

New combined rehabilitation technology – does it work?

Research in progress

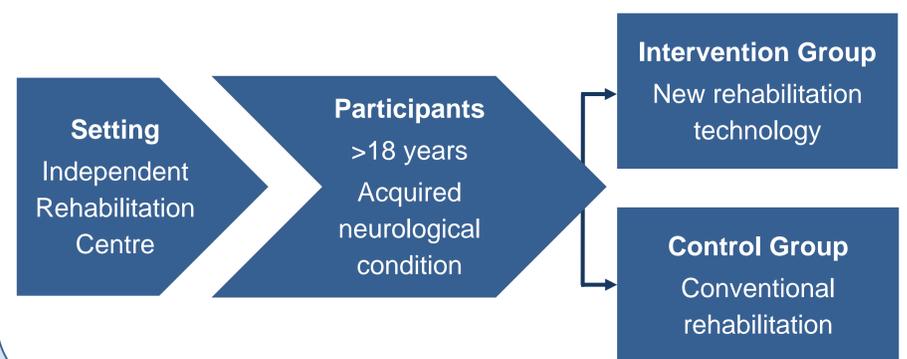
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Background

New technology aims to improve functional recovery in patients with acquired neurological conditions. Robotic systems can offer high-intensity training and improve activities of daily living, arm function and arm muscle strength¹. Virtual reality technology improves activities of daily living but not upper-limb motor function or gait speed². A combination of these technologies as part of an intensive rehabilitation programme could significantly improve outcomes. To date there are no high quality randomised controlled trials of this combination technology.



Proposed Phase II RCT



Study Design and Aims

Phase 1 – Prospective Cohort Study

- Assess feasibility of outcome measures and calculate power required for an RCT.

Phase 2 – Randomised Controlled Trial (RCT)

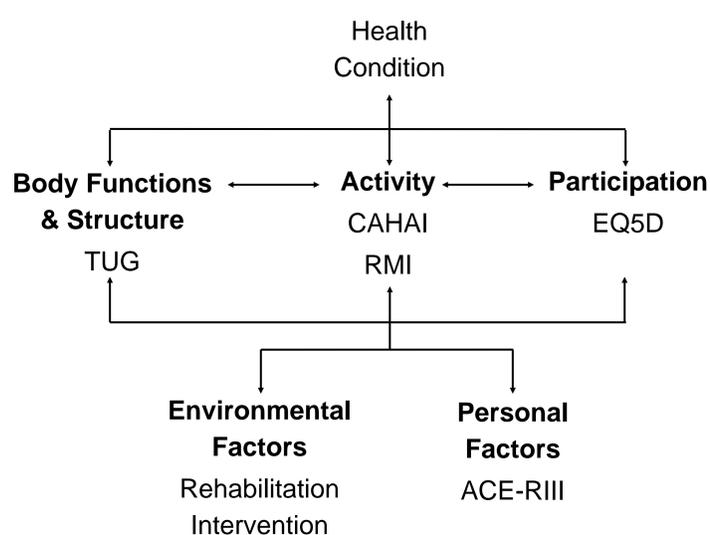
- Evaluate the effectiveness of the combined rehabilitation technology.

Discussion points

The choice of a comprehensive set of outcome measures in rehabilitation research which map onto the International Classification of Function Model.

The potential benefits of using a combination of restorative rehabilitation technologies as part of an intensive rehabilitation programme.

ICF based Outcome Assessment



Call for collaboration

We are interested in contributions from local researchers in the West Yorkshire Area in the design and running of the randomised controlled trial phase.

We are also keen to network with fellow researchers experienced or interested in combination rehabilitation technology.

References

1. Mehrholz J, Pohl M, Platz T et al. Electromechanical and robot-assisted arm training for improving activities of daily living, arm function, and arm muscle strength after stroke. *Cochrane Database of Systematic Reviews* 2018; 9: CD006876.
2. Laver KE, Lange B, George S et al. Virtual reality for stroke rehabilitation. *Cochrane Database of Systematic Reviews* 2017; 11: CD008349.