SUBLIMED TENS, an innovative connected and wearable transcutaneous electrical nerve stimulation (TENS) device for the relief of chronic low back pain

ALIBEU JP 1,2, FRANCO C 3, KARST N 2, PERRAUD S 2, ROURE B 1, GAILLARD F 2
(1) Pain Clinic, Anesthesiology Department, Grenoble University Hospital, CS 10217 – 38043 Grenoble cedex 9, France
(2) SUBLIMED SAS, 9 rue du Rocher de Lorzier, 38430 Moirans, France

Contact: JPAlibeu@chu-grenoble.fr

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Transcutaneous electrical nerve stimulation (TENS) is a non-medicinal effective therapy for pain relief. However, clutters, length of wires, stigmatization, poor handling ability are as many drawbacks of usual TENS devices that make observance insufficient.

- SUBLIMED TENS is an innovative medical device for chronic low-back pain (CLBP) assessment and therapy.
- SUBLIMED TENS is wearable, miniaturized and smartphone-controlled. It was designed according to constraints for medical use.
- This study aims at consulting both patients and caregivers about their interest in SUBLIMED TENS in comparison to conventional devices and its ability at answering essential unmet needs.

Aim

- A patented wireless electrode dedicated to low back pain.
- A smartphone-controlled electric pulse generator embedded in a thin, flexible device. This device is fixed on the low back electrode for an all-in-one solution or may be used on other body parts thanks to its self-adhesive cutaneous feature.
- A smartphone application for control and monitoring of use, pain on VAS score, physical activity and sleeping time duration.
- High autonomy rechargeable battery (~20h at a nominal intensity of 15 mA)

Discussion

- Both patients and caregivers emphasize a great interest in the SUBLIMED TENS.
- Physical and psychological discomfort usually encountered with classical TENS devices is overcome with Sublimed TENS.
- Its portability and easy-of-use features make it suitable for daily living.
- The Smartphone application gathers data and allows the practitioner to access to patient’s history of use and trends at a glance.

Perspectives

- The efficiency of SUBLIMED TENS to relief of pain will be assessed in a large multicentric clinical investigation planned for autumn 2017.
- Education session provided by specialized practitioners will be organized to make the patient independent and confident-in-use.