

Experiences and adherence of methods for early sensory training Phase 1 - from a user perspective. STUDY PROTOCOL

Ulrika Wijk^{1,2}, Freyja Kristjansdottir², Ingela Carlsson^{1,2}, Pernilla Vikström², Birgitta Rosén^{1,2}, Lars Dahlin^{1,2}

¹ Dept of Translational Medicine - Hand surgery, Lund University, Lund, SWEDEN

² Dept Hand Surgery - Rehabilitation, Skåne University Hospital, Malmö, SWEDEN

Background

After a nerve injury with deafferentation and the adjacent cortical areas expand, are a reason to believe that the cortical connections are susceptible to further changes. An early sensory relearning (Phase 1) starts directly after the surgery, before regenerating axons have reached the hand. The purpose of sensory relearning in Phase 1 is to stimulate the deafferented neurons in S1 by using guided plasticity - a sensory preparation. The short- and long-term positive clinical effect of early sensory relearning has been shown.

There are numerous factors, such as age of the patient, type of injury and timing of surgery and cognitive capacity, that influence the functional outcome. In addition, motivation and adherence to rehabilitation are also important.

The aim is to refine and evaluate the adherence to four methods for sensory relearning in Phase 1 after nerve injuries.

Methods/Design

Several techniques for guided plasticity in early sensory relearning have been described. In this RCT adherence to four methods will be evaluated; Observing own touch, observing tactile pictures, tactile imagery, and mirror visual feedback (MVF). After 4 w of sensory relearning starting within the first week after surgery evaluation will be made with The problematic Experiences of Therapy Scale (PETS) and Sensory relearning questionnaire. In addition, objective assessments of sensory functions will be made.

Discussion

Improved rehabilitation methods may have positive effects for adherence to treatment protocol and thus for the outcome following nerve injuries. This study opens up for refined rehabilitation methods and a more individualized rehabilitation program.