TECHNOLOGY TRANSFER

LICENSING OPPORTUNITIES

Fondazione IRCCS Ca' Granda Ospedale Maggiore Policlinico

Sistema Socio Sanitario

Regione Lombardia

NON-INVASIVE VAGUS NERVE STIMULATION FOR THE TREATMENT OF CHRONIC PAIN

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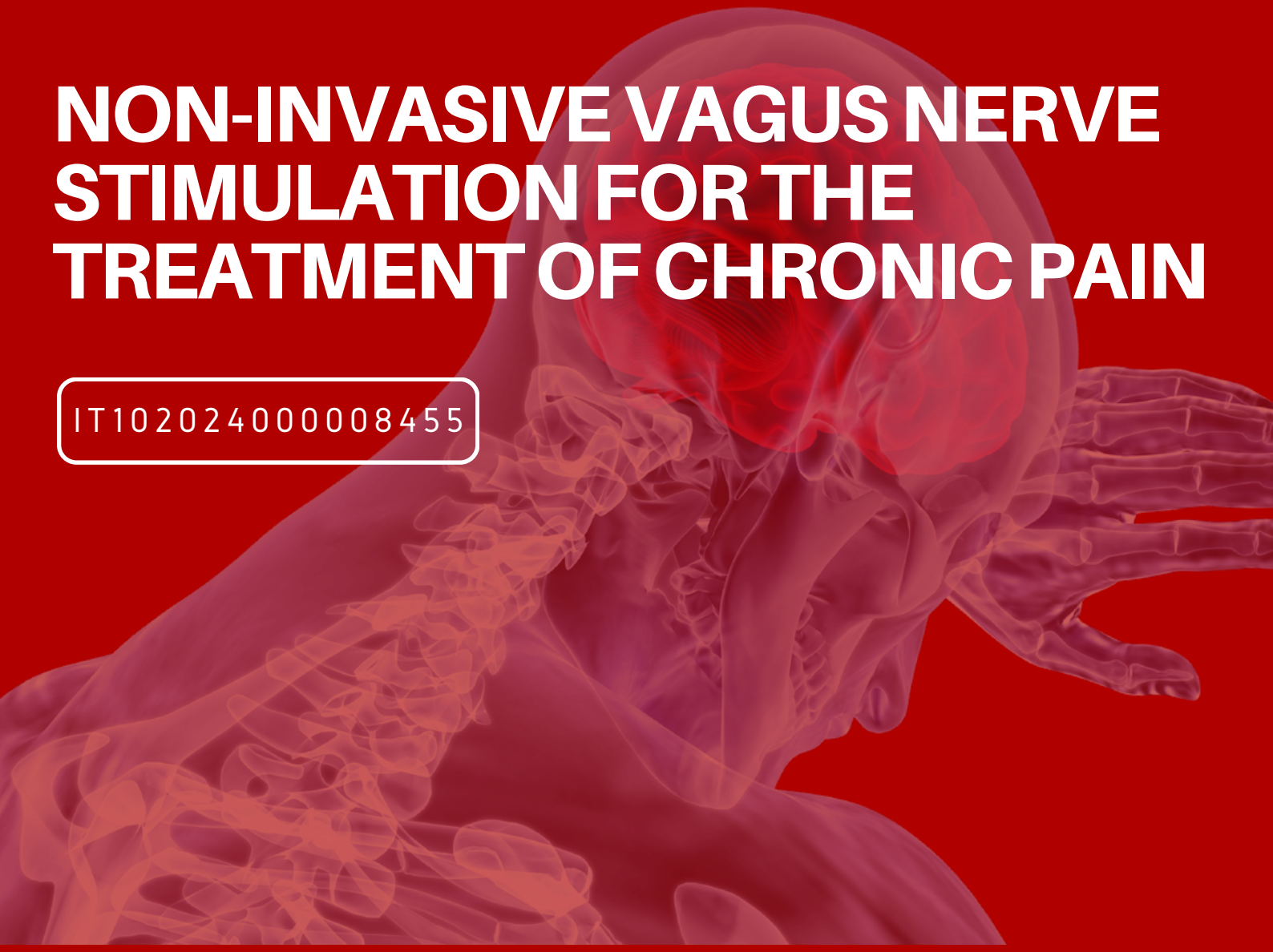

Applications:
- Non invasive transcutaneous auricular vagus nerve stimulation (taVNS).
- Chronic pain treatment.

Key benefits:
- Unbeatable comfort
- Bespoke treatment
- Time efficacy
- Treatment compliance among younger patients
- taVNS adoption in paediatric population

Offer:
- Licensing out.
- Co-Development.

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NON-INVASIVE VAGUS NERVE STIMULATION FOR THE TREATMENT OF CHRONIC PAIN

INVENTION

Highly personalized non-invasive vagus nerve stimulation innovative device for the treatment of chronic pain.

BACKGROUND

The transcutaneous auricular vagus nerve stimulation (taVNS) represents an important neuromodulation technique that directly targets the Vagus Nerve by applying a low-intensity electric current to specific areas of the ear's skin. Despite its potential, there are several limitations to the diffusion of taVNS in clinical practice:

- the instability and discomfort associated with electrode placement at the ear level often lead to interruption of stimulation sessions. This drawback restricts the use of the stimulator primarily to stationary activities;
- the lack of treatment personalization, in terms of stimulation parameters and performance modality;
- the daily treatment time results lengthened, both due to the precarious positioning of the electrodes and a non-optimal stimulation mode.

TECHNOLOGY

Policlinico Hospital researchers developed an innovative compact and wireless device for the optimization and personalization of taVNS gated on diaphragmatic activity. In contrast to the traditional non-gated stimulation, this approach significantly increases the therapeutic efficiency, as it aligns the stimulation with the natural firing activity of the vagus nerve, and reduces daily treatment time. VagusFlex offers a new safe and comfortable option for non-invasive vagus nerve stimulation. Our design prioritizes user-friendliness, specifically targeting both children and young adults, and allows patients the freedom to move during treatment, in order to make vagus nerve stimulation accessible to everyone.

INVENTORS

A. Carandina, N. Montano, C. Scatà, R. Asnaghi, E.Tobaldini, C. Bellocchi

INTELLECTUAL PROPERTY RIGHTS

Patent application filed in Italy.

OFFER

Licensing out & co-development.

Fondazione IRCCS Ca' Granda Ospedale Maggiore Policlinico, Milan - Italy
ufficiobrevetti@policlinico.mi.it / www.policlinico.mi.it/tto