

## Report to Participants: SCIPA Hands-On

Thank you for participating in the SCIPA Hands-On study. Herewith a summary of the results of this study.

The purpose of this study was to determine the most effective way to retrain hand function after spinal cord injury. In particular, we were interested to see whether applying electrical stimulation to the muscles controlling the hand in combination with specific hand activities was more effective than specific hand activities alone.

To answer this question, we conducted a study in which participants were allocated by chance to one of two groups. One group received electrical stimulation to the muscles controlling the hand. The hand could be opened or closed by radio signals sent to the cuff from an earpiece when the person clicked their teeth. Hand exercises were provided via a workstation that enabled playing computer games that required different movements of the hand. The other group received hand exercises supervised by an occupational therapist. The treatment was provided for 1 hour per day, 5 days per week for 8 weeks. All participants had their hand function tested before and at the end of the treatment period and 6 months later.

Seventy people with tetraplegia participated in this study; they were from seven spinal units in Australia and New Zealand. We found that while both treatments were safe, there was no difference in hand function between the two groups at the end of the treatment period.

A cost utility analysis indicated that, measured over a six-month period, adding electrical stimulation to standard therapy produced a cost saving of AU\$1,395 per patient compared to standard therapy alone. The treatment using electrical stimulation was more likely to be cost-effective for people with incomplete spinal cord injury. However participants in the group who received electrical stimulation had a noticeable reduction in the severity of hand function disability over time.

The SCIPA Hands-On study was the largest study of its kind, and has provided important information to guide the rehabilitation of people with spinal cord injury.

Thank you again for agreeing to participate in this study and to contribute to research in spinal cord injury.