Coupling between brain and muscles in response to mechanical perturbations.

No registrations found.

Ethical review	Positive opinion
Status	Recruitment stopped
Health condition type	-
Study type	Interventional

Summary

ID

NL-OMON27695

Source
NTR

Health condition

ENG: movement disorders
NL: bewegingsstoornissen

Sponsors and support

Primary sponsor: MIRA institute, University of Twente
Source(s) of monetary or material Support: MIRA institute, University of Twente

Intervention

Outcome measures

Primary outcome

Corticomuscular coherence and impulse response functions from perturbation to EMG and EEG.

Secondary outcome

N/A

Study description

Background summary

Objective:

Study cortical involvement in motor control using system identification techniques in the time and frequency domain.

Method:

Electrophysiological signals will be recorded from the subject’s scalp and over three muscles in the lower arm while the subject exerts a constant force to a manipulandum. The manipulandum will apply perturbations in the form of wrist angle changes. Using different perturbations we will look at coupling measures in the time domain (proprioceptive evoked potentials) end the frequency domain (corticomuscular coherence).

Countries of recruitment:

The Netherlands.

Study objective

The control of voluntary movement involves different parts of the central nervous system. The involvement of the cortex in the control of movement is not always incorporated in research on motor control. In this study we will use system identification technique in order to study functional corticomuscular coupling in the time and frequency domain.

Study design

During one session of approximately 2,5 hours, EEG and EMG are recorded during motor tasks. During the motor task the subject is perturbed by continuous position perturbations.

Intervention

Position perturbations while the subject applies a constant force against a manipulandum.

Contacts

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Eligibility criteria

Inclusion criteria

1. Age between 18 and 50 years old;

2. Written informed consent.

Exclusion criteria

1. Injury of the dominant wrist in the past year;

2. Suffer from any movement disorder;

3. Suffer from a sever medical condition.

Study design

Design

Study type:	Interventional
Intervention model:	Parallel
Allocation:	Non controlled trial
Masking:	Open (masking not used)
Control:	N/A , unknown

Recruitment

NL

Recruitment status:	Recruitment stopped
Start date (anticipated):	15-03-2011
Enrollment:	20
Type:	Actual

Ethics review

Positive opinion

Date:	19-01-2011
Application type:	First submission

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
NTR-new	NL2575

Register	ID
NTR-old	NTR2701
Other	ABR : 34673
ISRCTN	ISRCTN wordt niet meer aangevraagd.

Study results

Summary results
N/A