SS6- How to Translate FES from the Research to Practice
Customizing Functional Electrical Therapy Using a ‘Rehabilitation Problem-Solving Form’ – A Preliminary Study*

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Abstract. International Classification of Functioning, Disability and Health (ICF) model was applied as a design tool for customizing FES therapy for 10 chronic (>6months post-stroke) stroke survivors. The ICF model was implemented with an assessment document called ‘Rehabilitation Problem-Solving Form’ (RPS-Form). The online RPS-Form was used to monitor patient’s response to short-duration moderate-intensity FES therapy by assessing all the ICF components. The RPS-Form presented the patients' perspective, and therefore facilitated communications between the patient and his/her multi-disciplinary rehabilitation team consisting of physiotherapists, occupational therapists, medical doctors, and rehabilitation engineers. A 2-weeks Rehab-CYCLE of short-duration, moderately-intensive FES therapy improved activities and participation of 4 out of 10 participants, while 5 out of 10 participants consented to repeating the same Rehab-CYCLE in the clinic.

1 Introduction

Functional electrical stimulation (FES) involves electrical stimulation of nerves and muscles with continuous short pulses of electrical current. FES based orthosis has been shown to enhance walking abilities, increasing gait speed while lowering effort and has only recently developed into a therapeutic intervention for stroke rehabilitation [1-7]. Recently, Dutta et al [8] showed an improvement in the neurophysiology of paretic muscle during a fatiguing task following 2-weeks of

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