


Comment on Lee et al. (2021): Effects of Robot-Assisted Rehabilitation on Hand Function of People With Stroke

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In the January/February 2021 issue of the *American Journal of Occupational Therapy*, I came upon the article summarizing the randomized controlled experiment conducted by Lee et al. (2021). I applaud the authors' efforts to describe how robot-assisted rehabilitation helps stroke patients regain hand function and improve their capacity to carry out activities of daily living. However, I would like to share my thoughts on the trial.

First, there is not a lot of information provided by the authors about the sensory aspect of robot-assisted rehabilitation. There have been assessments of sensory function, but they were not as thorough or detailed as those of motor function. After a stroke, sensorimotor abnormalities result in restrictions on everyday activities and social involvement (Rudd et al., 2017). Somatosensory disabilities are also linked to decreased dexterity and manipulation abilities, which result in generally poor hand functioning (Doyle et al., 2010). In addition, robotic devices provide feedback that consists of varying sensory information (Daly & Wolpaw, 2008). This suggests that sensory function should be highlighted as much as motor function. The trial's sensorimotor function may be better understood if the somatosensory

function had been given more attention.

Second, rather than using a self-report or impairment-based measure to evaluate hand function, a performance- or function-based assessment could have been used. To offer a good image of the function and the locations of the functional deficiencies, additional tests, such as the Action Research Arm Test (ARAT; Lyle, 1981; Yozbatiran et al., 2008) or the Jebsen–Taylor Hand Function Test (Jebsen et al., 1969), could have been used. The ARAT is one of the most clinically useful measures (Connell & Tyson, 2012). Through the lens of occupational therapy, such assessments can offer a greater understanding of the functional utilization of the upper extremity. 

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