

Clinical Trial Protocol

Iranian Registry of Clinical Trials

17 Jun 2026

Effect of Proprioceptive Neuromuscular Facilitation Stretching with and without Scapular Mobilization in Frozen Shoulder.

Protocol summary

Study aim

To determine the effects of proprioceptive neuromuscular facilitation stretching with and without scapular mobilization on pain, range of motion, and functional disability in frozen shoulder.

Design

A randomized control not blind trial. Sample size 48 divided in 2 groups. Total 12 treatment sessions will be given to subjects in 4 weeks with 3 sessions per week. Follow up at 6th week.

Settings and conduct

Setting: District Head-Quarter (DHQ) hospital, Sargodha.

Participants/Inclusion and exclusion criteria

Inclusion Criteria: Age group between 40-60 years, unilateral shoulder involvement, ROM<50 %, NPRS>4, pain in shoulder for at least 2 months, both males and females. Exclusion Criteria: History of shoulder surgery, rheumatoid arthritis, osteoarthritis, osteoporosis, local corticosteroid injection into the affected shoulder over the last three months, malignancy, trauma, pathological conditions of cervical spine, elbow, wrist or hand.

Intervention groups

Patients will be randomly divided into two groups with 24 subjects in each group. After taking baseline assessment, both groups A and B will be treated with hot packs for 10 minutes and PNF will be applied in two diagonals with 2 sets each with 20 repetitions with rest interval of 20-30 seconds between sets. In addition to this, scapular mobilizations will be performed in group B. 3 sessions per week will be given on alternative days for 4 weeks.

Main outcome variables

Pain (Numeric pain rating scale), ROM (Universal Goniometer), Functional disability (SPADI)

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20210730052017N1**

Registration date: **2021-08-29, 1400/06/07**

Registration timing: **registered_while_recruiting**

Last update: **2021-08-29, 1400/06/07**

Update count: **0**

Registration date

2021-08-29, 1400/06/07

Registrant information

Name

Aisha Munawar

Name of organization / entity

Government college university of Faisalabad

Country

Pakistan

Phone

+92 48 3252717

Email address

aishamunawar1122@gmail.com

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2021-08-15, 1400/05/24

Expected recruitment end date

2021-09-15, 1400/06/24

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Effect of Proprioceptive Neuromuscular Facilitation Stretching with and without Scapular Mobilization in Frozen Shoulder.

Public title

Effect of Proprioceptive Neuromuscular Facilitation Stretching with and without Scapular Mobilization in Frozen Shoulder.

Purpose

Treatment

Inclusion/Exclusion criteria**Inclusion criteria:**

Age: 40-60 Unilateral Shoulder ROM limited passively (loss less than or equal to 50% in physiological movement available abduction, flexion, and external rotation movement) Resting pain at shoulder and not less than 4 at NPRS Pain in shoulder for at least 2 months Gender : both males and females Unable to do rest at involved shoulder joint

Exclusion criteria:

History of shoulder surgery or manipulation under anesthesia Any history of RA, OA, osteoporosis at shoulder joint Local corticosteroid injection into the affected shoulder over the last three months Any history of malignancy at shoulder or chest region Trauma to affected shoulder Pain or disorders of cervical spine, elbow, wrist or hand Other pathological conditions involving the shoulder (tendonitis, rotator cuff tear etc.)

Age

From **40 years** old to **60 years** old

Gender

Both

Phase

N/A

Groups that have been masked

No information

Sample size

Target sample size: **48**

Randomization (investigator's opinion)

Randomized

Randomization description

After enrollment into study, patient will be allocated either to group A or Group B by lottery method. Each patient will be requested to draw a chit from the box. Number of chits will be equal to total sample size, odd numbers will be allocated to Group A and even number will be allocated to Group B.

Blinding (investigator's opinion)

Not blinded

Blinding description**Placebo**

Not used

Assignment

Parallel

Other design features**Secondary Ids**

empty

Ethics committees**1****Ethics committee**

Name of ethics committee

Sargodha Institute of Health Sciences (SIHS),
Research Ethical Committee. (REC).

Street address

117-C Zafar Ullah Rd, Satellite town

City

Sargodha

Postal code

40100

Approval date

2021-07-16, 1400/04/25

Ethics committee reference number

SIHS/21/161

Health conditions studied**1****Description of health condition studied**

Frozen shoulder also known as Adhesive Capsulitis limits the gleno-humeral joint mobility. The joint capsule becomes thickened, inflamed, and fibrotic and the intra-articular volume is also reduced which leads to pain, loss of range of motion (ROM), and functional disability. There is painful restriction in forward elevation and external rotation in the shoulder joint of these patients.

ICD-10 code

M75.00

ICD-10 code description

Adhesive capsulitis of unspecified shoulder

Primary outcomes**1****Description**

Pain

Timepoint

Before treatment, after treatment (4th week)

Method of measurement

Numeric Pain Rating Scale (NPRS)

Secondary outcomes**1****Description**

Range of motion

Timepoint

Before treatment, after treatment (4 weeks)

Method of measurement

Universal Goniometer (UG)

2**Description**

Functional Performance

Timepoint

Before treatment, after treatment (4 weeks)

Method of measurement

Shoulder Pain and Disability Index (SPADI)

Intervention groups

1

Description

Intervention group 1: Subjects will be treated with hot pack on affected shoulder for 10 minutes. PNF will be applied by a therapist in two diagonals, anterior elevation and posterior depression, and posterior elevation and anterior depression with 2 sets of 20 repetitions per session. Rhythmic initiation and repeated contractions facilitation techniques will be applied in all patterns.

Category

Treatment - Other

2

Description

Intervention group 2: Subjects will be treated with hot pack for 10 minutes. PNF will be applied by a therapist in two diagonals, anterior elevation and posterior depression, and posterior elevation and anterior depression with 2 sets of 20 repetitions per session. Rhythmic initiation and repeated contractions facilitation techniques will be applied in all patterns. In addition to this, scapular mobilization will be given in 2 sets of 20 repetitions with a rest interval of 30 seconds between sets. There will be superior scapular glides, inferior scapular glides, upper scapular glides, and downward scapular glides applied to the patient after PNF technique.

Category

Treatment - Other

Recruitment centers

1

Recruitment center

Name of recruitment center

District Head Quarter (DHQ) Hospital, Sargodha

Full name of responsible person

Aisha Munawar

Street address

Khushab road

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Postal code

40100

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Email

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Web page address

<https://www.punjab.gov.pk/node/880>

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

District Head Quarter (DHQ) Hospital, Sargodha

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Grant name

Grant code / Reference number

Is the source of funding the same sponsor organization/entity?

No

Title of funding source

District Head Quarter (DHQ) Hospital, Sargodha

Proportion provided by this source

100

Public or private sector

Public

Domestic or foreign origin

Domestic

Category of foreign source of funding

empty

Country of origin

Type of organization providing the funding

Other

Person responsible for general inquiries

Contact

Name of organization / entity

Sargodha Institute Of Health sciences

Full name of responsible person

Aisha Munawar

Position

Senior Lecturer

Latest degree

Master

Other areas of specialty/work

Physiotherapy

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Person responsible for updating data

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Sharing plan

Deidentified Individual Participant Data Set (IPD)

No - There is not a plan to make this available

Justification/reason for indecision/not sharing IPD

There is no further decision and information decided yet.

Study Protocol

Undecided - It is not yet known if there will be a plan to make this available

Statistical Analysis Plan

Undecided - It is not yet known if there will be a plan to make this available

Informed Consent Form

Undecided - It is not yet known if there will be a plan to make this available

Clinical Study Report

Undecided - It is not yet known if there will be a plan to make this available

Analytic Code

Undecided - It is not yet known if there will be a plan to make this available

Data Dictionary

Undecided - It is not yet known if there will be a plan to make this available