Clinical Trial Protocol
Iranian Registry of Clinical Trials

22 Nov 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 o 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 12repetitions, 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, Faislabad
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

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Person responsible for scientific inquiries

Contact

Name of organization / entity

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Full name of responsible person

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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

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