

# Clinical Trial Protocol

## Iranian Registry of Clinical Trials

10 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

##### City

Sargodha

##### Postal code

40100

##### Phone

+92 48 3215548

##### Email

aishamunawar1122@gmail.com

##### 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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117-C Zafar Ullah Rd, Satellite town

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## Person responsible for scientific 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**

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## Person responsible for updating data

### Contact

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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