



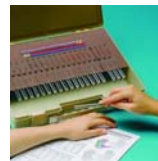
GRASSP® – Graded and Redefined Assessment of Strength, Sensibility and Prehension

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The GRASSP is a new outcome measure for patients with a cervical spinal cord injury, which is being developed and evaluated by an international team since May 2006. The aim of the GRASSP is to assess hand function in tetraplegic patients in all stages after injury and to document changes of the impairment over time.

The GRASSP has 3 domains:

1. Strength : manual muscle testing of 10 muscles of the upper limb
2. Sensation: Semmes-Weinstein Monofilament testing
3. Prehension:
 - a) qualitative description of relevant finger/hand positioning for grasping
 - b) grasping test with 6 ADL activities



In a first stage reliability and validity of the GRASSP were established. After this first study, which showed positive results, minor changes were made to the test, so that actually the 'GRASSP Version 1' is established and available (www.toronto-fes.ca/axal/).

Recently an international responsiveness study for the GRASSP was initiated. The aim of this study is to develop the psychometric properties for the responsiveness, to establish the minimally clinically important differences of the tetraplegic population compared to clinicians and to establish a neurological impairment profile of recovery of the upper limb post cervical SCI.

Patients are tested with the GRASSP 4-5 times within the first year after tetraplegia. In addition independence is assessed with the SCIM 3, quality of life with the LISAT-11, neurological status with the AIS and subjective changes of the hand function is assessed with a patient and therapeutic questionnaire.

In this study 13 centers from Canada, the US and Europe are cooperating:

- Canada and USA: Hamilton, Vancouver, Toronto, Montreal, London (supervised by Canada)
Investigator: Toronto Western (M. Fehlings, M. Verrier, S. Kalsi-Ryan)
- Europe: Zurich, Nottwil, Bad-Wildungen, Karlsbad-Langensteinbach, Heidelberg, Murnau, Halle, Bayreuth
Investigators: I.-M. Velstra, M. Bolliger, A. Curt, C. Rudhe (Zurich)