Neuromuscular aging in the upper limb in chronic stroke in adults above sixty years - a motor control study

Published: 18-08-2008
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To show if there is an increase in reflex time as a function of time after stroke (6 months - 10 years after stroke)

Ethical review	Approved WMO
Status	Pending
Health condition type	Central nervous system vascular disorders
Study type	Observational non invasive

Summary

ID

NL-OMON32017

Source
ToetsingOnline

Brief title
Neuromuscular aging after stroke

Condition

- Central nervous system vascular disorders

Synonym
stroke/CVA (cerebrovascular accident)

Research involving
Human

Sponsors and support

Primary sponsor: Leids Universitair Medisch Centrum
Source(s) of monetary or material Support: Ministerie van OC&W

Intervention

Keyword: biomechanical, haptic robot, reflex time, stroke/CVA

Outcome measures

Primary outcome

reflex time measured from force perturbation experiment

reflex time measured from postion perturbation experiment

Secondary outcome

biomechanical parameters:

1. inertia of the hand (g/m2)

2. viscosity/damping (Nms/rad)

3. intrinsic elasticity/stiffness (Nms/rad)

4. velocity-dependent reflex gain (Nms/rad)

Study description

Background summary

Aging/degeneration in the neuromuscular system has been operationalised as reflex time.
Support for this assumption comes from cross-sectional and longitudinal studies showing an increase in reflex time as a function of increase in age.
Reflex time increases after stroke.
Unpublished reports of experiments with reflex time after stroke, done in the laboratory of motion analysis in LUMC suggest an additional increase in reflex time as a function of time after stroke. This effect becomes manifest from around 24 months after stroke.

Study objective

To show if there is an increase in reflex time as a function of time after stroke (6 months - 10 years after stroke)

Study design

cross sectional

Study burden and risks

A single measurement session of 1.5 hours including neurological exam and experiments with a haptic device (robot).
No risks involved.

Contacts

Public
Leids Universitair Medisch Centrum

Albinusdreef 2/Postbus 9600
2300 RC Leiden
Nederland
Scientific
Leids Universitair Medisch Centrum

Albinusdreef 2/Postbus 9600
2300 RC Leiden
Nederland

Trial sites

Listed location countries

Netherlands

Eligibility criteria

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

Inclusion criteria

1. ischaemic stroke
2. an NIHSS (National Institute of Health Stroke Scale) score of 2 or 3

Exclusion criteria

1. Cognitive disorders which may hamper instruction of the subject.
2. Other neurological, spinal or muscular disorders which can distort the results of the study.
3.Inability to activate the wrist flexors or exert a force with the wrist flexors.

Study design

Design

Study type: Observational non invasive

Masking:	Open (masking not used)
Control:	Uncontrolled
Primary purpose:	Basic science

Recruitment

NL

Recruitment status:	Pending
Start date (anticipated):	01-01-2008
Enrollment:	32
Type:	Anticipated

Ethics review

Approved WMO

Application type:	First submission
Review commission:	METC Leids Universitair Medisch Centrum (Leiden)

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	NL20098.058.07