Developing a training game for switching between grip patterns in an arm prosthesis.

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In the process of developing a serious game which can be used to determine and improve patients' capacity of producing switch signals for myoelectrically controlled hand prostheses, a part of the test needs to be validated. The current study…

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

Samenvatting

ID

NL-OMON27572

Bron
NTR

Aandoening

This experiment will be executed with healthy subjects.

Ondersteuning

Primaire sponsor: University Campus Fryslan, Revalidatiefonds Nederland
Overige ondersteuning: University Campus Fryslan, Revalidatiefonds Nederland

Onderzoeksproduct en/of interventie

Uitkomstmaten

Primaire uitkomstmaten

Primary outcome measure per test part;

The time elapsed between start of the first attempt to switch and the completion of the

switch, the

error between required and produced velocity and the difference between the aperture of the

virtual gripper and the diameter of three differently sized virtual balls.

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

Toelichting onderzoek

Achtergrond van het onderzoek

Recruting countries: the Netherlands

Doel van het onderzoek

In the process of developing a serious game which can be used to determine and improve patients'

capacity of producing switch signals for myoelectrically controlled hand prostheses, a part of the test

needs to be validated. The current study focusses on 1) determining whether subject are equally

good at performing discrete control as they are is performing proportional control and 2) gaining

insight into learning behavior of switching.

Onderzoeksopzet

All subjects will be measured on 5 consecutive days (Monday-Friday). The pretest will be done at day

one, the posttest on day 5. The training days will be on day 2, 3, 4 and 5.

The primary results are based on times and distances. These measures are all based on data collected

from the avatar that is displayed on the screen.

Onderzoeksproduct en/of interventie

This study is set up with a pre- posttest design with a training period in between. During the training

all subjects will train with a serious game in a virtual reality setting. This serious game is controlled

using surface EMG measured on the flexor and extensor of the wrist. Per day this training will take 20

minutes. During the pre- and posttest all subjects will also perform an EMG controlled task in a

virtual environment.

Contactpersonen

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Wetenschappelijk

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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
Blindering:	Open / niet geblindeerd
Controle:	N.v.t. / onbekend

Deelname

Nederland

Status:	Werving gestart
(Verwachte) startdatum:	01-10-2016
Aantal proefpersonen:	25
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	ID
NTR-new	NL5723
NTR-old	NTR5876
Ander register	: ECB 2014.02.28_1

Resultaten