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mjn-SERAS device, long-term EEG recording and seizure forecasting

Wearable devices

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Background

mjn-neuro was born because David, our CEO, has a daughter, Marina, who has suffered from epilepsy since she was two years old. In search of the need to bring quality of life to his daughter, he investigates, within the medical and technological sector, to find out what he can contribute from his profession and experience. In 2012, based on an article stating that brain electrical activity can be read through the ear canal. This is a key point for the development of the ear canal and consequently of the mjn-SERAS.

Marina has been one of the main inspirations for the development of this project, a device that aims to significantly improve the quality of life of people with epilepsy.

Materials & Methods

The development of the product has always been done from the patient-centered focus, looking for a solution at a personalized technological level and at a discreet, wearable and non-invasive device to improve the social relationships. However, the biggest challenge is the creation of algorithms, seizure prediction patterns, personalized for each user thanks to artificial intelligence and innovation in methodology and data process.

Results & Conclusions

Currently, several clinical studies have been carried out with good results:
EPISOFT (n=50): performance of the mjn-SERAS AI algorithm for early detection of seizures, with a sensitivity of 94%.
SERAS-EEG (n=30): use of the mjn-SERAS device during v-EEG patient monitoring to analyze the correlation with electroencephalographic recordings of these patients, with a global correlation of 91%.
Based on these studies, SERAS-HOME is underway to validate the performance of the mjn-SERAS device in the normalized patient environment, day-to-day life. This study is key to the success of global commercialization and reimbursement processes.
This journey has led us to sign a commercialization agreement with a CNS specialized pharmaceutical company: Neuraxpharm. From 2024 mjn-SERAS will be available in 30 countries (EU + UK, Norway, Iceland, Liechtenstein and Switzerland).