Robot Assisted Training for the Upper Limb after Stroke (RATULS)

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Introduction

Loss of the ability to use the arm is a common and distressing consequence of stroke. Currently it is unclear how best to provide therapy to improve arm recovery and function. Research suggests that robot-assisted training may be beneficial but this is not yet proven and further research is needed. This abstract describes the methods of a recently launched large randomised controlled trial.

Methods

Study design: A pragmatic multicentre randomised controlled trial, cost analysis and process evaluation.
Study setting: Four study centres, each consisting of a hub hospital with an InMotion robotic gym system and adjacent primary and secondary care spoke sites.
Study participants: Adults with acute or chronic first ever stroke (1 week to 5 years post stroke) causing moderate to severe upper limb functional limitation.
Study treatments: There are three randomisation groups:
i. Robot assisted training using the InMotion robotic gym system delivered for 45 minutes, three times per week for 12 weeks.
ii. Enhanced upper limb therapy delivered for 45 minutes, three times per week for 12 weeks.
iii. Usual NHS care.
Randomisation: Central independent web based service.
Primary outcome: Upper limb function measured by the Action Research Arm Test at 3 months.
Secondary outcomes: Upper limb impairment, activities of daily living, quality of life, resource use and adverse events measured at 3 and 6 months.
Blinding: Outcomes assessments by blinded assessor.
Parallel process evaluation: Semi-structured interviews with a sub-sample of participants and staff.
Sample size: 720 participants.

Current study progress

RATULS opened to recruitment in April 2014. Current recruitment (29.10.2014) is 92 participants.