

A successful procurement of effective depression treatment

The use of Sooma tDCS at Turku University Hospital in Finland

Turku University Hospital (TYKS) is an international pioneer in neuromodulation treatment. It is a nationwide center of excellence in neuromodulation therapies, and belongs to the Southwest Finland Hospital District (VSSHP).

In November 2019, VSSHP entered into a procurement agreement with Sooma Oy for the procurement of direct current stimulation devices (tDCS). The procurement has resulted in several benefits for TYKS, such as reduced patient visits and a freed up rTMS queue.

The devices are used at TYKS' departments of Neuropsychiatry and Clinical Neurophysiology. The departments use tDCS to treat mainly depression and pain, respectively.

Basis for procurement

The procurement contract with Sooma Oy was awarded in November 2019 after tendering.

"The decision was made on the basis of a cost-effectiveness assessment. The transcranial direct current stimulation (tDCS) is an inexpensive and effective treatment that can be easily combined with other treatment options. The tDCS is used in VSSHP mainly for the treatment of depression and chronic pain."

- Adjunct professor and chief physician **Tero Taiminen** from VSSHP.

TDCS can be used as a stand-alone treatment, or as an add-on to other forms of treatment. Using tDCS to maintain the effects of Transcranial Magnetic Stimulation (TMS) is a cost-effective solution in terms of direct cost per machine and in terms of resources needed for each session. Patients who receive TMS often require long-term maintenance to retain the response, and each session requires the patient to visit the hospital and be treated under the surveillance of a clinician.

In comparison, tDCS can be self-administered by patients at home, freeing up both TMS machines and personnel resources at the clinic to be used for acute treatment of new patients. TDCS is also accessible for patients who cannot visit the clinic often or easily.

Documented benefits at TYKS

TMS machines and personnel resources are freed up, while current patients still receive effective treatment.

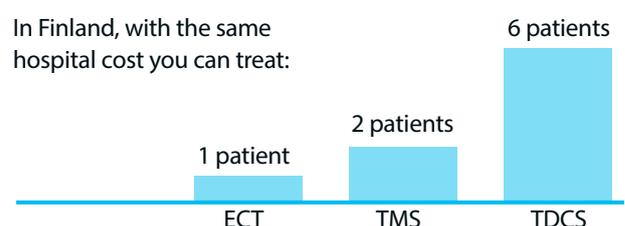
The TMS queue time is shortened, and new patients can be given access to TMS treatment faster.

Patients are responding well to the treatment and are able to transition to treatment with tDCS.

Patients do not have to visit the hospital on a weekly basis, and patients who live outside of Turku can still access the treatment.

The treatment with tDCS can be fitted to the individual needs of each patient, with the flexibility of adding more sessions per week if needed to maintain response.

The leasing agreement provides VSSHP with flexibility in terms of future deductions in number of devices.



Background

The use of tDCS in TYKS started through a partnership with Sooma Oy in 2014. Three pilot studies in depression were started at the Inpatient Acute Psychiatry Department, and two pilot studies in pain and tinnitus were started at the Clinical Neurophysiology Department.

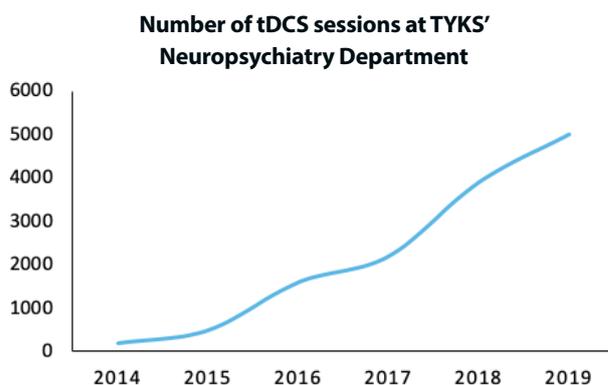
Following completion of the pilot studies in 2017, the Neuropsychiatry Department leased one Sooma tDCS device to be used to maintain the effects after depression treatment with TMS. The Clinical Neurophysiology Department borrowed two additional devices for use in further pilot studies, and later that year leased a number of tDCS devices from Sooma Oy to be used for TMS maintenance in patients with various pain conditions.

Long patient queues for TMS treatment meant TYKS was looking for a suitable solution to keep up with patient demand for treatment. Recognising home-based tDCS as a cost-effective solution to the growing queues, both the Neuropsychiatry Department and Clinical Neurophysiology Department leased additional tDCS devices from Sooma Oy to be used to maintain the effects from TMS treatment.

Results showed that about 70% of Neuropsychiatry patients were able to stay on tDCS as a continued form of

treatment rather than resuming TMS. As for Clinical Neurophysiology, 50-60% of patients received a favourable response and were able to transition onto treatment with tDCS.

At the time of publishing, TYKS had a total of 106 Sooma tDCS devices in regular use in the Neuropsychiatry department and the Clinical Neurophysiology department, which translates to a treatment capacity of 1272 treatment months per year. The number of treatment sessions with tDCS given at TYKS are being steadily increased. In 2019, over 5000 treatment sessions were given with tDCS.



Insights

TDCS can be a valuable add-on to other forms of treatment. It can complement an established rTMS routine extremely well, as learned by TYKS. Having TMS machines should therefore not be a barrier to acquiring tDCS devices, as it can be more beneficial to have both.

The response to tDCS is individual. A sufficiently long treatment period is necessary to see the true response, and there need not be a limit for treatment as patients can continue to benefit from it. When ending treatment with tDCS, gradually reducing the number of treatments rather than just stopping is beneficial to the patient.

The timing of the treatment is important, and it is beneficial to combine tDCS treatment with other activities, such as psychotherapy, rehabilitation, or work life, in order to maximise the benefits for the patients.

In the next few years, the Neuropsychiatric Department plans to initiate tDCS treatment in the earlier stages of treatment, and to apply tDCS treatment to other psychiatric conditions.

About Sooma

Sooma is a Finnish manufacturer of Sooma tDCS™, a class II medical device used for transcranial direct current stimulation (tDCS). Sooma tDCS™ is CE-marked, TGA and Health Canada approved for treatment of Major Depressive Disorder and chronic pain conditions Fibromyalgia and Neuropathic pain. Sooma Oy holds ISO13485 certificate.



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