Brain mechanisms of balance learning in aging

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The overall hypothesis is that balance-specific exercise training only improves postural control of sway measured in standing and causes retention of the improved sway behavior and that such behavioral improvements correlate with changes in measures...

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

Samenvatting

ID

NL-OMON27346

Bron
Nationaal Trial Register

Aandoening

Aging

Ondersteuning

Primaire sponsor: University Medical Center Groningen
Overige ondersteuning: Univeristy Medical Center Groningen

Onderzoeksproduct en/of interventie

Uitkomstmaten

Primaire uitkomstmaten

Behavioral outcome during balance learning is the error produced by balancing on an unstable balance board (Sensamove, Groessen, NL). The error, in degrees, is computed as the cumulative deviation between the position of the board relative to the horizontal. In addition to the performance on the balance board, the laboratory behavioral outcome is the magnitude of sway on the force platform measured in standing with a narrow stance during

TMS and EEG testing. Magnitude of sway is expressed in cm as path length over unit time and the velocity of sway in the anterior-posterior and in the medio- lateral directions.

Toelichting onderzoek

Doel van het onderzoek

The overall hypothesis is that balance-specific exercise training only improves postural control of sway measured in standing and causes retention of the improved sway behavior and that such behavioral improvements correlate with changes in measures of neuronal excitability in the brain.

Onderzoeksopzet

acute study: week 1

Chronic study: week 1, week 4 and week 6

Onderzoeksproduct en/of interventie

Balance training on an unstable surface, cycling on an a stationary bicycle ergometer and no-intervention control

Contactpersonen

Publiek

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Wetenschappelijk

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Deelname eisen

Belangrijkste voorwaarden om deel te mogen nemen (Inclusiecriteria)

Young adults: Age between 18 and 40, female or male, healthy.
Old adults: Age between 65 and 85, female or male, healthy.

Belangrijkste redenen om niet deel te kunnen nemen (Exclusiecriteria)

A score lower than 24 on the Mini Mental State Examination

A score higher than 70 on the falls self-efficacy scale

More than 1 fall over the past year (‘Coming unintentionally to rest on the ground, floor, or lower level’)

Do not meet TMS guidelines

Unable to stand independently for 10 minutes without rest

Epilepsy

Any metal in the brain/skull

Electrical, magnetic, or mechanical implantation: cardiac pacemakers or intracerebral vascular clip

Pregnancy or suspicion of pregnancy

History of seizures or unexplained loss of consciousness

Immediate family member with epilepsy

Use of seizure threshold lowering medicine

History of Schizophrenia

History of Hallucinations

History of other neurological disorders

A prior stroke, heart attack, heart failure, bypass, cardiac arhythmia Acute flu or cold

Spinal, joint, and head pain

Diabetes mellitus

Hypertension (systolic/diastolic > 160/ > 100 mmHg)

Acute and chronic inflammatory condition

Severe arthrosis

Vertigo

Knee or hip endoprosthesis

Trauma within the last 6 months

Active cancer, cancer therapy

Onderzoeksopzet

Opzet

Type:	Interventie onderzoek
Onderzoeksmodel:	Parallel
Toewijzing:	Gerandomiseerd
Blindering:	Open / niet geblindeerd
Controle:	Placebo

Deelname

Nederland

Status:	Werving nog niet gestart
(Verwachte) startdatum:	01-02-2018
Aantal proefpersonen:	288
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	NL6691
NTR-old	NTR6861
Ander register	NL64147.041.17 : 201700861

Resultaten