

# Clinical Trial Protocol

## Iranian Registry of Clinical Trials

31 May 2026

### Effects of Muscle energy technique and Dry needling of active trigger points of Quadratus Lumborum in Lower back pain

#### Protocol summary

##### Study aim

The aim of this study is to determine the effects of muscle energy technique and dry needling of active trigger points of quadratus lumborum in low back pain

##### Design

Randomised, superiority, parallel group trial with blinded outcome assessment. Randomisation was centralised and computerised with concealed randomisation sequence carried out at an external site

##### Settings and conduct

participants, healthcare providers (Physicians, nurses, etc.) who care for participants during the trial, data collectors, outcome assessors, and with lessor importance Data Safety and Monitoring Board and manuscript writers.

##### Participants/Inclusion and exclusion criteria

**INCLUSION CRITERIA:** 1. Subjects between 18 to 60 year of age 2. Both gender (Male & Female) 3. Participants have mechanical lower back pain of at least two-months duration, initial MODI Score: 30%-60% 4. Participants have an active trigger point in quadratus lumborum muscle according to Travell and Simons diagnostic criteria **EXCLUSION CRITERIA:** 1. Anticoagulation or bleeding disorders. 2. Acute muscle trauma. 3. Local or systemic infections 4. Lumbar disc herniation 5. Spinal deformities 6. Any spinal surgery history 7. Any participant taking anticoagulation medication

##### Intervention groups

Muscle Energy Technique (Post isometric relaxation) Dry Needling

##### Main outcome variables

Numeric Pain Rating Scale (NPRS) Modified Oswestry disability index (MODI) Pain Pressure Algometer

#### General information

##### Reason for update

##### Acronym

Muscle Energy Technique and Dry needling comparison

study

##### IRCT registration information

IRCT registration number: **IRCT20200221046566N1**  
Registration date: **2020-06-23, 1399/04/03**  
Registration timing: **prospective**

Last update: **2020-06-23, 1399/04/03**

Update count: **0**

##### Registration date

2020-06-23, 1399/04/03

##### Registrant information

###### Name

Hamna Zahid

###### Name of organization / entity

Riphah International University Lahore

###### Country

Pakistan

###### Phone

+92 42 35956589

###### Email address

hamnazahid71@gmail.com

##### Recruitment status

**Recruitment complete**

##### Funding source

##### Expected recruitment start date

2020-07-01, 1399/04/11

##### Expected recruitment end date

2020-07-30, 1399/05/09

##### Actual recruitment start date

empty

##### Actual recruitment end date

empty

##### Trial completion date

empty

##### Scientific title

Effects of Muscle energy technique and Dry needling of active trigger points of Quadratus Lumborum in Lower

back pain

### Public title

Effects of Muscle energy technique and Dry needling of active trigger points of Quadratus Lumborum in Lower back pain

### Purpose

Treatment

### Inclusion/Exclusion criteria

#### Inclusion criteria:

Participants have mechanical lower back pain of at least two-months duration, initial MODI Score: 30%-60%  
Participants have an active trigger point in quadratus lumborum muscle according to Travell and Simons diagnostic criteria Patient is otherwise medically fit to perform physical training

#### Exclusion criteria:

Anticoagulation or bleeding disorders Acute muscle trauma Local or systemic infections Lumbar disc herniation Spinal deformities Any spinal surgery history Any participant taking anticoagulation medication

### Age

From **18 years** old to **60 years** old

### Gender

Both

### Phase

N/A

### Groups that have been masked

- Participant
- Care provider
- Outcome assessor
- Data analyser
- Data and Safety Monitoring Board

### Sample size

Target sample size: **24**

### Randomization (investigator's opinion)

Randomized

### Randomization description

Written informed consent will be taken. After enrollment into study, patient will be allocated either to group A or Group B by lottery method. No. of Chits will be equal to total sample size, odd Numbers will be allocated to Group A and even number will be allocated to Group B. Each patient will be requested to draw a chit from the box and after that patient will be recruited into either Group A or Group B

### Blinding (investigator's opinion)

Double blinded

### Blinding description

participants, healthcare providers (Physicians, nurses, etc.) Assessor Blind: Data safety will be ensured by assigning Specific Identity numbers and all consent, readings forms will be placed in locker to blind Assessors

### Placebo

Not used

### Assignment

Parallel

### Other design features

## Secondary Ids

empty

## Ethics committees

### 1

#### Ethics committee

##### Name of ethics committee

secretary ethical review committee, Riphah College of Rehabilitation and Allied Health Sciences

##### Street address

28-M, Quaid-e-Azam Industrial Estate, Kot Lakhpat, Lahore

##### City

Lahore

##### Postal code

54000

#### Approval date

2020-02-08, 1398/11/19

#### Ethics committee reference number

REC/RCRS/20/1035

## Health conditions studied

### 1

#### Description of health condition studied

Low back pain due to trigger points of quadratus lumborum

#### ICD-10 code

M54.5

#### ICD-10 code description

Low back pain

## Primary outcomes

### 1

#### Description

Pain

#### Timepoint

before intervention and 1, 3, 6 weeks after intervention

#### Method of measurement

Numeric Pain Rating Scale

### 2

#### Description

Function

#### Timepoint

before intervention and 1, 3, 6 weeks after intervention

#### Method of measurement

Modified Oswestry disability index

## Secondary outcomes

### 1

#### Description

Trigger Points Sensitivity

**Timepoint**

before intervention and 1, 3, 6 weeks after intervention

**Method of measurement**

Pain Pressure Algometer

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

Intervention group: Dry Needling of Quadratus Lumborum

**Category**

Treatment - Other

**2****Description**

Intervention group: Muscle Energy Technique (METs) of Quadratus Lumborum

**Category**

Treatment - Other

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

Max Rehab Center, Lahore Pakistan

**Full name of responsible person**

Muhammad Hashim

**Street address**

393-D3 wapda Town Lahore

**City**

Lahore

**Postal code**

54000

**Phone**

+92 42 35126110

**Email**

chistisalman@yahoo.com

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

Riphah International University

**Full name of responsible person**

Muhammad Salman Bashir

**Street address**

28-M Quaid-e-Azam Industrial Estate, Kot Lakhpat, Lahore

**City**

Lahore

**Postal code**

54000

**Phone**

+92 42 35126110

**Email**

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**Grant name****Grant code / Reference number****Is the source of funding the same sponsor organization/entity?**

Yes

**Title of funding source**

Riphah International University

**Proportion provided by this source**

20

**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**

Riphah International University

**Full name of responsible person**

Muhammad Salman Bashir

**Position**

Associate professor

**Latest degree**

Ph.D.

**Other areas of specialty/work**

Physiotherapy

**Street address**

28-M Quaid-e-Azam, Industrial Estate, Kot Lakhpat, Lahore

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**Province**

Punjab

**Postal code**

54000

**Phone**

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**Person responsible for scientific inquiries****Contact****Name of organization / entity**

Riphah International University

**Full name of responsible person**

Muhammad Salman Bashir

**Position**

Associate professor

**Latest degree**

Ph.D.

**Other areas of specialty/work**

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**Person responsible for updating data****Contact****Name of organization / entity**

Riphah International University

**Full name of responsible person**

Hamna Zahid

**Position**

Student

**Latest degree**

Bachelor

**Other areas of specialty/work**

Physiotherapy

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**Email**

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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**

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**

Undecided - It is not yet known if there will be a plan to make this available