



## **The effects of common peroneal stimulation on the effort and speed of walking. A randomised controlled trial with chronic hemiplegic patients**

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**Objective:** The purpose of this study was to measure the effect of the Odstock Dropped Foot Stimulator (ODFS), a common peroneal stimulator, on the effort and speed of walking.

**Design:** A randomised controlled trial.

**Subjects:** Hemiplegic patients who had suffered a single stroke at least six months prior to the start of the trial whose walking was impaired by a drop-foot.

**Interventions:** The treatment, functional electrical stimulation (FES) group, used the stimulator and received a course of physiotherapy; the control group received physiotherapy alone.

**Main outcome Measures:** Changes in walking speed measured over 10 metres and the effort of walking measured by physiological cost index (PCI).

**Results:** 32 subjects completed the trial, 16 in the FES group and 16 in the control group. Mean increase in walking speed between the beginning and end of the trial was 20.5% in the FES group (when the stimulator was used,) and 5.2% in the control group. Improvement was also measured in PCI with a reduction of 32.6% in the FES group (when the stimulator was used) and 1% in the control group. No improvement in these parameters was measured in the FES group when the stimulator was not used.

**Conclusion:** Walking was statistically significantly improved when the ODFS was worn but no 'carry-over' was measured. Physiotherapy alone, in this group of subjects with established stroke, did not improve walking.