Clinical Trial Protocol
Iranian Registry of Clinical Trials

22 Nov 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

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
http://www.punjab.gov.pk/node/880

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

Street address
117-C Zafar Ullah Rd, Satellite town

City
Sargodha

Province
Punjab

Postal code
40100

Phone
+92 48 3252717

Email
aishamunawar1122@gmail.com

Web page address
http://www.sihs.edu.pk/

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
Physiotherapy
Street address
117-C Zafar Ullah Rd, Satellite town
City
Sargodha
Province
Punjab
Postal code
40100
Phone
+92 48 3252717
Email
aishamunawar1122@gmail.com
Web page address
http://www.sihs.edu.pk/

Person responsible for updating data

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
Street address
117-C Zafar Ullah Rd, Satellite town
City
Sargodha
Province
Punjab
Postal code
40100
Phone
+92 48 3252717
Email
aishamunawar1122@gmail.com
Web page address
http://www.sihs.edu.pk/

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