

REfLECTS: A Randomized controlled trial (RCT) oF mirror-box therapy in upper Limb rEhabilitation with sub-aCute sTroke patients

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Why did we start?

Stroke can result in the loss of movement to one side of the body. This can make everyday tasks such as washing, dressing, feeding, walking and household activities more difficult. To help regain movement, the brain needs to relearn how to move the arm and leg. The REfLECTS study planned to investigate if using Mirror-Box Therapy (MBT) would enable recovery of the affected arm alongside existing occupational therapy input. Previous research using MBT had been carried out with people who had their stroke after six months and found that it improved movement in the affected arm. The research team wanted to find out whether using the mirror-box as part of occupational therapy rehabilitation helped people to recover greater use of their arm than standard occupational therapy rehabilitation at an earlier stage of rehabilitation.

What did we do?

We set up a multi-centre trial across both Northern and Southern Ireland, involving 5 clinical sites. Our research used the mirror-box therapy with people in hospital who had a stroke within the past three months. Half of the people we recruited used the mirror-box alongside their standard rehabilitation occupational therapy, and half received their standard rehabilitation occupational therapy. Everyone who took part (i.e. 26 Adult participants \geq 18 years of age, 0-3 months post stroke with upper limb deficits) was assessed at the start of the trial, on discharge from hospital and 12 weeks after they get home to measure the movement in their arm.

What answer did we get?

1. Due to the Covid-19 pandemic, our study was unable to recruit sufficient numbers of participants to provide definitive answers about the use of mirror-box therapy at this early stage in upper limb rehabilitation post stroke.
2. However, while the study was under powered, greater improvements were noted for the intervention group in the graded Wolf Motor Function Test, Functional Independence Measure, EQ-5D-5L and Canadian Occupational Performance Measure at discharge and three-month follow-up.
3. Participants who took part in the trial found mirror-box therapy to be an easy-to-use intervention and noted the importance of actively taking part in therapy as well as therapist input.

What should be done now?

As a relatively inexpensive, portable intervention, mirror-box therapy can be used by therapists, patients and their relatives. When demonstrated in the hospital environment, it could be completed independently, giving the patient a sense of empowerment in participating in their own stroke rehabilitation journey when and where it is convenient for them. Although the study was underpowered, the results have shown a positive experience and outcome, following mirror-box intervention.

Going forward, due to the positive outcomes, feedback from participants and practicality of mirror-box, it would be recommended that this is part of the upper limb rehabilitation intervention for this client group.