

Functional strength training versus movement performance therapy for upper limb motor recovery early after stroke: a RCT

Valerie M Pomeroy,^{1*} Susan M Hunter,²
Heidi Johansen-Berg,³ Nick S Ward,⁴
Niamh Kennedy,^{1,5} Elizabeth Chandler,¹
Christopher J Weir,⁶ John Rothwell,⁷ Alan Wing,⁸
Michael Grey,¹ Garry Barton⁹ and Nick Leavey¹⁰

¹Acquired Brain Injury Rehabilitation Alliance, School of Health Sciences, University of East Anglia, Norwich, UK

²Institute for Applied Clinical Sciences, School of Health and Rehabilitation, Keele University, Keele, UK

³Oxford Centre for Functional MRI of the Brain, John Radcliffe Hospital, Oxford, UK

⁴Sobell Department of Motor Neuroscience, Institute of Neurology, University College London, London, UK

⁵School of Psychology, Ulster University, Coleraine, UK

⁶Edinburgh Clinical Trials Unit, Usher Institute of Population Health Sciences and Informatics, University of Edinburgh, Edinburgh, UK

⁷Institute of Neurology, University College London, London, UK

⁸School of Psychology, University of Birmingham, Birmingham, UK

⁹Norwich Medical School, University of East Anglia, Norwich, UK

¹⁰Clinical Trials Unit, Norwich Medical School, University of East Anglia, Norwich, UK

*Corresponding author v.pomeroy@uea.ac.uk

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Plain English summary

Upper limb motor recovery early after stroke

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Plain English summary

Recovery of the arm and hand (upper limb) after stroke is a research priority. We need to know which people should receive which type of physical therapy and how different types of physical therapy drive brain recovery after stroke.

The two physical therapies investigated were functional strength training (FST) and movement performance therapy (MPT). FST is strength training during everyday tasks, for example picking up a cup that contains more water as the person improves. MPT is provided by a therapist using 'hands-on' techniques to aid moving more smoothly and accurately.

Random allocation was used so that each participant had a 50% chance of receiving FST or MPT. All participants undertook measures of ability to move their upper limb before treatment, after the 6-week treatment phase and at 6 months after stroke. In participants with no history of epilepsy/seizures and no metal in their bodies (e.g. pacemaker) we undertook measures of (1) the brain damage caused by stroke and (2) the strength of the connection between brain and weak muscle. These neural measures were carried out before and after the treatment phase.

We found no difference between FST and MPT because some people in each group responded better than others.

The before-treatment neural measures did not predict improvement. The neural changes from before to after treatment were similar in the two groups.

These findings confirm suggestions from earlier trials that people respond differently to different physical therapies. Future work should investigate why some people respond better to FST and MPT than others.

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