Individualised medical device technology through research
Future-oriented impulses in the restoration of digestive dysfunctions

On November 1st the joint project “Neuromodulation of peristalsis to support digestion” (NEPTUN) started under the direction of inomed Medizintechnik GmbH. In collaboration with the project partners “Multi Channel Systems MCS GmbH”, “Scientific and Medical Institute NMI” and the “University Department of General, Visceral and Transplant Surgery” at the “Medical Faculty of Tübingen”, inomed will investigate innovative solutions to eliminate digestive dysfunctions on the basis of electrical stimulation within the next three years. The project volume amounts to 2.3 million euros and will be sponsored with 1.5 million euros from the German Federal Ministry of Education and Research (BMBF) in the Health Research Framework Programme of the health economics area of action. The research in the NEPTUN project forms the basis for product developments to increase the quality of life of persons affected.

Innovative electrical stimulation replaces major surgical interventions

Autonomic nerves of the pelvis control the digestive functions. Pathological changes impair the peristaltic (muscle activity of the intestine to transport the partially digested food) of persons affected, which can cause conditions such as constipation, incontinence and obesity.
Existing methods to relieve these health problems are unsatisfactory. Most often, symptoms are controlled by medical therapies or major surgical Interventions, such as removing a large portion of the healthy digestive tract and can be seen as the only options to improve quality of life.

Defective neural regulation can be seen as the underlying mechanism of these dysfunctions, which is why the healthy organs cannot perform properly. To restore normal functions, the NEPTUN research project aims to develop implants designed to perform neuromodulation at the right location. The implants are used to generate future knowledge and form the basis of patient individual therapies.

inomed expertise to preserve autonomous nerves

The investigation of these implants is based on electrical stimulation of neural structures by a highly flexible array of electrodes. To protect these nerves and prevent damage in consequence, the well-known neuromonitoring systems are used within the subproject of inomed (funding code 13GW0271A). As a participant in many future-oriented research projects, inomed with its experience and expertise in the field of autonomic nerves acts as an experienced partner within the NEPTUN project.

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Further information: www.inomed.com
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