

**Functional Evaluation of Powered Hand Orthosis for Brachial Plexus Injury: A case study.**

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Lesions of brachial plexus are pathological conditions that result in functional limitation and greatly affect social activities and life quality. One of the interventions used by occupational therapist in the rehabilitation program of individuals with brachial plexus lesions is fabrication and prescription of orthosis. However the majority of currently available orthosis for brachial plexus lesions, are used in order to position the upper limb and to relieve pain, without offering the functionality to member injured. The objective of this study was to evaluate the performance of individuals unable to do active hand and wrist movements due brachial plexus lesions, using a functional orthosis known as Functional Glove, in unimanual and bimanual activities and the level of satisfaction after using it. An exploratory study was performed to validate the orthosis that consisted of cases studies in which three patients participated. They were selected according to criteria of inclusion or exclusion. Three distinct instruments were used: test for performing unimanual activities, test for performing bimanual activities and a satisfaction questionnaire. The results showed that the patients was able, with ease, control the opening and closing of orthosis by myoelectrical signals recorded by surface electrodes placed over the muscle selected, allowing their use in activities unimanuais and bimanuais. The patients reported high index of satisfaction with the use of Functional Glove. The Functional Glove has the potential to improve the independence of individuals with paralysis of the hand, facilitating the process of inclusion.