

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

No registrations found.

<b>Ethical review</b>	Not applicable
<b>Status</b>	Recruiting
<b>Health condition type</b>	-
<b>Study type</b>	Interventional

## Summary

### ID

NL-OMON28429

### Source

Nationaal Trial Register

### Health condition

Healthy young adults.

## Sponsors and support

**Primary sponsor:** University Medical Center Groningen

**Source(s) of monetary or material Support:** fund = initiator = sponsor

## Intervention

## Outcome measures

### Primary outcome

Step width

### Secondary outcome

Familiarization period.

## Study description

### Background summary

**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.

### Study objective

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

### Study design

Retention test after 7-10 days.

### Intervention

- 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'.

## Contacts

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## Eligibility criteria

### **Inclusion criteria**

Inclusion criterion was an age between 20-50 years.

### **Exclusion criteria**

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

## Study design

### Design

Study type:	Interventional
Intervention model:	Parallel
Allocation:	Randomized controlled trial
Masking:	Open (masking not used)
Control:	Active

### Recruitment

NL	
Recruitment status:	Recruiting
Start date (anticipated):	01-01-2014
Enrollment:	30
Type:	Anticipated

## Ethics review

Not applicable	
Application type:	Not applicable

## 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
NTR-new	NL6075
NTR-old	NTR6222
Other	METc 2014/250 : UMCG registration 201400027.

## Study results