# A pilotstudy to evaluate the effect of mental practice-based training on arm function recovery in subacute stroke patients.

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The first objective of the study is to study the effectiveness of mental practice training for upper limb recovery in patients with a subacute stroke.The second objective is to study the feasibility of mental practice based training in subacute...

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| **Ethical review** | Approved WMO |
| **Status** | Pending |
| **Health condition type** | Central nervous system vascular disorders |
| **Study type** | Interventional |

## Summary

### ID

NL-OMON29800

**Source**
ToetsingOnline

**Brief title**
Mental practice training in patients with a subacute stroke.

### Condition

- Central nervous system vascular disorders

**Synonym**
mental imagery, movement imagery

**Research involving**
Human

### Sponsors and support

**Primary sponsor:** Hoensbroek Revalidatiecentrum (HRC)

**Source(s) of monetary or material Support:** stage

## Intervention

**Keyword:** imagery, mental practice, stroke, upper limb

## Outcome measures

### Primary outcome

Therapy outcome regarding armhandfunction at the impairment level is measured using the Brunnstrom-Fugl-Meyer (FM) test, part A -D, the part for the upper limb. The maximal score is 66.

Therapy outcome regarding armhandfunction at the activity level (according the International Classification of Functioning:ICF) is measured using the Action Research Arm (ARA) test. This test contains 5 parts. Each of them has an hierarchical ranging. The minimal score is 0, the maximal score is 72.

### Secondary outcome

The modified Franchay Arm Test (FAT) is used to assess the degree to which the patient is able to actually perform arm hand functions and tasks.

The test has an ordinal scale of 0-1 and contains 5 parts. The maximal score is 5.

# Study description

### Background summary

In the Netherlands every year there are about 30.000 new cases of strokes. Over 50 % of patients with an upper limb paresis as a result of stroke, is confronted with longterm impaired arm function and a resulting disability in daily life performance. Unfortunately, the number of effective treatments aimed

at the improvement of arm function in stroke is still low. Treatment based on mental practice, which has been shown to be effective in enhancement of motor performance in healthy individuals, seems a promising technique in the rehabilitation training for patients with stroke.
AIM of our study is to (further) develop and evaluate a new therapy approach based on theories on mental practice and functional task-oriented training focussing on improvement in arm function outcome in subacute stroke patients and to study the underlying motor learning mechanisms generally associated with brain plasticity. It is hypothesized that a mental practice-based training (additional to 'therapy-as-usual'), targeting specific upper extremity skills, will significantly improve both arm function and the performance of daily activities.

## Study objective

The first objective of the study is to study the effectiveness of mental practice training for upper limb recovery in patients with a subacute stroke. The second objective is to study the feasibility of mental practice based training in subacute stroke patients.

## Study design

a study in a single case design

## Intervention

Mental practice is complemented to the therapy as usual and consists of a repeatedly imagery of functional movements.To control the performance of the mental practice training, the patients has an appointment with a physiotherapist every week. Than the patient performes the mental practice training at home twice a day.
During the training, the patient will see a DVD with a functional movement. The movement is filmed in the first person; it looks like the patient doing the movement himself.
The movement is repeated several times and the patient should imagine as good as possible doing the movement by himself. The DVD takes about 10 minutes.

There are 5 DVD's, arranged to the level of functional movements. The patient will see the DVD which fits to his condition.
The patient takes the DVD home, to perform the training during the week.

## Study burden and risks

The burden for the patient is an additional hour at the rehabilitation unit of the Atrium Medisch Centrum. The hour planned directly after the normal therapy. In addition, the patient performs the mental practice training at home twice a

day.
Filling in the dairy takes about 5 minutes a day. The questionnaire takes about 10 minutes.

No risks have to be expected.

Benefits are the expected positive effect on the recovery of the upper limb.

## Contacts

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**Scientific**
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## Trial sites

### Listed location countries

Netherlands

## Eligibility criteria

**Age**
Adults (18-64 years)
Elderly (65 years and older)

### Inclusion criteria

no disturbances after a former stroke, no severe cognitive problems, have a vividness of movement imagery, muscle strength of the upper extremity of MRC 1-3, able to sit (with help).

### Exclusion criteria

severe cognitive problems, not able to participate in movement imagery training, muscle strength more as MRC 3 of the upper extremity.

## Study design

### Design

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| Study type: | Interventional |
| Intervention model: | Parallel |
| Allocation: | Randomized controlled trial |
| Masking: | Single blinded (masking used) |

**Primary purpose:** Treatment

### Recruitment

NL

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| Recruitment status: | Pending |
| Start date (anticipated): | 01-06-2006 |
| Enrollment: | 8 |
| Type: | Anticipated |

## Ethics review

Approved WMO

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| Application type: | First submission |
| Review commission: | METC SRL/iRv: St Revalidatie Limburg/iRv Kenniscentrum voor Revalidatie en Handicap (Hoensbroek) |

## Study registrations

### Followed up by the following (possibly more current) registration

No registrations found.

## Other (possibly less up-to-date) registrations in this register

No registrations found.

## In other registers

| Register | ID |
| --- | --- |
| CCMO | NL13033.022.06 |