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

## AIM

- 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**.

- 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 a **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.

# DISCUSSION

## RESULTS Interviews

- 11 CLBP patients
- 20 caregivers specialized in CLBP management

	Usual TENS	SUBLIMED TENS
Comfort	-	+++
Usability	+	++
Acceptability	-	++

# SUBLIMED TENS