

The Abstract

The Title: Effect of Peroneal Nerve Functional Electrical Stimulation on Gait in Post-stroke Patients

The Goal: The aim of this work was to compare two different ways of applying functional electrical stimulation of the peroneal nerve as to their impacts on the gait speed and performance and the spastic paresis of lower leg in adult patients suffering from chronic stages of stroke accompanied by foot drop.

The Method: An open, randomized, controlled clinical pilot study combining elements of both controlled and pragmatic experiments in comparing two different clinical approaches to peroneal nerve functional electrical stimulation. With the first group of patients (group A, consisting of 14 subjects), the intervention was carried out as an outpatient, strictly controlled and intense training of gait with electrical stimulation over the period of four weeks, five times a week; the B-group patients (13 subjects) were all provided with their own stimulator which they applied continuously throughout all their daily routines at their homes and community over the equal period of time.

The Results: The four-week intervention turned out to cause no statistically significant difference in our two groups in terms of its impact on any of the monitored parameters of the gait speed and performance as well as the lower leg mobility impaired by the spastic paresis. In conclusion, the pilot study suggests that both clinical approaches could have equally beneficial results with adult subjects suffering from chronic stroke accompanied by foot drop.

Key Words: functional electrical stimulation, stroke, spastic paresis, foot drop, gait