

Clinical Trial Protocol

Iranian Registry of Clinical Trials

27 Jul 2026

Effectiveness of active release technique on pain, range of motion and functional disability in patients with grade 1 adhesive capsulitis

Protocol summary

Study aim

The aim of this study will be to determine the immediate effects of active release technique on Pain, ROM and Functional Disability in patients with adhesive capsulitis patients.

Design

Parallel group randomized clinical trial and Randomization will be achieved through computer generated random number table.

Settings and conduct

Allied Hospital Faisalabad. It will be assessor who will be blinded about the type of intervention.

Participants/Inclusion and exclusion criteria

Inclusion criteria: Both gender Age 40 to 65 years
Unilateral adhesive capsulitis Grade 1 adhesive capsulitis diagnosed by orthopedic specialist. Exclusion criteria: Participants having rotator cuff injury. Cervical radiculopathy Thoracic outlet syndrome Autoimmune diseases Fracture of upper limb

Intervention groups

Group A will receive active release technique after conservative treatment. Conservative treatment will be given in form of hot pack for 15 minutes followed by pendular movements. Following pendular exercises patients will be instructed to perform active assisted exercises comprising of 3 sets, 10 repetitions with 10 second's hold. after that active release technique will be applied by Therapist in which Therapist will apply pressure or deep tension over the tender area or trigger points while patient will actively perform the movement throughout the maneuver. This technique will be repeated 3 times per session and total treatment duration will be 40 to 45 minutes. It will comprise of 12 sessions, twice a week for 4 weeks Group B will receive conventional treatment in form of hot pack for 15 minutes followed by pendular movements. Following pendular exercises patients will be instructed to perform active assisted exercises comprising of 3 sets, 10 repetitions with 10 second's hold. Total treatment

duration will be 25 to 30 minutes

Main outcome variables

Pain Range of motion of shoulder Functional disability

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20230216057434N5**

Registration date: **2023-04-03, 1402/01/14**

Registration timing: **registered_while_recruiting**

Last update: **2023-04-03, 1402/01/14**

Update count: **0**

Registration date

2023-04-03, 1402/01/14

Registrant information

Name

Zainab Sheraz

Name of organization / entity

Riphah International University, Faisalabad

Country

Pakistan

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Email address

zainab.48@hotmail.com

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2023-03-01, 1401/12/10

Expected recruitment end date

2023-05-01, 1402/02/11

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Effectiveness of active release technique on pain, range of motion and functional disability in patients with grade 1 adhesive capsulitis

Public title

Active release technique in frozen shoulder

Purpose

Treatment

Inclusion/Exclusion criteria**Inclusion criteria:**

Both gender Age of 40 to 65 years Unilateral shoulder adhesive capsulitis. grade 1 diagnosed by orthopedic specialist

Exclusion criteria:

Patients having rotator cuff injury. Cervical radiculopathy Autoimmune diseases Fractures of upper limb

Age

From **40 years** old to **65 years** old

Gender

Both

Phase

N/A

Groups that have been masked

- Outcome assessor

Sample size

Target sample size: **52**

Randomization (investigator's opinion)

Randomized

Randomization description

Randomization will be done through a computer software "Random allocation". The total sample size will be entered with requirement to be allocated in two groups. An automated randomization list will be achieved with attrition rate included.

Blinding (investigator's opinion)

Single blinded

Blinding description

Blinding will be done on part of outcome assessor who will be an experienced therapist. Patients will be assessed by him at the end of treatment session. He will be blinded about the type of intervention patient will receive

Placebo

Not used

Assignment

Parallel

Other design features**Secondary Ids**

empty

Ethics committees**1****Ethics committee****Name of ethics committee**

Ethics committee of Riphah International University
Faisalabad

Street address

Riphah International University, Faisalabad

City

Faisalabad

Postal code

38000

Approval date

2023-01-26, 1401/11/06

Ethics committee reference number

RCRAHS/REC/23/04

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

Frozen shoulder

ICD-10 code

M75.0

ICD-10 code description

Adhesive capsulitis of shoulder

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

Pain

Timepoint

Assessment will be performed at 0 week(baseline) and at completion of 4 weeks of treatment.

Method of measurement

Visual analogue scale

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

Shoulder range of motion

Timepoint

Assessment will be performed at 0 week(baseline) and at completion of 4 weeks of treatment

Method of measurement

Goniometer

2**Description**

Disability

Timepoint

Assessment will be performed at 0 week(baseline) and at completion of 4 weeks of treatment

Method of measurement

Quick DASH (Disability of arm, shoulder and hand questionnaire)

Intervention groups

1

Description

Group A: (Active Release group) 26 Patients in Group A will receive active release technique after conservative treatment. Conservative treatment will be given in form of hot pack for 15 minutes around the shoulder girdle followed by pendular movements. Patients will perform these movements in standing with trunk in flexed forward position and affected limb will be hanging downward and patient will lean over good arm supported on table or chair. Patients will be instructed to utilize momentum of trunk movements without involvement of shoulder girdle muscles. Patients will be advised to move their arms in forward, backward, side to side direction and in circular motion in clockwise and anticlockwise direction. Each movement will be performed by patient for 30 seconds with rest period of 5 sec in each set comprising of 3 sets. Following pendular exercises patients will be instructed to perform active assisted exercises using a wand or cane comprising of 3 sets, 10 repetitions with 10 second's hold. Active assisted shoulder abduction using wand: Patient will be instructed to hold wand or cane on affected side with palm facing up of that side and with hand on unaffected side with palm facing down. Patient will slowly raise his or her arm slowly to the side away from the body. Patient will hold wand for 10 seconds for 10 repetitions comprising of 3 sets. Active assisted flexion using Wand: Patient will be in standing position with holding wand in both hands. Patient will raise his arm upward towards ceiling. All effort will be provided by unaffected arm. Patient will hold this position for 10 seconds for 10 times comprising of 3 sets. Active assisted exercises for Wand rotation on either side: Patient will be in standing position with cane holding in both hands with bent elbows. Patient will be instructed to move wand sideways with most of the effort performed by unaffected side. Patient will hold this position for 10 seconds for 10 times comprising of 3 sets. Active assisted extension B using Wand: patient will be in standing position with holding wand sideways. Patient will use the unaffected arm so that affected arm will be push backward. Patient will hold this position for 10 seconds for 10 times comprising of 3 sets. Active assisted external rotation using wand: Patient will be in standing position holding wand or cane in both hands, by keeping elbows bent and tucked so that patients will move the wand away from the body. Patient will hold this position for 10 seconds for 10 times comprising of 3 sets. Active assisted internal rotation using wand: Patient will be in standing position holding wand or cane behind their back and patient will slowly move the affected arm towards the center of back. Patients will hold this position for 10 seconds for 10 times comprising of 3 sets. Following application of Conventional Physical Therapy treatment patients will receive active release technique by Physiotherapist. Physiotherapist will target the affected rotator cuff muscles and deltoid by applying deep pressure over the tender area or trigger points for 20 seconds with 15 second rest interval between the

session while patient will actively perform the movement throughout the maneuver. This technique will be repeated 3 times per session and total treatment duration will be 40 to 45 minutes. It will comprise of 12 sessions, twice a week for 4 weeks. Active Release Technique for Infraspinatus/Teres Minor: Patient will be in sitting position, patient arm will be in abducted at 90 degrees and elbow flexed at 90 degrees. Therapist will apply pressure or deep tension over the muscles if trigger points present, meanwhile patient will actively move his arm overhead Active release technique for supraspinatus: Patient will be in sitting position with his or her arm will be in abducted position above 90 degrees where muscle will be maximally shortened. Therapist will apply pressure over the trigger points formed in the supraspinatus muscle if present, meanwhile patient will actively move his arm from abducted position to downward direction towards the floor. Active release technique for Subscapularis: Patient will be in supine lying with arm internally rotated and elbow flexed to 90 degrees. Therapist will apply pressure or deep tension to the trigger points if present in the subscapularis muscle, meanwhile patient will be instructed to actively externally rotate his arm maximally to lengthen subscapularis. Active release technique for Anterior Deltoid muscle: Patient will be in sitting position with arm in full flexion. Therapist will apply pressure over the trigger points if present in anterior deltoid muscle whereas patient will be instructed to bring his arm from flexion into extension position. Active release technique for posterior deltoid muscle: Patient will be in sitting position, with his arm into extended position., Therapist will apply pressure on the trigger formed on the posterior deltoid muscle fibers if present meanwhile patient will actively move his arm into forward flexion position and then into adducted position (bring it across the body). Active release technique for middle / lateral muscle: Patient will be in sitting position, with arm into slight abduction, therapist will apply pressure to the trigger points formed at the middle deltoid if present mean while patient will actively move his arm from upward direction to downward direction

Category

Treatment - Other

2

Description

Group B : (Conventional group) 26 Patients in Group B will receive conventional Physical Therapy treatment in form of hot pack for 15 minutes around the shoulder girdle followed by pendular movements. Patients will perform these movements in standing with trunk in flexed forward position and affected limb will be hanging downward and patient will lean over good arm supported on table or chair. Patients will be instructed to utilize momentum of trunk movements without involvement of shoulder girdle muscles. Patients will be advised to move their arms in forward, backward, side to side direction and in circular motion in clockwise and anticlockwise direction. Each movement will be performed by patient for 30 seconds with rest period of 5 sec in each set comprising of 3 sets. Following pendular exercises

patients will be instructed to perform active assisted exercises using a wand or cane comprising of 3 sets, 10 repetitions with 10 second's hold. Active assisted shoulder abduction using wand: Patient will be instructed to hold wand or cane on affected side with palm facing up of that side and with hand on unaffected side with palm facing down. Patient will slowly raise his or her arm slowly to the side away from the body. Patient will hold wand for 10 seconds for 10 repetitions comprising of 3 sets. Active assisted flexion using Wand: Patient will be in standing position with holding wand in both hands. Patient will raise his arm upward towards ceiling. All effort will be provided by unaffected arm. Patient will hold this position for 10 seconds for 10 times comprising of 3 sets. Active assisted exercises for Wand rotation on either side: Patient will be in standing position with cane holding in both hands with bent elbows. Patient will be instructed to move wand sideways with most of the effort performed by unaffected side. Patient will hold this position for 10 seconds for 10 times comprising of 3 sets. Active assisted extension B using Wand: patient will be in standing position with holding wand sideway. Patient will use the unaffected arm so that affected arm will be push backward. Patient will hold this position for 10 seconds for 10 times comprising of 3 sets. Active assisted external rotation using wand: Patient will be in standing position holding wand or cane in both hands , by keeping elbows bent and tucked so that patients will move the wand away from the body. Patient will hold this position for 10 seconds for 10 times comprising of 3 sets. Active assisted internal rotation using wand: Patient will be in standing position holding wand or cane behind their back and patient will slowly move the affected arm towards the center of back. Patient will hold this position for 10 seconds for 10 times comprising of 3 sets. Total duration of session will be 25 to 30 minutes, twice a week for 4 weeks

Category
Other

Recruitment centers

1

Recruitment center

Name of recruitment center
Allied Hospital
Full name of responsible person
Zeeshan Meera
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Allied Hospital, Jail road, Faisalabad
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Sponsors / Funding sources

1

Sponsor

Name of organization / entity
Self funded
Full name of responsible person
Zainab Sheraz
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house no. 32, street no. 2, Rehman Town, adjacent Shahzad Colony, Satyana Road, Faisalabad
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Email
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Web page address
<https://www.riphahfsd.edu.pk/>
Grant name
N/A
Grant code / Reference number
N/A
Is the source of funding the same sponsor organization/entity?
No
Title of funding source
N/A
Proportion provided by this source
100
Public or private sector
Private
Domestic or foreign origin
Domestic
Category of foreign source of funding
empty
Country of origin
Type of organization providing the funding
Persons

Person responsible for general inquiries

Contact

Name of organization / entity
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Full name of responsible person
Zainab Sheraz
Position
Senior Lecturer
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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

Real patient involved

Study Protocol

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

Statistical Analysis Plan

No - There is not a plan to make this available

Informed Consent Form

No - There is not a plan to make this available

Clinical Study Report

No - There is not a plan to make this available

Analytic Code

No - There is not a plan to make this available

Data Dictionary

No - There is not a plan to make this available