

# Clinical Trial Protocol

## Iranian Registry of Clinical Trials

10 Jun 2026

### Comparison of Maitland Mobilization and Mulligan Mobilization with Movement in Knee Osteoarthritis Patients

#### Protocol summary

##### Study aim

To compare Maitland Mobilization and Mulligan Mobilization with Movement in Knee Osteoarthritis Patients.

##### Design

Interventional study Randomized control trial. Subjects were distributed to two groups with dice and roll method of randomization. Subjects of each group was assigned a number, after which numbers were selected at random.

##### Settings and conduct

Study conducted at Physiotherapy Department of Multan Institute of Kidney Diseases, Multan, Pakistan. Study was completed in 6 months. Sample size of 56 (28 in each group) within duration. Group 1 patients got Maitland mobilization treatment and Group 2 got Mulligan mobilization with movement treatment.

##### Participants/Inclusion and exclusion criteria

Inclusion criteria: Patients between ages 40-60 years. Patients with knee Osteoarthritis (diagnosed already) Patients with reduced knee Range Of Motion (greater than 10 degrees) due to pain in one or both knee joints. The Western Ontario and McMaster Universities Arthritis Index (WOMAC) score above 10. Chronic stages of knee pain Exclusion criteria: Patients having contraindication to mobilization. Recent fractures Patients having other major Musculoskeletal problems and having with red flag signs Patients with recent history of knee trauma Prolonged immobilization Any active inflammation in the knee joint.

##### Intervention groups

Group 1 patients got Maitland mobilization treatment and Group 2 got Mulligan mobilization with movement treatment.

##### Main outcome variables

Correcting knee osteoarthritis

#### General information

##### Reason for update

#### Acronym

##### IRCT registration information

IRCT registration number: **IRCT20191025045233N1**  
Registration date: **2020-03-12, 1398/12/22**  
Registration timing: **prospective**

Last update: **2020-03-12, 1398/12/22**

Update count: **0**

##### Registration date

2020-03-12, 1398/12/22

##### Registrant information

###### Name

Zeeshan Mehmood

###### Name of organization / entity

Riphah international university

###### Country

Pakistan

###### Phone

+92 66 2423919

###### Email address

zeeshanmehmood525@gmail.com

##### Recruitment status

**Not yet recruiting**

##### Funding source

##### Expected recruitment start date

2640-09-27, 2019/07/05

##### Expected recruitment end date

2640-11-28, 2019/09/07

##### Actual recruitment start date

empty

##### Actual recruitment end date

empty

##### Trial completion date

empty

##### Scientific title

Comparison of Maitland Mobilization and Mulligan Mobilization with Movement in Knee Osteoarthritis

Patients

### Public title

The Effect of Physical Therapy mobilization techniques in the management of knee osteoarthritis

### Purpose

Treatment

### Inclusion/Exclusion criteria

#### Inclusion criteria:

Patients between ages 40-60 years. Patients with reduced knee ROM (greater than 10 degrees) due to pain in one or both knee joints. Patients with knee Osteoarthritis (diagnosed already). Patients with reduced knee Range Of Motion (greater than 10 degrees) due to pain in one or both knee joints. WOMAC score above 10. The Western Ontario and McMaster Universities Arthritis Index (WOMAC) score above 10. Chronic stages of knee pain

#### Exclusion criteria:

Patients having contraindication to mobilization. Recent fractures Patients having other major musculoskeletal problems and having with red flag signs Patients with recent history of knee trauma Prolonged immobilization Any active inflammation in the knee joint.

### Age

From **40 years** old to **60 years** old

### Gender

Both

### Phase

N/A

### Groups that have been masked

- Participant
- Care provider
- Outcome assessor

### Sample size

Target sample size: **56**

### Randomization (investigator's opinion)

Randomized

### Randomization description

The patients were randomly allocated into 2 groups to receive either the Maitland Mobilisation or Mulligan Mobilisation with movement by sealed envelope method. Patient will pick one sealed opaque envelope from the bowl and hand over it to clinicians who open it and give randomly generated treatment allocation within sealed opaque envelopes. Once a patient has consented to enter a trial an envelope is opened and the patient is then offered the allocated treatment

### Blinding (investigator's opinion)

Single blinded

### Blinding description

Patients were blinded as they do not know there respected group, therapist who gave treatment and assess the outcome was blinded

### Placebo

Not used

### Assignment

Parallel

### Other design features

56 number of individuals divided into equal groups of 28 individual

## Secondary Ids

empty

## Ethics committees

### 1

#### Ethics committee

##### Name of ethics committee

Ethic committee of Riphah college of Rehabilitation sciences

##### Street address

Street no 2 , Umer Farooq colony Muzaffargarh

##### City

Muzaffargarh

##### Postal code

34200

#### Approval date

2640-09-29, 2019/07/07

#### Ethics committee reference number

RCRS-RE-MS-OMPT/SPRING/19/023

## Health conditions studied

### 1

#### Description of health condition studied

Osteoarthritis (OA) is a multifactorial degenerative joint problem, which is the most common cause of disability. (1, 2) It is the most occurring form of all arthritis types . It accounts for functional disability and pain in 19.2 -27.8% of people who are more than 45 years of age .About 37 % people have Knee OA after the age of 60 years diagnosed through knee radiographs. OA has no known cure. The management aims to decrease pain and improve the functional capacity and then the quality of life . The most common treatment options available are pharmacological and joint replacement surgeries. Surgery has a higher risk especially in old age population

#### ICD-10 code

M17.10

#### ICD-10 code description

Unilateral primary osteoarthritis, unspecified knee

## Primary outcomes

### 1

#### Description

Correcting knee osteoarthritis

#### Timepoint

6 months

#### Method of measurement

Data collection tools

## Secondary outcomes

**1**

**Description**

Correcting knee osteoarthritis

**Timepoint**

6 months

**Method of measurement**

Data collection tools

**Intervention groups**

**1**

**Description**

Control group: This group will receive Maitland Mobilization with movement. The patients of this group received Maitland Grade I and II mobilization for pain and Grade III mobilization for improving ROM

**Category**

Rehabilitation

**2**

**Description**

Intervention group: This group will receive Mulligan mobilization with movement. Patients in this group received Mulligan's mobilization with movement in flexion and extension

**Category**

Rehabilitation

**Recruitment centers**

**1**

**Recruitment center**

**Name of recruitment center**

kidney centre multan

**Full name of responsible person**

Zeeshan Mehmood

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**Sponsors / Funding sources**

**1**

**Sponsor**

**Name of organization / entity**

Riphah International University(Lahore Campus)

**Full name of responsible person**

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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

**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**

Academic

**Person responsible for general inquiries**

**Contact**

**Name of organization / entity**

Riphah International University(Lahore Campus)

**Full name of responsible person**

Zeeshan Mehmood

**Position**

Student

**Latest degree**

Master

**Other areas of specialty/work**

Physiotherapy

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## Person responsible for updating data

### Contact

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## Sharing plan

### Deidentified Individual Participant Data Set (IPD)

Yes - There is a plan to make this available

### Study Protocol

Yes - There is a plan to make this available

### Statistical Analysis Plan

Yes - There is a plan to make this available

### Informed Consent Form

Yes - There is a plan to make this available

### Clinical Study Report

Yes - There is a plan to make this available

### Analytic Code

Not applicable

### Data Dictionary

Yes - There is a plan to make this available

### Title and more details about the data/document

Comparison of Maitland Mobilization and Mulligan Mobilization with Movement in Knee Osteoarthritis Patients

### When the data will become available and for how long

within 2 months

### To whom data/document is available

online

### Under which criteria data/document could be used

E-mail

### From where data/document is obtainable

kidney centre multan MIKD

### What processes are involved for a request to access data/document

email

### Comments