the help of a pressure sensor which is placed as a complete connection set between the urinary catheter and the urine bag.

Stimulation of the pelvic nerves is carried out using a specially developed hand probe. The surgeon is able to localise the individual nerve branches and monitor their function.

If any activity occurs, the surgeon will be notified immediately visually and acoustically. Different events are processed and displayed in the form of colour bars. At the same time, a continuous acoustic signal indicates the electrical current flow during stimulation.

Documentation

C2 **pIOM®** software automatically stores all events and comments and lists them in the report. The user can therefore review each individual stimulation response at any time, also retrospectively.



pIOM® Literature

APPLICATIONFIELD
Rectal surgery

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pIOM® Accessories

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. 508 543
Application package pIOM®
consisting of software license “pIOM”, pIOM Box and license for 4-Channel recording

Art. No. 520 335
pIOM® Set with SDN electrodes
complete set consisting of a catheter connection set for bladder pressure measuring, SDN electrodes, fork probe 400mm
› single-use only
› EO sterilized

Art. No. 520 336
pIOM® Set with rectal electrode
complete set consisting of a catheter connection set for bladder pressure measuring, rectal electrode, fork probe 400mm
› single-use only
› EO sterilized

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Competence in neuro

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