Pain-motor interactions and shoulder pain.

Published: 21-09-2015
Last updated: 20-04-2024

The objective of the study is to find answers on the research question: does activation of descending nociceptive inhibitory mechanisms via central pain medication lead to changes in kinematic and/or muscular changes in shoulder function?

Ethical review	Approved WMO
Status	Recruitment stopped
Health condition type	Tendon, ligament and cartilage disorders
Study type	Interventional

Summary

ID

NL-OMON44843

Source
ToetsingOnline

Brief title
Pain-motor interactions and shoulder pain

Condition

- Tendon, ligament and cartilage disorders

Synonym
shoulder impingement, subacromial shoulder pain

Research involving
Human

Sponsors and support

Primary sponsor: Erasmus MC, Universitair Medisch Centrum Rotterdam
Source(s) of monetary or material Support: Hoofdonderzoeker wordt betaald door werkgever (Hogeschool Rotterdam)

Intervention

Keyword: pain-motor interactions, physical therapy, shoulder girdle kinesiology, shoulder pain

Outcome measures

Primary outcome

1) differences in three-dimensional movement parameters of the scapula before

and after pain medication and placebo. 2) differences in muscular activity

before and after pain medication and placebo.

Secondary outcome

Not applicable

Study description

Background summary

The current body of knowledge of the interaction between pain and movement shows a bidirectional relationship: pain influences movement and movement disorders influence the arising of pain. Knowledge of these 'pain-motor interactions' is of importance for physical therapy treatments of patients with musculoskeletal pain of which patients with shoulder pain are a subgroup. The majority of scholars in the field of shoulder pain treatment and research say that shoulder pain relates to movement disturbances of the scapula. This 'scapular dyskinesis' leads to the ignition of shoulder pain and limitations in daily activities. Physical exercises are recommended and have shown to be effective for pain reduction and movement disturbances.

Study objective

The objective of the study is to find answers on the research question: does activation of descending nociceptive inhibitory mechanisms via central pain medication lead to changes in kinematic and/or muscular changes in shoulder

function?

Study design

Randomized Clinical Trial, with a cross-over design.

Intervention

Before the measurements are taken demographic data as 'age', 'sex', 'work and marital status', 'normal physical activities (sport and hobby's) are noted.
Shoulder pain intensity and associated limitations in daily functioning are measured with a VAS (visual analogue scale) and a DASH (disabilities of the arm, shoulder and hand).
Scapular movement and muscular activity in scapular musculature is measured (with optotrack for scapular movement and EMG for muscular activity) during arm abduction of the painful shoulder.
Measurements are taken in a cross-over design (1 time before medication/placebo and 1 time after). For inducing central pain inhibition Oxynorm (5mg) is used.

Study burden and risks

Participants with shoulder pain are tested twice on different days (time interval between 2 - 7 days) in a cross-over design. At both times a physical examination of the shoulder is carried out and two questionnaires are filled in. Then optotrackmarkers (6) and EMG electrodes (6) are attached on the arm/shoulder of the participant. During the experiment the participants move the arm three times in abduction-elevation. There are no risks attached on the measurement protocol.

Total time for the testprocedure is: 2 hours (on each of the two days).

Contacts

Public
Erasmus MC, Universitair Medisch Centrum Rotterdam

's-Gravendijkwal 230
Rotterdam 3015CE
NL
Scientific
Erasmus MC, Universitair Medisch Centrum Rotterdam

's-Gravendijkwal 230
Rotterdam 3015CE

NL

Trial sites

Listed location countries

Netherlands

Eligibility criteria

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

Inclusion criteria

- Minimal age 18 years.
- Painfull arc in abduction- and/or elevation of the shoulder/arm.
- Minimal 3 positive results out of of the 4 following clinical tests to detect subacromial impingement are positive: Hawkins-Kennedy test, Neer test, Jobe test, Apprehansion test.

Exclusion criteria

Shoulder pain due to:
- trauma.
- inflammatory disease.
- degenerative changes.
- cervical radiculopathy.
Movement problems due to:
- Parkinson, Stroke, MS et cetera.
- shoulder stiffness (e.g. frozen shoulder, active movement of minimal 160 degrees of shoulder/arm elevation should be possible).
Pain treatment:
- corticosteroid injection < 3 weeks before testing.
- painkillers < 48 hours before testing.
- use of opiat medication
Other:
- pregnancy.
- allergic for asperin
- allergic for natrium benzoaat

Study design

Design

Study type:	Interventional
Intervention model:	Crossover
Masking:	Double blinded (masking used)
Control:	Uncontrolled
Primary purpose:	Treatment

Recruitment

NL

Recruitment status:	Recruitment stopped
Start date (anticipated):	28-09-2016
Enrollment:	20
Type:	Actual

Ethics review

Approved WMO Date:	21-09-2015
Application type:	First submission
Review commission:	METC Erasmus MC, Universitair Medisch Centrum Rotterdam (Rotterdam)
Approved WMO Date:	27-06-2016
Application type:	Amendment
Review commission:	METC Erasmus MC, Universitair Medisch Centrum Rotterdam (Rotterdam)

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
Other	Eudract: 2014-002538-30
CCMO	NL47213.078.14