

Clinical Trial Protocol

Iranian Registry of Clinical Trials

11 Sep 2026

Effectiveness of Mulligan Mobilization with movement versus eccentric concentric exercise on pain, range of motion and functional disability in patients with lateral epicondylitis

Protocol summary

Study aim

Aim of this study will be to determine the effects of Mulligan Mobilization with movement and concentric eccentric exercises on Pain, ROM, Functional Disability in patients with lateral epicondylitis.

Design

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

Settings and conduct

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

Participants/Inclusion and exclusion criteria

Inclusion Criteria: Age: 25- 55 years, Gender: Both male and female, Patients who have pain for at least 3 month or more duration, Tenderness on palpation over the lateral epicondyle of humerus, Participants with positive cozen test. Exclusion criteria: Dysfunction in the shoulder, neck and thoracic region , Cervical radiculopathy, Corticosteroid injection within 3 months, Participants who had received any conservative treatment in the 4 weeks before entering the study, Previous surgery to the elbow region, Any fracture to the elbow, Soft tissue injury to the elbow region.

Intervention groups

Intervention group A will receive Mulligan mobilization with movement after conservative treatment. Conservative treatment will be given in form of ultrasound and Tens followed by Mobilization technique for total 36 times, 12 repetitions with short period of rest. Duration of session will be 35 to 45 mints, 3 times a week ,12 sessions over 4 weeks. Intervention group B will receive eccentric-concentric exercise after the conservative treatment. Conservative treatment will be given in form of ultrasound and followed by Eccentric-concentric exercise for 3 set of 15 repetitions with rest period of 1 min in between sets. Duration of session will

be 35 to 45 mints, 3 times a week ,12 sessions over 4 weeks

Main outcome variables

Pain Range of motion Functional disability

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20230216057434N1**

Registration date: **2023-03-12, 1401/12/21**

Registration timing: **registered_while_recruiting**

Last update: **2023-03-12, 1401/12/21**

Update count: **0**

Registration date

2023-03-12, 1401/12/21

Registrant information

Name

Zainab Sheraz

Name of organization / entity

Riphah International University, Faisalabad

Country

Pakistan

Phone

+92 301 7070941

Email address

zainab.48@hotmail.com

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2023-03-05, 1401/12/14

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 Mulligan Mobilization with movement versus eccentric concentric exercise on pain, range of motion and functional disability in patients with lateral epicondylitis

Public title

Comparison of two manual techniques in elbow

Purpose

Treatment

Inclusion/Exclusion criteria**Inclusion criteria:**

Age: 25- 55 years Gender: Both gender Tenderness on palpation over the lateral epicondyle of humerus Patients has pain for at least 3 month or more duration Patients with positive cozen test

Exclusion criteria:

Dysfunction in shoulder, neck and thoracic region
Cervical radiculopathy Corticosteroid injection within 3 months Patients who had received any conservative treatment in the last 4 weeks before enring in the study.
Recent surgery of elbow joint Fracture Soft tissue injury in elbow region

Age

From **25 years** old to **55 years** old

Gender

Both

Phase

N/A

Groups that have been masked

- Outcome assessor

Sample size

Target sample size: **94**

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 received

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/23/03

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

Lateral Epicondylitis

ICD-10 code

M77.10

ICD-10 code description

Lateral epicondylitis, unspecified elbow

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

Pain

Timepoint

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

Method of measurement

Numeric Pain rating scale

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

Range of motion at elbow joint

Timepoint

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

Method of measurement

Goniometer

2**Description**

Functional disability

Timepoint

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

Method of measurement

Patient Rated Tennis Elbow Scale(PRTEE)

Intervention groups**1****Description**

Intervention group A (Mulligan Mobilization with movement) 47 patients in group A will receive Mulligan Mobilization with Movement after conservative treatment. Conservative treatment will be applied in form of ultrasound and tens. Physiotherapist will apply ultrasound for 8 minutes in continuous mode in circular manner on lateral condyle of humerus with frequency of 1MHz followed by application of tens. 1 pad of tens will be placed on above lateral condyle of humerus and other on below the lateral condyle of humerus for 15 minutes. Patient will be in supine position with elbow in full extension and forearm in pronation with stabilization will be provided by therapist at distal part of the arm while therapist will apply Mulligan Mobilization with movement technique by adding lateral glide at elbow by using the belt. Patient will be instructed to make a fist and open the fist while therapist will maintain glide by belt during the movement. Mobilization technique will be carried for total 36 times. After 12 repetitions, a short rest period will be given for 15 seconds. Each session will last for 35-45 minutes. The session will repeat three times a week, 12 sessions over 4 weeks

Category

Treatment - Other

2**Description**

Intervention group B (Eccentric concentric exercise) 47 patients in Group B will receive eccentric concentric exercise after the conservative treatment. Conservative treatment will be applied in form of ultrasound and tens. Physiotherapist will apply ultrasound for 8 minutes in continuous mode in circular manner on lateral condyle of humerus with frequency of 1MHz followed by application of tens. 1 pad of tens will be placed on above lateral condyle of humerus and other on below the lateral condyle of humerus for 15 minutes. For eccentric concentric exercises patients will be in sitting position with elbow flexed to 90 degree and forearm in pronation with hand over the edge of the table. Therapist will instruct the patient to hold 1 lb. weight in hand while keeping the forearm supported at the armrest of chair or on their knee so that they can move their hand freely. Patient will be instructed to raise or lift wrist up towards the ceiling slowly for concentric contraction and lower the wrist slowly toward the floor for eccentric contraction. Patient will be instructed to gradually increase the weight up to 100 gm on weekly basis. Each session will last for 35-45 minutes. The session will repeat three times a week, 12 sessions over 4 weeks

Category

Treatment - Other

Recruitment centers**1****Recruitment center****Name of recruitment center**

Prime Care Hospital, Faisalabad, Pakistan

Full name of responsible person

Sumbul Rasheed

Street address

Ahmed Steet, Saeed Colony, Faisalabad

City

Faisalabad

Postal code

38000

Phone

+92 303 6267443

Email

sumbal.fcepl@gmail.com

Sponsors / Funding sources**1****Sponsor****Name of organization / entity**

Self Funded

Full name of responsible person

Zainab Sheraz

Street address

house no. 32, street no. 2, Rehman Town, adjacent Shahzad Colony, Satyana Road, Faisalabad

City

Faisalabad

Postal code

38000

Phone

+92 335 6600141

Email

zainab.48@hotmail.com

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
Riphah International University, Faisalabad
Full name of responsible person
Zainab Sheraz
Position
Senior Lecturer
Latest degree
Master
Other areas of specialty/work
Physiotherapy
Street address
house no. 32, street no. 2, Rehman Town, adjacent
Shahzad Colony, Satyana Road, Faisalabad
City
Faisalabad
Province
Punjab
Postal code
38000
Phone
+92 335 6600141
Email
zainab.48@hotmail.com

Person responsible for scientific inquiries

Contact

Name of organization / entity
Riphah International University, Faisalabad
Full name of responsible person
Zainab Sheraz
Position
Senior Lecturer
Latest degree
Master
Other areas of specialty/work
Physiotherapy
Street address
house no. 32, street no. 2, Rehman Town, adjacent
Shahzad Colony, Satyana Road, Faisalabad
City
Faisalabad
Province
Punjab
Postal code

38000
Phone
+92 335 6600141
Email
zainab.48@hotmail.com

Person responsible for updating data

Contact

Name of organization / entity
Riphah International University, Faisalabad
Full name of responsible person
Zainab Sheraz
Position
Senior Lecturer
Latest degree
Master
Other areas of specialty/work
Physiotherapy
Street address
house no. 32, street no. 2, Rehman Town, adjacent
Shahzad Colony, Satyana Road, Faisalabad
City
Faisalabad
Province
Punjab
Postal code
38000
Phone
+92 335 6600141
Email
zainab.48@hotmail.com

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

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

No - There is not a plan to make this available