

# Observation with Intent to Imitate (OTI) combined with Motor Practice (MP) to enhance upper limb recovery early after stroke

**Submission date**  
08/01/2009

**Recruitment status**  
No longer recruiting

☐ Prospectively registered

☐ Protocol

**Registration date**  
30/01/2009

**Overall study status**  
Completed

☐ Statistical analysis plan

☒ Results

**Last Edited**  
20/12/2012

**Condition category**  
Musculoskeletal Diseases

☐ Individual participant data

## Plain English summary of protocol

Not provided at time of registration

## Contact information

### Type(s)

Scientific

### Contact name

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### Contact details

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## Additional identifiers

EudraCT/CTIS number

IRAS number

ClinicalTrials.gov number

Secondary identifying numbers

N/A

# Study information

## Scientific Title

Observation with Intent to Imitate (OTI) combined with Motor Practice (MP) to enhance upper limb recovery early after stroke: proof-of-concept trial

## Study objectives

Is there sufficient evidence of benefit from Observation to Imitate combined with Motor Practice (OTI+MP) to justify larger scale clinical trials in stroke survivors with substantial weakness early (3-31 days) after stroke?

## Ethics approval required

Old ethics approval format

## Ethics approval(s)

1. Cambridgeshire 3 Research Ethics Committee, approved on 20/11/2008 (ref: 08/H0306/71)
2. Research Governance Approval by East Norfolk and Waveney Research Governance Committee and Research Management Team granted on 03/12/2008 (ref: 2008MFE05L [136-09-08])

## Study design

Phase I randomised controlled observer-blind single-centre trial

## Primary study design

Interventional

## Secondary study design

Randomised controlled trial

## Study setting(s)

Hospital

## Study type(s)

Treatment

## Participant information sheet

Not available in web format, please use the contact details below to request a patient information sheet

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

Upper limb paralysis after stroke

## Interventions

The participants will be randomly allocated to the control and intervention groups in 1:1 ratio.

The control intervention will be routine conventional therapy as provided in the clinical centre. All conventional interventions given, to people in control and experimental groups, will be recorded on a standardised form.

The experimental group will receive Observation with Intent to Imitate with Motor Practice (OTI+MP) therapy in addition to routine conventional therapy as received by the control group. OTI+MP therapy sessions will be daily for 15 working days (15 sessions).

OTI+MP requires the participant to sit alongside the research therapist who will demonstrate the activity to be practiced in the same plane as when the participant will produce the movement. Participants will watch the activity produced by the therapist with the intention of imitating this. They will observe the therapist for 2 minutes. Then for 6 minutes they will perform the activity whilst the therapist adapts her own performance of the activity to emphasise the bits that the participant has the most difficulty with.

In every treatment session there will be 6 blocks of treatment separated by 2-4 minutes of resting. Two activities will be chosen per session. The activities will be individually chosen for each participant so that practice is of activities that participants can do partially or complete with difficulty. Activities will become harder as improvement occurs over time. Activities will be chosen from a standardised list which includes, reaching to pick up a cup, unscrewing a top off a coffee jar and placing coins in a purse.

## **Intervention Type**

Other

## **Phase**

Phase I

## **Primary outcome measure**

The following will be assessed at baseline and one/two days after the 15th intervention session:

1. Ability to produce voluntary contraction of paretic muscle, as measured by the Motricity Index arm section. The rationale for this measure is that OTI therapy is primarily directed at improving the ability to voluntarily contract paretic muscle after stroke. The Motricity Index is a clinical measure of the ability to voluntarily contract paretic muscle. It is an ordinal score with six levels of measurement within each of three categories for the upper limb (pinch grip, elbow flexion and shoulder abduction), has been used widely in clinical research, is valid, reliable and sensitive to change after stroke.
2. Ability to produce force in paretic muscle, as measured by torque about the elbow joint during isometric flexion concentric contraction using a digital myometer and maximum pinch and grip force during isometric concentric contraction using a digital pinch/grip analyser (MIE Medical Research Ltd, UK).
3. Ability to use the paretic upper limb in functional activity as measured by the Action Research Arm Test (ARAT). This is a test of upper limb function with subsections covering grasp, grip, pinch and gross movement. It has good validity and reliability and is widely used in clinical research.
4. Adverse event monitoring and recording. There is a small risk that for some people the therapy might lead to an 'overuse' syndrome which presents as pain in the arm and/or hand. We will monitor this by checking for participant report of upper limb pain, either verbal or behavioural (e.g., grimacing, postural guarding), and for decrease in Motricity Index upper limb score of at least two measurement levels.

## **Secondary outcome measures**

No secondary outcome measures

## **Overall study start date**

12/01/2009

**Completion date**

31/12/2009

## **Eligibility**

**Key inclusion criteria**

1. Adults (both males and females, 18 years +) between 3 and 31 days after stroke with an intact pre-motor area (location of mirror neurons) as confirmed by routine clinical imaging
2. A substantially paretic upper limb as measured by a grip force of between 15% and 65% of that of the non-paretic upper limb

**Participant type(s)**

Patient

**Age group**

Adult

**Lower age limit**

18 Years

**Sex**

Both

**Target number of participants**

24

**Key exclusion criteria**

Unable to imitate action with their non-paretic limb (i.e. severe visual, communication or cognitive deficits precluding participation in OTI+MP). This will be assessed by the research therapist sitting along side the potential participant. The research therapist will perform 5 actions and the potential participant will be asked to observe and then perform the actions. This assessment will be videoed and saved onto a computer. The accuracy of observed activity will be assessed by 2 independent assessors from the video film using a three point scale used by Decety and colleagues: 2 = correctly reproduced action; 1 = incorrectly reproduced action; 0 = action not produced. Those scoring 8/10 or above will be considered to have the ability to imitate.

**Date of first enrolment**

12/01/2009

**Date of final enrolment**

31/12/2009

## **Locations**

**Countries of recruitment**

England

United Kingdom

**Study participating centre**  
**The Queens Building**  
Norwich  
United Kingdom  
NR4 7TJ

## Sponsor information

**Organisation**  
University of East Anglia (UK)

**Sponsor details**  
Research and Business Services  
Norwich  
England  
United Kingdom  
NR4 7TJ

**Sponsor type**  
University/education

**Website**  
<http://www.uea.ac.uk/>

**ROR**  
<https://ror.org/026k5mg93>

## Funder(s)

**Funder type**  
University/education

**Funder Name**  
University of East Anglia (UK)

**Alternative Name(s)**  
UEA

**Funding Body Type**  
Private sector organisation

**Funding Body Subtype**

Universities (academic only)

**Location**

United Kingdom

## Results and Publications

**Publication and dissemination plan**

Not provided at time of registration

**Intention to publish date****Individual participant data (IPD) sharing plan****IPD sharing plan summary**

Not provided at time of registration

**Study outputs**

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
<a href="#">Results article</a>	results	01/02/2013		Yes	No