Motor control of the trunk during gait in chronic low back pain

Published: 30-05-2012
Last updated: 26-04-2024

The objective of this study is to investigate whether decreased variability in trunk-rotations during gait in CLBP patients can be attributed to stronger cognitive regulation and/or increased co-contraction of trunk musculature.

Ethical review	Approved WMO
Status	Recruitment stopped
Health condition type	Joint disorders
Study type	Observational non invasive

Summary

ID

NL-OMON38147

Source
ToetsingOnline

Brief title
Trunk control in chronic low back pain

Condition

- Joint disorders

Synonym
Chronic low back pain, long-lasting low back pain

Research involving
Human

Sponsors and support

Primary sponsor: Vrije Universiteit
Source(s) of monetary or material Support: Ministerie van Defensie

Intervention

Keyword: Chronic low back pain, Gait, Motor control

Outcome measures

Primary outcome

Coupling strength between pelvis and thorax in terms of (cross)correlations of the residual rotations. These correlations will be determined during unperturbed gait, gait while performing a dual task, perturbed gait and a combination of the latter two.

Secondary outcome

Step parameters; step frequency and step width

Rotational amplitude of the trunk

Trunk muscle activation

Study description

Background summary

The effect of Chronic Low Back Pain (CLBP) treatment is generally unsatisfactory. To improve current treatment strategies, more insight in adaptations that occur in CLBP is desirable. It has been postulated that these adaptations have a short-term benefit, but with potential adverse long-term consequences. If these adaptations are understood, new treatment strategies might arise as a consequence.
Recent research showed that variability of horizontal plane trunk movements during gait is decreased in CLBP patients. This can be attributed to stronger cognitive regulation and/or increased co-contraction of trunk musculature.

Study objective

The objective of this study is to investigate whether decreased variability in trunk-rotations during gait in CLBP patients can be attributed to stronger cognitive regulation and/or increased co-contraction of trunk musculature.

Study design

Cross-sectional observational study

Study burden and risks

Estimation of burden:
The duration of the measurements will be approximately 1.5 hours in which four questionnaires will be filled in before gait analysis (Visual Analogue Score for pain, tampa-scale for kinesiofobia, Pain Catastrophising Scale, Roland-Morris Disability Questionnaire; Dutch-language versions) and one after gait analysis (Anxiety Thermometer). The gait analysis will take approximately 30 minutes.

Estimation of risk:
Pertubation during walking might cause a transient increase in low back pain. To prevent falling, all subjects will wear a harness that is attached to a safety frame.

Contacts

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Trial sites

Listed location countries

Netherlands

Eligibility criteria

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

Inclusion criteria

Patients: Experience low back pain for at least the last three months and between 20 and 40 years of age.
Controls: Between 20 and 40 years of age.

Exclusion criteria

Recent surgical intervention on the spinal column, proven pathology of the spine and related structures, infections, recent fractures, psychiatric disorders or neurological compression. Any condition (other than CLBP in the CLBP group) that might interfere with gait or any condition that renders unfit to be tested.

Study design

Design

Study type:	Observational non invasive
Intervention model:	Other
Allocation:	Non-randomized controlled trial
Masking:	Open (masking not used)
Control:	Active
Primary purpose:	Basic science

Recruitment

NL

Recruitment status:	Recruitment stopped
Start date (anticipated):	12-09-2012
Enrollment:	30
Type:	Actual

Ethics review

Approved WMO Date:	30-05-2012
Application type:	First submission
Review commission:	METC Amsterdam UMC

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	NL37399.029.12