

# Seated and lying Tai Chi model for stroke patients

<b>Submission date</b> 25/08/2016	<b>Recruitment status</b> No longer recruiting	<input type="checkbox"/> Prospectively registered <input type="checkbox"/> Protocol
<b>Registration date</b> 10/09/2016	<b>Overall study status</b> Completed	<input type="checkbox"/> Statistical analysis plan <input checked="" type="checkbox"/> Results
<b>Last Edited</b> 22/09/2016	<b>Condition category</b> Circulatory System	<input type="checkbox"/> Individual participant data

## Plain English summary of protocol

### Background and study aims

A stroke is a serious, life-threatening medical condition that occurs when the blood supply to part of the brain is cut off. The injury to the brain caused by a stroke can lead to widespread and long-lasting problems. Tai chi is a health-promoting exercise that combines deep breathing and relaxation with slow and gentle movements. A seated and lying Tai Chi model has been developed that is easier for the elderly, people with disabilities, and especially for stroke patients. The aim of this study is to find out whether the easy Tai Chi exercise could improve stroke patients' mental condition, muscle power, and quality of life.

### Who can participate?

Stroke patients aged 18 and over who have had disabilities of the limbs for longer than 6 months

### What does the study involve?

Participants attend 12 practice sessions (90 minutes per session) led by a Tai Chi master and practice at home for 60 minutes per day for three months. The participants' mental condition, muscle power, and quality of life are assessed before practicing Tai Chi and after practicing Tai Chi for three months.

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

The participants may improve their mental condition, muscle power, and quality of life. Although Tai Chi is not a heavy exercise, the body is still moving during exercise. When the patients practice Tai Chi in a sitting position, the participants have to be in a better condition to move and keep balanced, or the patients could choose Tai Chi in a lying position.

### Where is the study run from?

The study has been set up by the Department of Neurology, E-Da Hospital in collaboration with Kaohsiung Medical University and Chang Gung Memorial Hospital-Kaohsiung Medical Center (Taiwan)

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

October 2014 to June 2015

Who is funding the study?  
E-Da Hospital (Taiwan)

Who is the main contact?  
1. Dr Lian-Hui Lee (brucel-k@yahoo.com.tw)  
2. Prof. Hwai-Ting Lin (whiting@kmu.edu.tw)

## Contact information

**Type(s)**  
Scientific

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## Additional identifiers

**Protocol serial number**  
EMRP17103N

## Study information

**Scientific Title**  
Development of a Direction-Oriented Motion and Short-Seated and Lying Tai Chi (DOM-SSLTC) model for stroke patients

**Acronym**  
DOM-SSLTC Model for Stroke Patients

**Study objectives**  
A Direction-Oriented Motion and Short-Seated and Lying Tai Chi (DOM-SSLTC) model can be performed easily, for stroke patients, and is helpful for their mental, muscle strengthening, and quality of life.

**Ethics approval required**  
Old ethics approval format

**Ethics approval(s)**

## **Study design**

Non-randomised study

## **Primary study design**

Interventional

## **Study type(s)**

Quality of life

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

Stroke

## **Interventions**

18 stroke patients were recruited to perform the patient-based DOM-SSLTC model. The Direction-Oriented Motion and Short-Seated and Lying Tai Chi (DOM-SSLTC) model is composed of nine typical movements of the Yang-style Tai Chi form divided into Ma Bu and Gong Bu posture, and four motion directions (medial-lateral, forward-backward, rotation, and upward-downward) in sitting and lying positions. All patients received 12 practice sessions (90 minutes per session) led by a Tai Chi master to ensure a uniform technique and consistent experience and practiced at home for 60 min per day for three months.

## **Intervention Type**

Behavioural

## **Primary outcome(s)**

Outcomes are measured before practicing Tai Chi (baseline) and after practicing Tai Chi for three months.

1. The National Institutes of Health Stroke Scale (NIHSS): a systematic assessment tool that provides a quantitative measure of stroke-related neurologic deficit, has 15 items, 3 to 5 grades with 0 is normal
2. Modified Ashworth Scale: evaluated muscle spasticity, from grade 0 (No increase in muscle tone) to grade 5 (Affected part(s) rigid in flexion or extension)
3. Modified Rankin Scale: commonly used scale for measuring the degree of disability or dependence in the daily activities of people who have suffered a stroke or other causes of neurological disability, The scale runs from 0-6, running from perfect health without symptoms to death
4. Barthel Index: the scoring point for the statement that most closely corresponds to the patient's current level of ability for each of the 10 activities of daily living
5. Psychology test with Taiwanese Depression Questionnaire: evaluated depression scale, a 4-point scale with 18 items, is a culturally specific depression self-rating instrument for effective screening of depression in Taiwan

## **Key secondary outcome(s)**

Outcomes are measured before practicing Tai Chi (baseline) and after practicing Tai Chi for three months.

1. Muscle power of the trunk flexor muscles, assessed via sit-ups with knee bended and hand alternately touching the opposite bended knee.

2. Muscle power of the rectus femoris, assessed by the leg alternately stretched on sitting. The repetitions of both motions were measured for one min with same height chair for leg test and lying with 10 cm hard mat as pillow with knee bending.

**Completion date**

30/06/2015

## **Eligibility**

**Key inclusion criteria**

1. Aged  $\geq 18$  years
2. Disability status based on the modified Ranking scale 2-4 (mild-to-moderately severe disability)
3. Post-stroke disabilities of the limbs longer than 6 months
4. Cleared for major cardiac and respiratory medical diseases
5. No contraindications for doing Tai Chi exercises

**Participant type(s)**

Patient

**Healthy volunteers allowed**

No

**Age group**

Adult

**Lower age limit**

18 years

**Sex**

All

**Key exclusion criteria**

1. Disability status on modified Ranking scale is 1
2. Cannot do the Tai Chi exercises

**Date of first enrolment**

15/10/2014

**Date of final enrolment**

30/06/2015

## **Locations**

**Countries of recruitment**

Taiwan

**Study participating centre**

**E-Da Hospital**  
Kaohsiung  
Taiwan  
824

## Sponsor information

**Organisation**  
E-Da Hospital

**ROR**  
<https://ror.org/00eh7f421>

## Funder(s)

**Funder type**  
Hospital/treatment centre

**Funder Name**  
E-Da Hospital

## Results and Publications

**Individual participant data (IPD) sharing plan**

**IPD sharing plan summary**

Available on request

### Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
<a href="#">Basic results</a>		02/09/2016	22/09/2016	No	No