Effect of feedback on learning an arm motor task.

No registrations found.

Ethical review	Positive opinion
Status	Pending
Health condition type	-
Study type	Observational non invasive

Summary

ID

NL-OMON25305

Source
NTR

Brief title
AdapHS

Health condition

stroke
cva
motor learning
arm
feedback
beroerte
upper extremity

Sponsors and support

Primary sponsor: Roessingh Research And Development
Source(s) of monetary or material Support: Ministry of Economical Affairs, Provincie Gelderland, Provincie Overijssel

Intervention

Outcome measures

Primary outcome

The main outcome measure is the performance error, which is the difference between the performed movement with the predefined movement. This can be measured in path length and directional error.

Secondary outcome

N/A

Study description

Background summary

Rationale:

After a stroke, many patients suffer from an impaired motor task performance. Optimal restoration of arm and hand function is essential for stroke survivors to independently perform activities of daily life. To stimulate restoration of arm function, rehabilitation must consist of intensive, active and functional movement exercises. Addition of augmented feedback to exercises can also stimulate the learning process by making patients more aware of their performance. There are different possibilities of providing the desired augmented feedback, such as a score on a screen or knowledge about the way the arm moved, during movement execution or when the movement is performed. Research about the effect of these different kinds of augmented feedback in stroke survivors is scarce.

Objective:

The objective of this study is to examine the effect of different kinds of augmented feedback on learning an arm motor task in healthy subjects and stroke survivors.

Study design:

In the study three conditions of different kinds of augmented feedback are tested. The order of the feedback conditions differs per subject due to the use of block randomisation. The study has a cross-sectional character, because the subjects are tested at three independent moments. The experiment is completed within three sessions. In each session subjects will learn arm movements by means of a visual rotation on the screen, which represents their

arm movement. Three conditions of different kinds of augmented feedback are tested: 1) feedback about the movement trajectory while performing the movement, 2) feedback about the movement trajectory after the movement is performed, 3) feedback about the achievement of the goal of the movement after the movement is performed. In one measurement sessions one condition is tested. Time between the different measurement sessions is one week.

Study population:

Twenty chronic stroke survivors will participate, and in addition twenty healthy volunteers in the age of 18-75 years will participate.

Study objective

It is hypothesized that learning with a specific kind of feedback might improve learning.

Study design

The experiment is completed within three sessions. Time between the different measurement sessions is one week.

Intervention

In the study three conditions of different kinds of augmented feedback are tested. The study has a cross-sectional character, because the subjects are tested at three independent moments. In each session subjects will learn arm movements by means of a visual rotation on the screen, which represents their arm movement. Three conditions of different kinds of augmented feedback are tested:

1. Feedback about the movement trajectory while performing the movement;

2. Feedback about the movement trajectory after the movement is performed;

3. Feedback about the achievement of the goal of the movement after the movement is performed.

Contacts

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Eligibility criteria

Inclusion criteria

1. Be able to understand and follow instructions;

2. Be in the age of 18-75 years;

3. Time post stroke should be over 6 months.

Exclusion criteria

1. Shoulder pain;

2. Neurologic, orthopaedic or rheumatologic disease of upper extremity;

3. Use of medication which might affect motor control.

Study design

Design

Study type:	Observational non invasive
Intervention model:	Crossover
Allocation:	Non-randomized controlled trial
Masking:	Open (masking not used)
Control:	N/A , unknown

Recruitment

NL

Recruitment status:	Pending
Start date (anticipated):	01-03-2010
Enrollment:	40
Type:	Anticipated

Ethics review

Positive opinion

Date:	10-08-2010
Application type:	First submission

Study registrations

Followed up by the following (possibly more current) registration

ID: 34851
Bron: ToetsingOnline
Titel:

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

No registrations found.

In other registers

Register	ID
NTR-new	NL2360
NTR-old	NTR2467
CCMO	NL31361.044.10
ISRCTN	ISRCTN wordt niet meer aangevraagd.
OMON	NL-OMON34851

Study results

Summary results
N/A