Stroke patients now able to boost brain activity at home

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UniSA researchers have adopted a novel approach to help stroke victims recover greater use of their paralysed limbs, giving patients the chance to re-train their brains at home.

A new project developed by NHMRC Early Career Research Fellow Dr. Brenton Hordacre delivers a home treatment program for chronic stroke patients with hand/arm mobility issues.

The program involves the patient or their carer attaching brain stimulation electrodes to the motor cortex region of the head for 20 minutes each day, followed by a series of physical exercises, lasting an hour in total.

The therapy is designed to increase brain activity and help the brain re-learn the ability to move through a process known as plasticity.

"It's a two-week treatment that can be delivered in the comfort of a person's home, without the need to come into a hospital or clinical setting, which can be very stressful for some people, particularly those who are disabled or living in regional and rural areas," Dr. Hordacre says.

The patient's rehabilitation over the fortnight is tracked via an iPad with Skype connection to ensure that the treatment is safe and effective. Several advanced brain imaging measures are used to compare brain activity before and after this treatment.

"This is the first time we have performed brain stimulation remotely for stroke patients and it could well be the future direction for this type of treatment," Dr. Hordacre says.

His study is targeting stroke patients with impaired motor function, but separate treatment projects could be adapted for stroke victims with speech and/or cognitive damage, he adds.

Dr. Hordacre has recruited 21 stroke patients to date, around half of whom have completed the two-week program. People wanting to take part in the project should contact him at Brenton.Hordacre@unisa.edu.au

Provided by University of South Australia