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Teaching carers to deliver therapy for the arm and hand post stroke

Submission date
17/07/2025

Recruitment status
Recruiting

Registration date
21/07/2025

Overall study status
Ongoing

Last Edited
21/07/2025

Condition category
Nervous System Diseases

[X] Prospectively registered
[ ] Protocol
[ ] Statistical analysis plan
[ ] Results
[ ] Individual participant data
[ ] Record updated in last year

Plain English summary of protocol

Background and study aims
In the UK, around 100,000 people have a stroke each year, and over 1.3 million people are living with stroke. Stroke commonly affects the arm and hand, reducing the ability to do daily activities, such as gripping, picking up and using objects like hairbrushes and forks. This impacts people's independence, often requiring long-term health and social support. Scientific research has shown that therapy involving hand massage, moving and stretching joints and muscles in the hand, and supporting reaching movements, can improve arm and hand strength and function, many months, even years, after stroke. However, the reality is that access to therapists to provide this therapy is limited, and most people with stroke receive very little therapy after being discharged from the hospital. This study wants to see if informal carers (family members or friends – known as CarePartners) of stroke survivors (SSs) can be taught to provide ongoing arm and hand therapy at home, improving the opportunity for better recovery over time. This work will help to decide whether it is worth doing a larger, more expensive trial of the carer-delivered treatment at home.

Who can participate?
Informal carers, stroke survivors (SSs) and therapists

What does the study involve?
This study will work with stakeholders to develop a training programme that teaches CarePartners how to provide arm and hand therapy at home. Physiotherapists will use the training package to train CarePartners to provide arm and hand treatment every day for six weeks. During that time, they will be asked to record exactly what treatment they give, how often and for how long, and to note any reactions to the treatment, overall feelings about the treatment and its effects. Support from a physiotherapist will be available during that time. The strength, feeling and function of the SS's arm, and quality of life for both SSs and Care Partners will be measured before treatment starts, at the end of the six weeks and three months (follow-up). This study will explore whether delivering this treatment places an excessive burden on CarePartners. The SSs and CarePartners will be invited to a group discussion to give feedback on the training, the treatment at home, and the tests used. Their feedback will inform whether the training, treatment and tests have the potential to improve arm and hand movement in real life / real NHS services. Therapists' views will be sought through interviews.

Patient and public involvement (PPI) supported the development of this research proposal. Project progress and budget will be monitored by a patient and public advisory group and study management group, which will include a public member.

Findings will be published and shared with local stroke services and participants, and at regional and national conferences.

What are the possible benefits and risks of participating?
Stroke survivors may benefit from receiving the extra MTS therapy; this has been the experience in other studies, but there is no evidence yet available to be sure there will be any benefits from receiving the extra treatment. Although there is no expectation that delivery of MTS is continued at the end of the study, the CarePartner will have been appropriately trained and have received copies of the MTS training materials, so they could choose to continue treatment at home. The information gained from the study may also help improve the treatment of other people who have survived a stroke.

MTS is a treatment which is often delivered as part of routine therapy after stroke; therefore, the level of risk for this study is low. There could be a risk that CarePartners could cause harm or discomfort through the delivery of MTS. However, the training programme for CarePartners, which will be developed in Phase 1, will be comprehensive. The research team will ensure that CarePartners know how much pressure to use and how to stretch joints and soft tissues when doing the MTS treatment. They will also ensure it is appropriate for their SS. CarePartners will work with an experienced therapist who will help the CarePartners practice how to do MTS and ensure they understand the purpose of each part of the treatment and how to do it correctly. CarePartners will be given as much support as they need, and the research team will ensure they feel confident before the six-week treatment period begins. CarePartners' own needs will also be considered. During the six-week treatment period, a research therapist will visit the 'pair' every week to check the quality of what they are doing and advise any changes. If required, extra training will be given to ensure CarePartner-delivered MTS is safe and that both the CarePartner and stroke survivor are happy with the treatment. Participants will also be provided with contact details for their research therapist so they can reach out to them between visits if required.

Where is the study run from?
Keele Univeristy, UK

When is the study starting and how long is it expected to run for?
June 2025 to November 2027

Who is funding the study?
The National Institute for Health and Care Research (NIHR), UK

Who is the main contact?
Dr Ali Aries, a.m.aries@keele.ac.uk

Contact information

Type(s)
Public, Scientific, Principal investigator

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Additional identifiers

Integrated Research Application System (IRAS)
341844

Central Portfolio Management System (CPMS)
61540

National Institute for Health and Care Research (NIHR)
207153

Study information

Scientific Title
Teaching carers to deliver physical therapy for the upper limb post Stroke (TaPpS): a feasibility study

Acronym
TaPpS

Study objectives
Aim: To assess feasibility (including acceptability and fidelity) of CarePartner-delivered MTS, and appropriateness and statistical properties of proposed outcome measures.

Research question: Is it feasible (acceptable, achievable) to teach unpaid carers (e.g. family members) to deliver specific aspects of physical therapy that aim to improve somatosensation, range of movement and functional activity in the UL following stroke, to their stroke survivor (SS), at home, whilst maintaining fidelity and adherence to the intervention, and without adversely affecting carer burden and quality of life?

Research objectives: This study will focus on preparatory work necessary before taking CarePartner-delivered MTS to a full trial, specifically addressing delivery and feasibility uncertainties:

1. Develop a training programme for CarePartners to learn how to deliver MTS for the UL of SSs at home, competently and safely, that is acceptable to all stakeholders.

2. Assess the feasibility of CarePartner-delivered MTS for the UL post stroke and assess trial progression criteria, including CarePartner burden.

3. Following RFPB guidance for feasibility studies, if a subsequent full trial is considered feasible, develop a proposal and prepare a funding application for further NIHR funding. This study is a

feasibility study and not a randomised controlled trial. The primary objective is to assess the feasibility (including acceptability and fidelity) of CarePartner-delivered MTS, and appropriateness and statistical properties of proposed outcome measures.

Ethics approval required
Ethics approval required

Ethics approval(s)
Approved 02/07/2025, West Midlands - Solihull Research Ethics Committee (The Old Chapel, Royal Standard Place, Nottingham, NG1 6FS, United Kingdom; +44 (0)207 104 8191; solihull.rec@hra.nhs.uk), ref: 25/WM/0082

Primary study design
Interventional

Study design
Mixed methods feasibility study with two phases

Study type(s)
Other

Health condition(s) or problem(s) studied
Stroke

Interventions
The study is a mixed-methods feasibility study with two phases:
Phase 1: Co-design workshops actively collaborating with stakeholders to design a training programme for CarePartners to deliver mobilization and tactile stimulation (MTS).
Phase 2: Feasibility study

Upper limb therapy, including the delivery of mobilization and tactile stimulation (MTS). Following the development of the MTS programme (adapted for carers to deliver) in Phase 1 of the study, carers will deliver MTS to their stroke survivor daily for six weeks. Each treatment is anticipated to take approximately 45 minutes.

Intervention Type
Mixed

Primary outcome(s)
The Action Research Arm Test (measuring hemiparetic upper limb activity limitation) is anticipated to be the primary outcome measure; however, as this is a feasibility study, one of the purposes of the study is to ascertain the most appropriate primary outcome measure to take forward to a larger study in the future. The primary outcome will be assessed at baseline, after the six-week intervention and at three months

Key secondary outcome(s)
The following secondary outcomes are assessed at baseline, after the six-week intervention and at three months:
Walking (activity limitation) will be measured using:
1. Able to walk 10 m independently (walking aids permitted)? Y/N
2. Timed 10 m walk test, at a comfortable pace, if able to walk 10m independently

Body function and structure will be measured using:
Motricity Index (arm section)

Hemiparetic hand sensation will be measured using:
Nottingham Sensory Assessment – tactile and kinaesthetic subsections only

CarePartner burden will be measured using:
Zarit burden interview

Completion date
30/11/2027

Eligibility

Key inclusion criteria
Phase 1: Months 0-6
1. Adult (18 years old or more) stroke survivors (SSs) with ongoing self-reported UL dysfunction, discharged from hospital inpatient care. Interpreters will be sourced as required
2. Adult (18 years old or more) informal carers of SSs discharged from hospital care. Interpreters will be sourced as required.
3. Physiotherapists at NHS Band 6 or above who have two or more years' experience working in community or outpatient stroke services

Phase 2: Feasibility study - months 6-30
1. Adult (18 years of age or more) SS and CarePartner pairs, where:
1.1. The SS has ongoing UL dysfunction because of stroke (score of <33; the maximum score representing 'normal' strength, i.e. comparable to 'nonparetic' limb on the Motricity Index UL section, measuring muscle strength at shoulder, elbow and hand)
1.2. SS discharged from inpatient care
1.3. SS willing to receive CarePartner-delivered MTS
1.4. Both SS and CarePartner are willing and have the capacity to consent to participating in the trial
1.5. CarePartner willing and able to be trained
1.6. CarePartner willing to commit to deliver MTS to their SS's UL at home, according to protocol

Participant type(s)
Patient, Health professional, Carer

Healthy volunteers allowed
No

Age group
Mixed

Lower age limit
18 Years

Upper age limit
100 Years

Sex
All

Key exclusion criteria
Phase 1: Months 0-6
1. SSs who have severe aphasia, meaning they are unable to contribute to discussions unless they have an alternative means of communicating effectively (e.g. communication board, technology, signing)
2. Informal carers who are unable to contribute to discussions unless they have an alternative means of communicating effectively (e.g. communication board, technology, signing)

Phase 2: Feasibility study - months 6-30
1. SS-CarePartner pairs if one of the pair does not consent, or if the SS has no CarePartner available to take part
2. SS-CarePartner pairs if the CarePartner has significant health conditions, e.g. upper-limb dysfunction (from a neurological, orthopaedic, e.g. severe OA or RA of the hands, or other condition that might be exacerbated) affecting their ability to deliver MTS

The study will record the number and nature of exclusions to inform future plans for greater inclusivity

Date of first enrolment
21/07/2025

Date of final enrolment
31/03/2027

Locations

Countries of recruitment
United Kingdom

England

Study participating centre
St Georges Hospital
Midlands Partnership University NHS Foundation Trust
Trust Headquarters
Corporation Street
Stafford
United Kingdom
ST16 3SR

Sponsor information

Organisation

Keele University

ROR
https://ror.org/00340yn33

Funder(s)

Funder type
Government

Funder Name
National Institute for Health and Care Research

Alternative Name(s)
National Institute for Health Research, NIHR Research, NIHRresearch, NIHR - National Institute for Health Research, NIHR (The National Institute for Health and Care Research), NIHR

Funding Body Type
Government organisation

Funding Body Subtype
National government

Location
United Kingdom

Results and Publications

Individual participant data (IPD) sharing plan
The datasets generated during and/or analysed during the current study will be available on request from Dr Ali Aries (a.m.aries@keele.ac.uk).

IPD sharing plan summary
Available on request