First Evidence of Clinically Significant Recovery from Severe Arm and Hand Impairment More Than 6 Months After Stroke: 3 Different Treatments All Showed Significant Improvements

A recent study conducted by a team under the direction of Dr. Janis J. Daly, the Director of the Brain Rehabilitation Research Center, showed that intensive delivery of treatment for severe arm and hand impairment, caused by stroke, significantly improves function – even if treatment began more than 6 months after the stroke when no further spontaneous recovery would occur. These ground-breaking results will be published by the Archives of Physical Medicine and Rehabilitation.

The study treatment involved progressing from the practice of small movements that were components of a complex task to skilled coordination of a complete task (see figure on back). Treatment was based on motor learning principles including: movement practice as close to normal movement as possible, movement repeated many times, attention focused on a specific task, and training specific to the task.

Three types of treatment were tested: Motor learning alone or motor learning combined with the technologies of either robotics or functional electrical stimulation. All three treatments resulted in clinically significant recovery of function, and there were no differences among the treatments.

That 35 of 39 persons who were enrolled in the study completed the challenging treatments emphasizes how important recovery is to those people who are affected by persistent disabilities after stroke. Unfortunately, usual rehabilitation care is not provided this intensively. Results of this study and others, which show that function can be recovered with intensive therapy, support the need to change current clinical practice such that all persons who have had a stroke can receive intensive therapy for a longer time.

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Other BRRC Publications

Special thanks to our supportive partners
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