

Developing a new test for ability to control an arm prosthesis.

Gepubliceerd: 13-12-2015 Laatste bijgewerkt: 18-08-2022

In the process of developing a serious game for testing patients' level of myocontrol a part of the test needs to be validated. In a previous trial we found differences between several tests that need further inspection. The current study focusses...

Ethische beoordeling	Niet van toepassing
Status	Werving gestart
Type aandoening	-
Onderzoekstype	Interventie onderzoek

Samenvatting

ID

NL-OMON25334

Bron

NTR

Aandoening

This experiment will be executed with healthy subjects.

Ondersteuning

Primaire sponsor: University Medical Centre Groningen (UMCG)

A. Deusinglaan 1
9713 AV Groningen
The Netherlands

Overige ondersteuning: UCF, Revalidatiefonds

Onderzoeksproduct en/of interventie

Uitkomstmaten

Primaire uitkomstmaten

Primary outcome measure per test;

1. Serious game: Adaptive catching; the plateau phase of the aperture of the gripper in the game (grasping profile) and the difference between the aperture of the virtual gripper and the diameter of three differently sized virtual balls
 - a. Prosthesis task: Compressible objects; Duration of maximum hand aperture (i.e., plateau phase, goniometer) and the number of millimeters the compressible objects are compressed.

The above described measures will be ranked per test. These ranks will be analyzed.

Toelichting onderzoek

Achtergrond van het onderzoek

Recruiting countries: the Netherlands

Doel van het onderzoek

In the process of developing a serious game for testing patients' level of myocontrol a part of the test needs to be validated. In a previous trial we found differences between several tests that need further inspection. The current study focusses on determining whether subjects are equally good at a game and a similar prosthesis task after a period of training.

Onderzoeksopzet

All subjects will be measured for 24 (2x12) minutes on five consecutive days. The primary results are based on magnitudes. In the prosthesis task these distances will be measured using a goniometer and a calliper. In the serious game these measures are based on data collected from the gripper that is displayed on the screen.

Onderzoeksproduct en/of interventie

During this study all subjects will undergo two tests. One of these tests will be executed with the use of a myoelectric prosthesis simulator. The other test will be executed in a virtual environment, using a serious game. Both the myoelectric prosthesis simulator and the serious games are controlled using surface EMG measured on the flexor and extensor of the wrist. All participants will come back on five consecutive days to train both tests for 12 minutes each. The two tests will be presented to the participants in a random order. During the serious game, only level one will be played.

Contactpersonen

Publiek

Center for Human Movement Sciences-UMCG, University of Groningen. Building-Room 3216-213

A. Heerschop
A. Deusinglaan 1

Groningen 9713 AV
The Netherlands
+31 (0) 50 363 8902 // +31 (0) 6 44103626

Wetenschappelijk

Center for Human Movement Sciences-UMCG, University of Groningen. Building-Room 3216-213

A. Heerschop
A. Deusinglaan 1

Groningen 9713 AV
The Netherlands
+31 (0) 50 363 8902 // +31 (0) 6 44103626

Deelname eisen

Belangrijkste voorwaarden om deel te mogen nemen (Inclusiecriteria)

The subjects included in this study are able bodied and right handed, with normal or corrected to normal vision. Both male and female subject will be included. All subjects included will be between 18 and 50 years of age.

Belangrijkste redenen om niet deel te kunnen nemen (Exclusiecriteria)

Subjects with (history of) pain or musculoskeletal impairments of the arms or upper body will not be included. The same accounts for subjects with prior experience in the use of myoelectric devices and subjects younger than 18 or older than 50.

Onderzoeksopzet

Opzet

Type:	Interventie onderzoek
Onderzoeksmodel:	Cross-over
Toewijzing:	N.v.t. / één studie arm
Blinding:	Open / niet geblindeerd
Controle:	N.v.t. / onbekend

Deelname

Nederland	
Status:	Werving gestart
(Verwachte) startdatum:	14-12-2015
Aantal proefpersonen:	15
Type:	Verwachte startdatum

Ethische beoordeling

Niet van toepassing	
Soort:	Niet van toepassing

Registraties

Opgevolgd door onderstaande (mogelijk meer actuele) registratie

Geen registraties gevonden.

Andere (mogelijk minder actuele) registraties in dit register

Geen registraties gevonden.

In overige registers

Register

NTR-new

NTR-old

Ander register

ID

NL5449

NTR5593

: ECB 2014.02.28_1

Resultaten