Clinical Trial Protocol
Iranian Registry of Clinical Trials

22 Nov 2026

Effect of Mulligan Mobilization with Movement on Scapular Dyskinesis after Distal Radius Fracture; A Randomized Clinical Trial

Protocol summary

Study aim
To see the effectiveness of Mulligan mobilization with movement and corrective exercises and corrective exercises alone in scapular dyskinesia to evaluate level of disability of the affected limb after scapular winging.

Design
Pragmatic, parallel-group, single-blind, randomized clinical trial

Settings and conduct
The trial is conducted in Allied, District headquarters, and Aziz Fatima hospitals, Faisalabad. Subjects are chosen according to inclusion criteria. Subjects are blinded as they don't know their treatment protocol and group.

Participants/Inclusion and exclusion criteria
Inclusion criteria: Both male and female; aged 30-50 years; Patients diagnosed with distal radius fracture; Patients treated with closed reduction and plaster cast immobilization; Patients having distal radius fracture at least six weeks ago, after removal of the cast; Patients with scapular dyskinesis measured using lateral scapular slide test; Side to side difference of more than 1.5 cm considered significant. Exclusion criteria: Patients having complications after removal of the cast (e.g., compartment syndrome, Complex regional pain syndrome 1, carpal tunnel syndrome, wrist drop, neural or vascular issues, etc.); Patient having any shoulder pathology before fracture and after removal of the cast (e.g., shoulder pain, frozen shoulder, impingement syndrome, shoulder instability, bursitis, fracture, etc.); Patient having any radiculopathy or radiculitis; Patients having any neck problem (e.g., neck muscles spasm, wry neck, torticollis, etc.); Patient having any spine deformity (e.g., kyphosis, scoliosis, etc.).

Intervention groups
Intervention group: Mulligan Mobilization with Movement for positional faults. Maintain the glide and 8-10 reps of arm elevation were performed in 1 set. Control group: corrective exercise.

Main outcome variables
Distance of scapula from the spine.

General information

Reason for update

Acronym

IRCT registration information
IRCT registration number: **IRCT20210807052099N1**
Registration date: **2021-10-13, 1400/07/21**
Registration timing: **prospective**

Last update: **2021-10-13, 1400/07/21**
Update count: **0**

Registration date
2021-10-13, 1400/07/21

Registrant information

Name
Rida E Fatima

Name of organization / entity
The University of Faisalabad

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Pakistan

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Recruitment status
Recruitment complete

Funding source

Expected recruitment start date
2021-07-05, 1400/04/14

Expected recruitment end date
2021-10-30, 1400/08/08

Actual recruitment start date
2021-10-31, 1400/08/09

Actual recruitment end date
2021-10-31, 1400/08/09

Trial completion date
2021-10-31, 1400/08/09

Scientific title
Effect of Mulligan Mobilization with Movement on Scapular Dyskinesis after Distal Radius Fracture; A Randomized Clinical Trial

Public title
Effect of Mulligan Mobilization with Movement on Scapular Dyskinesis after Distal Radius Fracture; A Randomized Clinical Trial

Purpose
Treatment

Inclusion/Exclusion criteria

Inclusion criteria:
Both male and female aged 30-50years. Patients diagnosed with distal radius fracture. Patient treated with closed reduction and plaster immobilization. Patients having distal radius fracture at least 6weeks ago, after removal of cast. Patients with scapular dyskinesis measured using lateral scapular slide test. Side to side difference of more than 1.5cm considered significant.

Exclusion criteria:
Patients having complications after removal of cast (e.g. compartment syndrome, Complex regional pain syndrome 1, carpal tunnel syndrome, wrist drop, neural or vascular issues etc.). Patient having any shoulder pathology before fracture and after removal of cast (e.g. shoulder pain, frozen shoulder, impingement syndrome, shoulder instability, bursitis, fracture etc.). Patient having any radiculopathy or radiculitis. Patients having any neck problem e.g. neck muscles spasm, wry neck, torticollis etc. Patient having any spine deformity e.g. kyphosis, scoliosis etc. Patients who are medically unstable. Patients who are not willing to participate.

Age
From **30 years** old to **50 years** old

Gender
Both

Phase
N/A

Groups that have been masked

- Participant

Sample size
Target sample size: **52**
Actual sample size reached: **42**

Randomization (investigator's opinion)
Randomized

Randomization description
Lottery method was used for subject randomization in groups. Groups names were written on papers and were folded. After that subjects were asked to pick one paper. The groups were allotted to subjects and then treatment was started.

Blinding (investigator's opinion)
Single blinded

Blinding description
There was one treatment and one control group in this study. Groups were allocated to the subjects by the investigator after lottery method but subjects weren't told which group they belong to. The measurements take from participants on questionnaires were also not shown to participants.

Placebo
Not used

Assignment
Parallel

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee
Ethics committee of The University of Faisalabad

Street address
Sargodha Rd, University Town, FSD

City
Faisalabad

Postal code
38000

Approval date
2021-06-14, 1400/03/24

Ethics committee reference number
TUF/DR/MSPP/297

Health conditions studied

1

Description of health condition studied
Scapular Dyskinesia

ICD-10 code
M89. 8X1

ICD-10 code description
Scapular dyskinesis is an alteration or deviation in the normal resting or active position of the scapula during shoulder movement. Also known as “SICK” Scapula Syndrome refers to Scapular malpositioning, inferior medial border prominence, coracoid pain a

Primary outcomes

1

Description
Lateral Scapular Slide Test

Timepoint
Baseline reading before intervention and after 4 weeks of intervention as final reading.

Method of measurement
Scapular distance was measured using 8inch ruler from inferior angle of scapula to the adjacent vertebrae (T7/T8).

Secondary outcomes

1

Description
QuickDASH score.
Timepoint
Baseline reading before intervention and final reading was taken at 4th week after intervention.
Method of measurement
Disability score was calculated of each individual by the formula given on QuickDASH questionnaire.

Intervention groups

1

Description
Intervention group: Mulligan Mobilization with Movement.
Category
Other

2

Description
Control group: Corrective Exercises
Category
Rehabilitation

Recruitment centers

1

Recruitment center
Name of recruitment center
Allied Hospital.
Full name of responsible person
Rida-e-Fatima
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3

Recruitment center
Name of recruitment center
Aziz Fatima Hospital
Full name of responsible person
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Sponsors / Funding sources

1

Sponsor
Name of organization / entity
The University of Faisalabad
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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
Self financed
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
Other

Person responsible for general inquiries

Contact
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The University of Faisalabad
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Rida-e-Fatima
Position
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Sharing plan

Deidentified Individual Participant Data Set (IPD)
Undecided - It is not yet known if there will be a plan to make this available
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
Not applicable
Analytic Code
Not applicable
Data Dictionary
Not applicable