

Effect of feedback on learning an arm motor task.

Gepubliceerd: 10-08-2010 Laatste bijgewerkt: 19-03-2025

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

Ethische beoordeling	Positief advies
Status	Werving nog niet gestart
Type aandoening	-
Onderzoekstype	Observationeel onderzoek, zonder invasieve metingen

Samenvatting

ID

NL-OMON25305

Bron

NTR

Verkorte titel

AdapHS

Aandoening

stroke
cva
motor learning
arm
feedback
beroerte
upper extremity

Ondersteuning

Primaire sponsor: Roessingh Research And Development

Overige ondersteuning: Ministry of Economical Affairs, Provincie Gelderland, Provincie Overijssel

Onderzoeksproduct en/of interventie

Uitkomstmaten

Primaire uitkomstmaten

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.

Toelichting onderzoek

Achtergrond van het onderzoek

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.

Doel van het onderzoek

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

Onderzoeksopzet

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

Onderzoeksproduct en/of interventie

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.

Contactpersonen

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Deelname eisen

Belangrijkste voorwaarden om deel te mogen nemen (Inclusiecriteria)

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.

Belangrijkste redenen om niet deel te kunnen nemen (Exclusiecriteria)

1. Shoulder pain;
2. Neurologic, orthopaedic or rheumatologic disease of upper extremity;
3. Use of medication which might affect motor control.

Onderzoeksopzet

Opzet

Type:	Observationeel onderzoek, zonder invasieve metingen
Onderzoeksmodel:	Cross-over
Toewijzing:	Niet-gerandomiseerd
Blindering:	Open / niet geblindeerd
Controle:	N.v.t. / onbekend

Deelname

Nederland
Status: Werving nog niet gestart
(Verwachte) startdatum: 01-03-2010
Aantal proefpersonen: 40
Type: Verwachte startdatum

Ethische beoordeling

Positief advies
Datum: 10-08-2010
Soort: Eerste indiening

Registraties

Opgevolgd door onderstaande (mogelijk meer actuele) registratie

ID: 34851
Bron: ToetsingOnline
Titel:

Andere (mogelijk minder actuele) registraties in dit register

Geen registraties gevonden.

In overige registers

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

Resultaten

Samenvatting resultaten

N/A