

Effects of interventions on normalizing step width, during self-paced dual-belt treadmill walking with virtual reality, a randomised controlled trial.

Gepubliceerd: 16-01-2017 Laatste bijgewerkt: 18-08-2022

The aim of this randomised study was to analyze the effects of two interventions on step width, to reduce the familiarization period.

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

Samenvatting

ID

NL-OMON28429

Bron

Nationaal Trial Register

Aandoening

Healthy young adults.

Ondersteuning

Primaire sponsor: University Medical Center Groningen

Overige ondersteuning: fund = initiator = sponsor

Onderzoeksproduct en/of interventie

Uitkomstmaten

Primaire uitkomstmaten

Step width

Toelichting onderzoek

Achtergrond van het onderzoek

Background: Step width increases during dual-belt treadmill walking, in self-paced mode with virtual reality. Generally a familiarization period is thought to be necessary to normalize step width.

Aim: The aim of this randomised study was to analyze the effects of two interventions on step width, to reduce the familiarization period.

Methods: We used the GRAIL (Gait Real-time Analysis Interactive Lab), a dual-belt treadmill with virtual reality in the self-paced mode. Thirty healthy young adults were randomly allocated to three groups and asked to walk at their preferred speed for 5 minutes. In the first session, the control-group received no intervention, the 'walk-on-the-line'-group was instructed to walk on a line, projected on the between-belt gap of the treadmill and the feedback-group received feedback about their current step width and were asked to reduce it. Interventions started after 1 minute and lasted 1 minute. During the second session, 7-10 days later, no interventions were given.

Doel van het onderzoek

The aim of this randomised study was to analyze the effects of two interventions on step width, to reduce the familiarization period.

Onderzoeksopzet

Retention test after 7-10 days.

Onderzoeksproduct en/of interventie

- Control-group: no extra instruction.
- 'Walk on the line'-group: subjects are instructed to walk on a straight line, which was projected on the middle of the between-belt gap of the treadmill. The width of the projected line was 8 cm.
- Feedback-group: in the first minute, before intervention, step width was measured. During the intervention period a number was shown on a screen in front of the subject, indicating the step width in meters. During the intervention period a decreasing percentage of initial, individual, step width resulted in positive feedback (90% during the first 15 sec; 70% during 15-30 sec; 60% during 30-45 sec; 40% during 45-60 sec). A green number indicated a step width smaller than the corresponding percentage (positive feedback), a red number indicated a step width larger than the corresponding percentage (negative feedback). Subjects were instructed 'to keep, the number shown on the screen, green instead of red, by narrowing

their step width’.

Contactpersonen

Publiek

University of Groningen, University Medical Center Groningen, Department of Rehabilitation Medicine,

I.L.B. Oude Lansink
PO Box 30001, 9700 RB Groningen, The Netherlands.

Groningen
The Netherlands

Wetenschappelijk

University of Groningen, University Medical Center Groningen, Department of Rehabilitation Medicine,

I.L.B. Oude Lansink
PO Box 30001, 9700 RB Groningen, The Netherlands.

Groningen
The Netherlands

Deelname eisen

Belangrijkste voorwaarden om deel te mogen nemen (Inclusiecriteria)

Inclusion criterion was an age between 20-50 years.

Belangrijkste redenen om niet deel te kunnen nemen (Exclusiecriteria)

Persons with self-reported restrictions in walking distance or those wearing braces/inlays or (semi)orthopedic shoes were not included.

Onderzoeksopzet

Opzet

Type:	Interventie onderzoek
Onderzoeksmodel:	Parallel
Toewijzing:	Gerandomiseerd
Blinding:	Open / niet geblindeerd
Controle:	Geneesmiddel

Deelname

Nederland	
Status:	Werving gestart
(Verwachte) startdatum:	01-01-2014
Aantal proefpersonen:	30
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	NL6075
NTR-old	NTR6222
Ander register	METc 2014/250 : UMCG registration 201400027.

Resultaten