The clinical effect of enhancing adductor co-contraction in Subacromial Pain Syndrome: a prospective single-centre randomised controlled trial

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The a-priori hypothesis is, that clinical improvement of patients with SAPS is related to increased co-contraction as trained during scooping therapy.

Ethische beoordeling	Positief advies
Status	Werving gestart
Type aandoening	-
Onderzoekstype	Interventie onderzoek

Samenvatting

ID

NL-OMON26855

Bron
Nationaal Trial Register

Verkorte titel
COCON Trial

Aandoening

Subacromial Pain Syndrome; Subacromial Impingement Syndrome; chronic shoulder pain.

Ondersteuning

Primaire sponsor: N/A
Overige ondersteuning: N/A

Onderzoeksproduct en/of interventie

Uitkomstmaten

Primaire uitkomstmaten

Clinical outcomes are pain (Visual Analogue Scale), arm-shoulder function (Constant score), bio-physical-social health (RAND-36, Shoulder Rating Questionnaire) and, self-reported quality of life (Western Ontario Rotator Cuff index). Co-contraction as assessed with EMG will be expressed using the Activation Ratio ([AR]; range [-1 to1]), indicating the task-related amount of antagonist activation relative to the same muscle's degree of agonistic activation, corresponding to 1 in case of pure agonist muscle activation and -1 in case of pure antagonistic activation.

Toelichting onderzoek

Achtergrond van het onderzoek

In patients with Subacromial Pain Syndrome (SAPS), there is a potentially treatable muscle activation imbalance between arm abductors and arm adductors, that leads to the typical overloading of subacromial tissues during abduction. This muscular imbalance may result from declines in proprioception and/or movement complexity and can be restored with enhanced co-contraction. It has been recently shown that, compared to age-matched controls, patients with SAPS have decreased co-contraction levels of arm adductors (humeral depressors) during abduction. Furthermore, it has been shown that an increase in adductor co-contraction associates with a favourable clinical course in patients with SAPS. Based on these findings and clinical observations, we propose that active enhancement of adductor co-contraction in patients with SAPS might be a beneficial treatment option.
This study aims to assess if actively training adductor co-contraction in patients with SAPS is clinically effective. A specific therapy protocol is already in practice in the Leiden University Medical Center (LUMC) dept. of Physical Therapy. Secondly, we want to investigate if this clinical improvement is associated with increased co-contraction levels by electromyographic (EMG) assessment. Additionally, kinematic analysis will be performed in order to evaluate factors also associated with clinical outcome, including movement complexity and proprioception.

Doel van het onderzoek

The a-priori hypothesis is, that clinical improvement of patients with SAPS is related to increased co-contraction as trained during scooping therapy.

Onderzoeksopzet

Clinical effect (questionnaires) and co-contraction of the Latissimus Dorsi, Teres Major, Pectoralis Major and/or Deltoid Muscle (electromyography, EMG) will be quantified in three study-related visits (baseline, 3 months, 1 year). The intervention period lasts 3 months and the effects will be monitored after 1 year.

Onderzoeksproduct en/of interventie

Randomised controlled trial with two study groups comparing the control group (standard care) with the intervention group (standard care combined with a specific physical therapy protocol aimed at enhancing adductor co-contraction).

Contactpersonen

Publiek

LUMC
Timon Geurkink

0715262581

Wetenschappelijk

LUMC
Timon Geurkink

0715262581

Deelname eisen

Belangrijkste voorwaarden om deel te mogen nemen (Inclusiecriteria)

- Chronic shoulder pain (>3months).
- Suspicion of subacromial origin of pain (e.g. combination of positive painful arc test, Hawkins-Kennedy test and empty can test).
- Presence of conventional radiographs.

Belangrijkste redenen om niet deel te kunnen nemen (Exclusiecriteria)

- Younger than 18 years of age;
- History of fracture or dislocation of the shoulder;
- History of surgery around the shoulder;
- Clinical and/or radiographic signs of comorbidities or alternative diagnoses of the affected shoulder (glenohumeral instability, glenohumeral/acromioclavicular osteoarthritis or arthritis, rheumatic disorder, history of trauma of the affected shoulder, capsulitis adhesiva, complete

(full thickness) rotator cuff rupture, cervical radiculopathy,plexus lesions). - Tendinitis calcarea, although part of saps; requires different treatment methods.
- Neoplasms;
- Pregnancy;
- Cognitive impairment;
- Electronic implants (e.g. Implantable Cardioverter Defibrillator, pacemaker);
- Insufficient Dutch language skills;
- Refusing physical therapy treatment (for example, due to the absence of reimbursement);
- Received physical therapy treatment in past three months;
- Refusing subacromial corticosteroid injection;
- Received subacromial corticosteroid injection in last month;
- No informed consent.

Onderzoeksopzet

Opzet

Type:	Interventie onderzoek
Onderzoeksmodel:	Parallel
Toewijzing:	Gerandomiseerd
Blindering:	Enkelblind
Controle:	Actieve controle groep

Deelname

Nederland

Status:	Werving gestart
(Verwachte) startdatum:	01-08-2020
Aantal proefpersonen:	80
Type:	Verwachte startdatum

Voornemen beschikbaar stellen Individuele Patiënten Data (IPD)

Wordt de data na het onderzoek gedeeld: Nee

Ethische beoordeling

Positief advies

Datum:	01-07-2020

Soort:	Eerste indiening

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	NL8797
Ander register	METC LDD : P19.080

Resultaten