Shoulder muscle activation in patients with a rotator cuff tear compared to age matched patients with no rotator cuff tear, a clinical EMG study

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To compare the shoulder muscle activation and movements in patients having a rotator cuff tear with subjects, matched for age, with no cuff tear.

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

Summary

ID

NL-OMON48376

Source
ToetsingOnline

Brief title
Shoulder EMG study

Condition

- Tendon, ligament and cartilage disorders

Synonym
shoulder tendon tear

Research involving
Human

Sponsors and support

Primary sponsor: Universitair Medisch Centrum Groningen
Source(s) of monetary or material Support: Ministerie van OC&W

Intervention

Keyword: EMG, rotator cuff tear, shoulder

Outcome measures

Primary outcome

1 To measure the activation of the different muscles of the shoulder girdle

during movements, surface and indwelling EMG measurements are taken during

specific movements and tasks.

2 The movements and instructions are simultaneously measured and registered

with 2 camera*s and a microphone

The EMG registration is transferred to a digital database.

Secondary outcome

the following shoulder questionnaire is filled in at home: the Western Ontario

Rotator Cuff Score. For a judgment of the psychological health, the EQ-5 is

taken.

The Constant Murley Score is filled in during the visit

Study description

Background summary

Patients with a rotator cuff tear have a different movement pattern and this eventually can lead to a pseudo paralysis. First it starts with alterations in muscle activation without effect on shoulder movement. Some studies are done to investigate the function of the remaining attached muscles, but most are not related to the movement of the shoulder. Also no control group, matched for age, with an intact rotator cuff was used. There is an indication that the long head biceps tendon has an important function as it is the remaining structure preventing the humeral head to migrate superiorly if the rotator cuff is torn.

We try to investigate the effect of a cuff rupture on the remaining shoulder muscles in the older patient. Thereby hoping to find new methods for training and surgical options.

Study objective

To compare the shoulder muscle activation and movements in patients having a rotator cuff tear with subjects, matched for age, with no cuff tear.

Study design

a prospective case controlled study

Study burden and risks

Patient may experience some discomfort by performing several movements with their affect limb. The surface EMG measurements will give no discomfort, the intra-muscular needle EMG measurements will give some minor discomfort. The needle EMG measurements will be performed by a trained, experienced research team. Patients of the control group will have an ultrasonography of the shoulder with no discomfort or potential hazard. Patients may benefit from the extra examination as it may give directions for further conservative or surgical treatment.

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

rotator cuff tear with Patte stage 2 or 3 retraction

Exclusion criteria

other impairment of the shoulder

Study design

Design

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

Recruitment

NL

Recruitment status:	Recruitment stopped
Start date (anticipated):	27-03-2019
Enrollment:	20
Type:	Actual

Ethics review

Approved WMO Date:	05-03-2019
Application type:	First submission
Review commission:	METC Universitair Medisch Centrum Groningen (Groningen)

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	NL68208.042.18