

# Constraint Induced Movement Therapy (CIMT) for acquired brain injury: a clinical feasibility RCT.

<b>Submission date</b> 19/01/2015	<b>Recruitment status</b> No longer recruiting	<input type="checkbox"/> Prospectively registered
		<input type="checkbox"/> Protocol
<b>Registration date</b> 02/02/2015	<b>Overall study status</b> Completed	<input type="checkbox"/> Statistical analysis plan
		<input type="checkbox"/> Results
<b>Last Edited</b> 19/02/2020	<b>Condition category</b> Nervous System Diseases	<input type="checkbox"/> Individual participant data
		<input type="checkbox"/> Record updated in last year

## Plain English summary of protocol

### Background and study aims

Having an acquired brain injury (stroke or traumatic) often results in difficulty with completing everyday tasks due to people having a decreased ability to use their arm effectively. This may often lead to a decreased quality of life and decreased independence in everyday activities. The aim of this study is to investigate how easy/difficult a therapy called Constraint Induced Movement Therapy (CIMT) is to deliver to patients and also to indicate if any improvements in their upper limb use occurs after using this therapy. It is hoped that this information will provide a better understanding of the therapy and show what further research is needed to be completed on the therapy.

### Who can participate?

Both male and female patients, currently attending the Regional Acquired Brain Injury Unit (RABIU) in Musgrave Park Hospital are eligible to attend, providing they meet baseline arm movement requirements and upper limb treatment is a main therapy goal for the patient.

### What does the study involve?

Participants are randomly allocated into one of two groups. Those in group 1 (experimental) are given CIMT for one and a half hours a day, 5 days per week for 3 weeks. Those in group 2 (control) are given standard (Bobath based) therapy over the same time period. Arm function, psychological effects (for example, improvements in depression or anxiety) and adherence to the treatment are assessed for all participants before their treatment starts, on the last day of treatment and then 12 weeks later.

### What are the possible benefits and risks of participating?

There are both potential benefits and risks of taking part in the study including improvement in the amount and quality of movement in the patients' arm. One potential risk is an increase in the amount of pain due to overuse of the arm; this will however be closely monitored by the therapy team and the therapy will be stopped or adapted if this occurs.

Where is the study run from?

Regional Acquired Brain Injury Unit -Belfast Health and Social Care Trust (UK)

When is the study starting and how long is it expected to run for?

September 2008 to September 2011

Who is funding the study?

Department of Employment and Learning, Northern Ireland (UK)

Who is the main contact?

Dr Katie Pedlow

## Contact information

### Type(s)

Public

### Contact name

Dr Katy Pedlow

### ORCID ID

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## Additional identifiers

EudraCT/CTIS number

IRAS number

ClinicalTrials.gov number

Secondary identifying numbers

V2.09.07.09

## Study information

### Scientific Title

Constraint Induced Movement Therapy (CIMT) for acquired brain injury: a clinical feasibility RCT investigating CIMT versus a Bobath based upper limb intervention.

### Study objectives

Despite its robust evidence, gaps remain within CIMT research. The majority of studies have been completed in controlled laboratory settings in the United States of America and clinical

settings in Asian countries such as China, Thailand and Taiwan; both of which are not directly comparable to the United Kingdom (UK) National Health Service (NHS). Although similarities could be drawn between the clinical settings of the UK and Asia, many differences exist such as the higher level of private healthcare in Asia (WHO 2009). To our knowledge there has only been one registered CIMT trial within the UK which is currently exploring web based CIMT (LifeCIT: NCT01350453); none have been completed in the UK clinical setting. In addition there have been no trials reporting the use of a multi disciplinary therapy team (both physiotherapists and occupational therapists) to deliver CIMT as well as very few trials investigating CIMT with the traumatic brain injury (TBI) population; the majority of research to date has focused on the stroke population. The aim of this current study was to address these research gaps and apply CIMT in the UK NHS clinical setting with both the stroke and traumatic brain injury population.

### **Ethics approval required**

Old ethics approval format

### **Ethics approval(s)**

Northern Ireland Office for Research Ethics Committees, 11/11/2009, ref: 09/NIR01/53

### **Study design**

Feasibility single-centre randomised controlled 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 to request a patient information sheet

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

Acquired brain injury, specifically traumatic brain injury and stroke.

### **Interventions**

1. Constraint induced movement therapy for the upper limb (experimental)
2. Conventional interdisciplinary upper extremity programme (control)

### **Intervention Type**

Procedure/Surgery

### **Primary outcome measure**

1. Motor activity log
2. Graded wolf motor function test

The time points are baseline, immediately post intervention and three months post intervention completion

### **Secondary outcome measures**

1. EuroQOL
2. Stroke self efficacy questionnaire
3. Hospital anxiety and depression scale

The timepoints are baseline, immediately post intervention and three months post intervention completion

### **Overall study start date**

28/09/2008

### **Completion date**

01/09/2011

## **Eligibility**

### **Key inclusion criteria**

1. Participants with upper limb treatment as a main therapy requirement
2. Male and female (aged  $\geq 18$  years old)
3. Six months to five years post first episode of ABI (stroke or TBI)
4. Movement criteria: Have a minimum of the following criteria and be able to complete three times:
  - 4.1. 100 wrist extension
  - 4.2. 100 extension/abduction of the thumb
  - 4.3. Extension of 2 fingers  $> 00$
  - 4.4 450 shoulder flexion and abduction
  - 4.5. 200 elbow extension from 900 flexed position
5. Follow two part spoken or written commands
6. Perform their baseline level of mobility with the mitt on their less effected upper extremity including walking/transfer/wheelchair use (independently/with supervision/with assistance)

### **Participant type(s)**

Patient

### **Age group**

Mixed

### **Lower age limit**

18 Years

### **Sex**

Both

### **Target number of participants**

30

### **Key exclusion criteria**

1. Progressive neurological condition
2. Gross cognitive impairment or disorientation.

**Date of first enrolment**

18/12/2009

**Date of final enrolment**

18/04/2011

## Locations

**Countries of recruitment**

United Kingdom

**Study participating centre**

Regional Acquired Brain Injury Unit - Belfast Health and Social Care Trust

United Kingdom

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## Sponsor information

**Organisation**

University of Ulster

**Sponsor details**

Centre for Health and Rehabilitation Technologies

Newtownabbey

Northern Ireland

United Kingdom

BT37 OQB

**Sponsor type**

University/education

**ROR**

<https://ror.org/01yp9g959>

## Funder(s)

**Funder type**

Government

**Funder Name**

Department of Employment and Learning, Northern Ireland (UK)

## **Results and Publications**

**Publication and dissemination plan**

To be confirmed at a later date.

2013 results in thesis: <https://ethos.bl.uk/OrderDetails.do?uin=uk.bl.ethos.593635> (added 19/02/2020)

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

Available on request