

# Clinical Trial Protocol

## Iranian Registry of Clinical Trials

15 Jul 2026

### Comparative effectiveness of muscle energy technique and Graston tool along with joint mobilization in patients with knee osteoarthritis: A randomized clinical trial

#### Protocol summary

##### Study aim

Pain and functional outcome in knee Osteoarthritis

##### Design

Randomization will be through lottery method, single blinded study will be conducted in which only patient would be blinded

##### Settings and conduct

District headquarter Hospital Jhang

##### Participants/Inclusion and exclusion criteria

Inclusion: Grade 1-3 on X-Ray according to Kellgren-Lawrence classification of Osteoarthritis, crepitus with knee movement, 90-90 test positive, moderate pain on Numeric pain rating scale for both knees, functional disability between 32-64 on Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC) questionnaire. Exclusion: Neurological condition, Peripheral Vascular disease, recent sutures or fracture of lower limb, hypersensitive skin, patient receiving treatment at time of baseline assessment

##### Intervention groups

Two groups, Group A muscle energy technique and group B Graston technique

##### Main outcome variables

Numeric pain rating scale, Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC) scale

#### General information

##### Reason for update

##### Acronym

##### IRCT registration information

IRCT registration number: **IRCT20220516054877N1**

Registration date: **2022-05-25, 1401/03/04**

Registration timing: **retrospective**

Last update: **2022-05-25, 1401/03/04**

Update count: **0**

##### Registration date

2022-05-25, 1401/03/04

##### Registrant information

###### Name

Nadrish Khan

###### Name of organization / entity

The University of Faisalabad

###### Country

Pakistan

###### Phone

+92 336 7105789

###### Email address

dpt-fa14-099@tuf.edu.pk

##### Recruitment status

**Recruitment complete**

##### Funding source

##### Expected recruitment start date

2022-03-20, 1400/12/29

##### Expected recruitment end date

2022-03-28, 1401/01/08

##### Actual recruitment start date

2022-03-20, 1400/12/29

##### Actual recruitment end date

2022-03-29, 1401/01/09

##### Trial completion date

empty

##### Scientific title

Comparative effectiveness of muscle energy technique and Graston tool along with joint mobilization in patients with knee osteoarthritis: A randomized clinical trial

##### Public title

Comparative effectiveness of muscle energy technique and Graston tool along with joint mobilization in patients with knee osteoarthritis: A randomized clinical trial

## Purpose

Health service research

## Inclusion/Exclusion criteria

### Inclusion criteria:

Osteoarthritis knee patients with X-Ray findings show grade 1-3 according to Kellgren-Lawrence Classification of Osteoarthritis 1-3 Crepitus with knee movement 90-90 test positive Moderate pain on Numeric Pain rating scale for both knees Functional disability between 32-64 on the Western Ontario and McMaster Universities Arthritis Index (WOMAC) questionnaire

### Exclusion criteria:

Neurological condition Peripheral vascular disease Recent sutures or Fracture of lower limb Hypersensitive skin Patient receiving treatment at time of baseline assessment

## Age

No age limit

## Gender

Both

## Phase

N/A

## Groups that have been masked

- Participant

## Sample size

Target sample size: **32**

Actual sample size reached: **32**

## Randomization (investigator's opinion)

Randomized

## Randomization description

Randomization is done by lottery method, sealed envelop will be made upon which allocation of participants in both groups can be possible without biasness

## Blinding (investigator's opinion)

Single blinded

## Blinding description

The sealed envelope method is used to blind the participant. Grouping of two envelop shown to the patient, once he selected one of them, he will be the part of that.

## 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

Al-Faisal street mohalla Iqbal Nagar, Gojra road Jhang

## City

Jhang

## Postal code

52250

## Approval date

2022-03-13, 1400/12/22

## Ethics committee reference number

1021

## Health conditions studied

### 1

#### Description of health condition studied

Knee osteoarthritis

#### ICD-10 code

#### ICD-10 code description

## Primary outcomes

### 1

#### Description

Pain is the primary outcome.

#### Timepoint

pre-measurement at baseline assessment and post-measurement after 4 weeks is done to assess pain

#### Method of measurement

The numeric pain rating scale is used to assess pain.

## Secondary outcomes

### 1

#### Description

Quality of life is secondary outcome.

#### Timepoint

Pre-measurement done at baseline assessment and post-measurement done after 4 weeks

#### Method of measurement

Quality of life in knee osteoarthritis is done using Western Ontario and McMaster Universities Index (WOMAC) questionnaire

## Intervention groups

### 1

#### Description

Intervention group: Group A receive muscle energy technique on alternate days for 4 weeks. 3 sessions per week, applied 3 times in each session

#### Category

Rehabilitation

### 2

#### Description

Intervention group: Group B receives Graston technique on alternate days for 4 weeks. 3 sessions per week. Graston applied for 1 minute per session

**Category**  
Rehabilitation

## Recruitment centers

1

### Recruitment center

**Name of recruitment center**  
District Headquarter Hospital Jhang  
**Full name of responsible person**  
Dr. Zunaira  
**Street address**  
Gojra road Jhang  
**City**  
Jhang  
**Postal code**  
52250  
**Phone**  
+92 312 8884747  
**Email**  
dr.nadrishkhan786@gmail.com

## Sponsors / Funding sources

1

### Sponsor

**Name of organization / entity**  
The University of Fiasalabad  
**Full name of responsible person**  
Dr. Sidra Majeed  
**Street address**  
Sargodha road Fiasalabd  
**City**  
Faisalabad  
**Postal code**  
52250  
**Phone**  
+92 312 6006078  
**Email**  
dr.nadrishkhan786@gmail.com  
**Grant name**  
**Grant code / Reference number**  
**Is the source of funding the same sponsor organization/entity?**  
Yes  
**Title of funding source**  
The University of Fiasalabad  
**Proportion provided by this source**  
100  
**Public or private sector**  
Private  
**Domestic or foreign origin**  
Foreign  
**Category of foreign source of funding**  
Sponsor: country of origin  
**Country of origin**  
PK  
**Type of organization providing the funding**  
Academic

## Person responsible for general inquiries

### Contact

**Name of organization / entity**  
The University of Faisalabd  
**Full name of responsible person**  
Dr. Sidra Majeed  
**Position**  
Assistant professor  
**Latest degree**  
Master  
**Other areas of specialty/work**  
Physiotherapy  
**Street address**  
Al-Faisal street mohalla Iqbal nagar, Gojra road Jhang  
**City**  
Jhang  
**Province**  
Punjab  
**Postal code**  
52250  
**Phone**  
+92 336 7105789  
**Email**  
dr.nadrishkhan786@gmail.com

## Person responsible for scientific inquiries

### Contact

**Name of organization / entity**  
The University of Faisalabad  
**Full name of responsible person**  
Dr.Sidra Majeed  
**Position**  
Assistant Professor  
**Latest degree**  
Master  
**Other areas of specialty/work**  
Physiotherapy  
**Street address**  
Al-Faisal street mohalla Iqbal nagar, Gojra road Jhang  
**City**  
Jhang  
**Province**  
Punjab  
**Postal code**  
52250  
**Phone**  
+92 336 7105789  
**Email**  
dr.nadrishkhan786@gmail.com

## Person responsible for updating data

### Contact

**Name of organization / entity**  
Rana Hospital  
**Full name of responsible person**  
Dr Nadrish Khan  
**Position**  
Clinical Physiotherapist

**Latest degree**

Master

**Other areas of specialty/work**

Physiotherapy

**Street address**

Gojra Road

**City**

Jhang

**Province**

Punjab

**Postal code**

52250

**Phone**

+92 336 7105789

**Email**

dr.nadrishkhan786@gmail.com

**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**

No - There is not a plan to make this available

**Data Dictionary**

No - There is not a plan to make this available

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

IPD collected for primary and secondary outcome measures

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

Jan 2023

**To whom data/document is available**

People working in any domain can be authorized to get this data

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

Any wrong information and additional errors

**From where data/document is obtainable**

This data is only available on-demand via email mention to the person responsible

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

Documents can also be processed via university emails

**Comments**

Data is private legacy, respect it