Höfers, Wiebke et al., 2019. Abstract

Modification-of-spasticity_noscos

Treatment Of Spasticity With tSCS In Individuals With Spinal Cord Injury

Objective
Spasticity is reported as restricting activities of daily living (ADL) in some individuals with spinal cord injury (SCI). Previous studies indicated that **transcutaneous stimulation** of the spinal cord (**tSCS**) could reduce spasticity in lower extremities and increase walking speed. The study was conducted with the aim to assess the effect of **transcutaneous stimulation** of the spinal cord in spasticity

Results
The study found that **tSCS** reduced spasticity, but minimal change in walking speed. The minimal change in walking speed in this sample could be due to the fact that some of the ambulatory participants used their spasticity for walking. The stimulation was well tolerated and the participants reported less spasticity after stimulation.

Participants And Researchers
The participants were 12 men and one woman, 23 to 66 years of age, seven were able to walk.

The researchers, all from Sunnaas Rehabilitation Hospital, Nesodden, Norway, were: *Wiebke Höfers*, PT, M.Sc; *Vivien Jørgensen*, PT, PhH; *Anne Birgitte Flaaten*, PT; and *Anne M. Lannem*, PT, PhD.

Methods
The participants were given one 30-minute session of **transcutaneous stimulation** of the spinal cord, using the **NeuroTrac multiTENS** device (Verity Medical) with four electrodes, placed bilaterally (two paravertebral at level T11-12, two on the lower abdomen).

They all reported reduced spasticity with comments like, “One week without spasticity and no back pain”, according to one participant and “I slept through the whole night for the first time since injury and no back pain”, according to another.

The full abstract can be found at https://www.sunnaas.no/4a4c33/siteassets/dokumenter/modification-of-spasticity-with-transcutaneous-stimulation-of-the-spinal-cord-in-individuals-with-spinal-cord-injury.pdf.