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Increasing Access to Upper Limb Reconstruction in Cervical Spinal Cord Injury

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Abstract : Background: Cervical spinal cord injury (SCI) is a devastating event that results in upper limb paralysis, loss of independence, and disability. People living with cervical SCI have identified improvement of upper limb function as a top priority. Nerve and tendon transfer surgery has successfully restored upper limb function in cervical SCI but is not universally used or available to all eligible individuals. This exploratory mixed-methods study used an implementation science approach to better understand these factors that influence access to upper limb reconstruction in the Canadian context and design an intervention to increase access to care. Methods: Data from the Canadian Institute for Health Information's Discharge Abstracts Database (CIHI-DAD) and the National Ambulatory Care Reporting System (NACRS) were used to determine the annual rate of nerve transfer and tendon transfer surgeries performed in cervical SCI in Canada over the last 15 years. Semi-structured interviews informed by the consolidated framework for implementation research (CFIR) were used to explore Ontario healthcare provider knowledge and practices around upper limb reconstruction. An inductive, iterative constant comparative process involving descriptive and interpretive analyses was used to identify themes that emerged from the data. Results: Healthcare providers (n = 10 upper extremity surgeons, n = 10 SCI physiatrists, n = 12 physical and occupational therapists working with individuals with SCI) were interviewed about their knowledge and perceptions of upper limb reconstruction and their current practices and discussions around upper limb reconstruction. Data analysis is currently underway and will be presented. Regional variation in rates of upper limb reconstruction and trends over time are also currently being analyzed. Conclusions: Utilization of nerve and tendon transfer surgery to improve upper limb reconstruction in Canada remains low. There are a complex array of interrelated individual-, provider- and system-level barriers that prevent individuals with cervical SCI from accessing upper limb reconstruction. In order to offer equitable access to care, a multi-modal approach addressing current barriers is required.

Keywords : cervical spinal cord injury, nerve and tendon transfer surgery, spinal cord injury, upper extremity reconstruction
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