



THE LONG-TERM COST-EFFECTIVENESS OF THE USE OF FUNCTIONAL ELECTRICAL STIMULATION FOR THE CORRECTION OF DROPPED FOOT DUE TO UPPER MOTOR NEURON LESION

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Objective: Functional Electrical Stimulation (FES) for correction of dropped foot has been shown to increase mobility, reduce the incidence of falls and to improve quality of life. This study aimed to determine how long the intervention is of benefit, and the total cost of its provision.

Design: Retrospective review of medical records.

Participants: One hundred and twenty-six people with spastic dropped foot (62 stroke, 39 multiple sclerosis, 7 spinal cord injury, 3 cerebral palsy, 15 others) who began treatment in the year 1999.

Method: All received common peroneal nerve stimulation, producing dorsiflexion and eversion time to the swing phase of gait using a heel switch. Device usage, 10 m walking speed and Functional Walking Category (FWC) were recorded.

Results: The median time of FES use was 3.6 years (mean 4.9, standard deviation 4.1, 95% confidence interval 4.2–5.6) with 33 people still using FES after a mean of 11.1 years. People with stroke walked a mean of 45% faster overall, including a 24% training effect with 52% improving their FWC. People with multiple sclerosis did not receive a consistent training effect but walked 29% faster when FES was used with 40% increasing their FWC. The average treatment cost was £3,095 per patient resulting in a mean cost per Quality Adjusted Life Years of £15,406.

Conclusion: FES is a practical, long-term and cost-effective treatment for correction of dropped foot.

Key words: gait; CVA (cerebrovascular accident); multiple sclerosis; spinal cord injury; drop foot; cost analysis; electrical stimulation.