

"If you have nothing a little is a lot" Improvements in occupational performance following functional hand surgery in individuals with tetraplegia

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Introduction: A cervical spinal cord injury results in tetraplegia with loss of motor and sensory function of the upper extremity. The loss of upper limb function, especially the use of the hands, is one of the most significant and devastating losses an individual can experience. The use of the hands is critical in completing activities of daily living such as dressing, feeding, grooming, bathing and toileting. Individuals with tetraplegia have rated the restoration of normal function of arms and hands more important than the return of normal bowel and bladder function, sexual function and lower extremity function.

In rehabilitation, reconstructive hand surgery is one option to improve hand and upper limb function in persons with tetraplegia.

Objectives: The main purpose of this study is to illustrate the efficacy of functional hand surgery by reporting occupational performance and hand function before and after surgery and how the individuals themselves assess the results.

Methods: Expectation, satisfaction and functional results from 7 Icelandic individuals (5 males and 2 females) with post-traumatic tetraplegia were reviewed before surgery and 6 and 12 months after surgery. They were operated on between 2006 and 2008. Time since injury ranged from 5-31 years. The Canadian Occupational Performance Measure (COPM) and other measurements were used to gather data. Surgical procedures included reconstruction of hand grip, thumb flexion and elbow extension.

Results: Participants expected to gain more independence in activities related to eating, grooming, dressing and leisure. Preliminary results indicate improvement in occupational performance and satisfaction with functional gain in all 7 individuals.

Conclusion: Functional hand surgery appears to have a positive impact on the participants' occupational performance specifically in activities of daily living (ADL).