

Multi-joint coordination in standing balance

Gepubliceerd: 18-12-2013 Laatste bijgewerkt: 19-03-2025

Adaptation to stabilizing externally applied force fields reduces postural responses at the ankle and hip

Ethische beoordeling	Positief advies
Status	Werving nog niet gestart
Type aandoening	-
Onderzoekstype	Interventie onderzoek

Samenvatting

ID

NL-OMON29151

Bron

NTR

Aandoening

standing balance
elderly
ankle and hip strategy
adaptation

balanshandhaving
ouderen
enkel en heup strategie
adaptatie

Ondersteuning

Primaire sponsor: University of Twente

Overige ondersteuning: STW

Onderzoeksproduct en/of interventie

Uitkomstmaten

Primaire uitkomstmaten

Frequency Response Functions (FRF) describe the dynamic relation between the disturbances and the human responses (ankle and hip angle and corresponding joint torques) in means of amplitude and timing.

Toelichting onderzoek

Achtergrond van het onderzoek

N/A

Doel van het onderzoek

Adapation to stabilizing externally applied force fields reduces postural responses at the ankle and hip

Onderzoeksopzet

The primary and secondaire measures are calculated after the measurements have been performed. The available data for the calculation (leg and trunk movement and ankle and hip torques) are measured during the two hour trial, continously

Onderzoeksproduct en/of interventie

To study multi-joint coordination, balance disturbances are externally applied by pushing and pulling at the hips and shoulders. The disturbances contain multiple frequencies ranging from 0.05-5Hz, making the disturbance unpredictable. The disturbances are submaximal, challenging the balance control system, but not intended to make subjects step or fall. In addition, to study adaptation of the ankle and hip strategy, external whole-body force fields are applied, by altering the dynamics of the device and thereby manipulating ankle and hip strategy.

Contactpersonen

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Wetenschappelijk

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Deelname eisen

Belangrijkste voorwaarden om deel te mogen nemen (Inclusiecriteria)

Healthy young subjects aged between 20-30 years

Healthy elderly subjects aged 70 years or older

Ability to stand independently for approximately 5 consecutive minutes

Belangrijkste redenen om niet deel te kunnen nemen (Exclusiecriteria)

Unable to give informed consent

Current orthopaedic problems

Neurological disorders

A history of cardiac conditions that interfere with physical load

Chronic joint pain, or rheumatoid arthritis

Use of medication with an effect on balance control

pregnancy

Onderzoeksopzet

Opzet

Type:	Interventie onderzoek
Onderzoeksmodel:	Anders
Blinding:	Open / niet geblindeerd
Controle:	N.v.t. / onbekend

Deelname

Nederland	
Status:	Werving nog niet gestart
(Verwachte) startdatum:	01-01-2014
Aantal proefpersonen:	0
Type:	Verwachte startdatum

Ethische beoordeling

Positief advies	
Datum:	18-12-2013
Soort:	Eerste indiening

Registraties

Opgevolgd door onderstaande (mogelijk meer actuele) registratie

ID: 40406
Bron: ToetsingOnline
Titel:

Andere (mogelijk minder actuele) registraties in dit register

Geen registraties gevonden.

In overige registers

Register	ID
NTR-new	NL4164
NTR-old	NTR4323
CCMO	NL46985.044.13
ISRCTN	ISRCT wordt niet meer aangevraagd.
OMON	NL-OMON40406

Resultaten

Samenvatting resultaten

N/A