Functional MRI guided transcranial magnetic stimulation of the oculomotor system

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Investigating the influence of Transcranial Magnetic Stimulation (TMS)-disruptions on the neural processes in the areas involved in the adaptation abilities of the human oculomotor system.

Ethical review	Approved WMO
Status	Recruitment stopped
Health condition type	Other condition
Study type	Observational non invasive

Summary

ID

NL-OMON35244

Source
ToetsingOnline

Brief title
TMS of the oculomotor system

Condition

- Other condition

Synonym
none

Health condition

geen

Research involving
Human

Sponsors and support

Primary sponsor: Universiteit Utrecht
Source(s) of monetary or material Support: Ministerie van OC&W

Intervention

Keyword: adaptation, fMRI, oculomotor, TMS

Outcome measures

Primary outcome

Influence of TMS-disruptions on saccade latency, saccade endpoint, saccade

trajectories and the adaptation effect.

Secondary outcome

n/a

Study description

Background summary

People are able to quickly and often completely automatically adapt their motor responses to a dynamic environment. The human oculomotor system serves as a model for this remarkable adaptation abilities of the human motor system. The exact contribution of the various brain areas to this process is unclear, however.

Study objective

Investigating the influence of Transcranial Magnetic Stimulation (TMS)-disruptions on the neural processes in the areas involved in the adaptation abilities of the human oculomotor system.

Study design

Five experimental studies will be conducted in which eye movements have to be made under various dynamic conditions. During three experiments TMS will be applied to measure the influence of the disruptions. In two experiments, a number of brain areas and connections will be visualized on individual basis using functional magnetic resonance imaging (fMRI) and DTI (diffusion tensor

imaging).

Study burden and risks

Because of the apllied TMS parameters, there will be no significant health risk. The stimulation itself can sometimes be somewhat uncomfortable and lead to a light headache during stimulation. The headache can be effectively treated with light analgetics like aspirine.
The applied fMRI techniques do not constitute a safety risk for the participants when one restricts oneself to the general used rules for conducting a fMRI experiment.

Contacts

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Trial sites

Listed location countries

Netherlands

Eligibility criteria

Age
Adults (18-64 years)
Elderly (65 years and older)

Inclusion criteria

- healthy
- between 18 and 35 years old

Exclusion criteria

- psychiatrisch verleden

Study design

Design

Study type: Observational non invasive

Masking:	Single blinded (masking used)
Control:	Uncontrolled
Primary purpose:	Other

Recruitment

NL

Recruitment status:	Recruitment stopped
Start date (anticipated):	01-02-2009
Enrollment:	96
Type:	Actual

Ethics review

Approved WMO Date:	12-08-2008
Application type:	First submission
Review commission:	METC Universitair Medisch Centrum Utrecht (Utrecht)
Approved WMO Date:	14-10-2010
Application type:	Amendment

Review commission: METC Universitair Medisch Centrum Utrecht (Utrecht)

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
CCMO	NL23137.041.08