

# Clinical Trial Protocol

## Iranian Registry of Clinical Trials

05 Jul 2026

### COMPARATIVE ANALYSIS ON THE EFFECTIVENESS OF MUSCLE ENERGY TECHNIQUE AND MAITLAND MOBILIZATIONS IN THE MANAGEMENT OF CHRONIC SACRO ILIAC JOINT DYSFUNCTION FOR IMPROVING PAIN AND DISABILITY: A RANDOMIZED CONTROL TRIAL

#### Protocol summary

##### Study aim

To compare the effectiveness of Muscle Energy Technique with Maitland Mobilizations in patients with chronic Sacroiliac Joint Dysfunction in reducing pain and disability.

##### Design

A single blind Randomized controlled trial with a parallel group design of 60 patients had random allocation by Chit-Box method.

##### Settings and conduct

Patients from the Physical-Therapy departments of Khyber Teaching Hospital, Lady Reading Hospital, Peshawar Pakistan. The outcome assessor had been kept blind during the trial.

##### Participants/Inclusion and exclusion criteria

Inclusion Criteria □ Age group between 25- 55 years □ Both Male and Female patients □ Chronic cases of SIJ dysfunction □ Patients with at least moderate score (21%-40%) in MODI □ Patients with 3 or 4 positive SIJ provocative test Exclusion Criteria □ Patients with LBP or acute discogenic sciatic pain. □ Patients who are previously on injections into SI joint. □ Piriformis syndrome. □ Hip joint pathology □ Trochanter pain syndrome □ Facet joint arthropathy □ Rheumatoid arthritis □ Ankylosing spondylitis □ Radiculopathy □ Visceral referral pain □ Stress fracture □ Malignancy □ Patients with any Co-morbid condition.

##### Intervention groups

The patients were recruited in two groups i.e. group A and group B by Randomization through Chit-box method. Group-A (Experimental Group) patients had been treated with MET and Lumbopelvic Stability Exercises and Group-B (Control Group) patients had been treated with Maitland Mobilizations and Lumbopelvic Stability Exercises. The patients in both the groups had received a series of twelve treatment sessions and a follow up

consultation over a maximum period of four weeks. The readings were taken for two times during the whole session.

##### Main outcome variables

□ VAS (Visual Analogue Scale) for measuring the Pain. □ MODI (Modified Oswestry Disability Index) for measuring the Disability.

#### General information

##### Reason for update

##### Acronym

SIJD

##### IRCT registration information

IRCT registration number: **IRCT20190618043930N1**

Registration date: **2019-07-14, 1398/04/23**

Registration timing: **prospective**

Last update: **2019-07-14, 1398/04/23**

Update count: **0**

##### Registration date

2019-07-14, 1398/04/23

##### Registrant information

##### Name

Faryal Zaidi

##### Name of organization / entity

The University of Lahore

##### Country

Pakistan

##### Phone

+92 42 37592112

##### Email address

faryal.pt@gmail.com

##### Recruitment status

**Not yet recruiting**

##### Funding source

**Expected recruitment start date**

2635-09-06, 2014/06/15

**Expected recruitment end date**

2635-10-22, 2014/07/30

**Actual recruitment start date**

2635-12-22, 2014/10/01

**Actual recruitment end date**

2636-03-04, 2014/12/14

**Trial completion date**

2636-07-21, 2015/04/30

**Scientific title**

COMPARATIVE ANALYSIS ON THE EFFECTIVENESS OF MUSCLE ENERGY TECHNIQUE AND MAITLAND MOBILIZATIONS IN THE MANAGEMENT OF CHRONIC SACRO ILIAC JOINT DYSFUNCTION FOR IMPROVING PAIN AND DISABILITY: A RANDOMIZED CONTROL TRIAL

**Public title**

MUSCLE ENERGY TECHNIQUE AND MAITLAND MOBILIZATIONS IN TREATING CHRONIC SACRO ILIAC JOINT DYSFUNCTION

**Purpose**

Treatment

**Inclusion/Exclusion criteria****Inclusion criteria:**

Chronic cases of Sacro Iliac Joint dysfunction Patients with at least moderate score (21%-40%) in Modified Oswestry Disability Index Patients with 3 or 4 positive Sacro Iliac Joint provocative test

**Exclusion criteria:**

Patients with Low Back Pain or acute discogenic sciatic pain. Patients who are previously on injections into SI joint Piriformis syndrome. Hip joint pathology Trochanter pain syndrome Facet joint arthropathy Rheumatoid arthritis Ankylosing spondylitis Radiculopathy Visceral referral pain Stress fracture Malignancy Patients with any Co-morbid condition.

**Age**From **25 years** old to **55 years** old**Gender**

Both

**Phase**

3

**Groups that have been masked**

- Outcome assessor

**Sample size**Target sample size: **60**Actual sample size reached: **60****Randomization (investigator's opinion)**

Randomized

**Randomization description**

The patients were recruited in two groups i.e. group A and group B by Randomization through Chit-box method. Group-A (Experimental Group) patients had been treated with MET and Lumbopelvic Stability Exercises and Group-B (Control Group) patients had been treated with Maitland Mobilizations and Lumbopelvic Stability Exercises. Chit-Box Method: For random allocation of 60 cases into two groups equally, prepare 60 chits writing

“C” (for Control group) on 30 chits and “E” (for Experimental group) on 30 chits. After folding the chits and putting in a box and well mixing, draw a chit, note the letter written on it, and then draw the second chit without replacing the first, note it and proceed similarly until the last i.e. 60th chit is drawn. The generated random allocation sequence may be one as appears in Table below . According to this sequence the first case registered will go to the control group, second case again to the control group, the third to the experimental group and so on to the last case to control group. Draw 1st 2nd 3rd -- 15th Result (Letters on chit) C C E C E C C E C C E E -- E C E C Registered Case No. (No. Allocation) 1 2 3 4 5 6 7 8 9 10 11 12 -- 57 58 59 60

**Blinding (investigator's opinion)**

Single blinded

**Blinding description**

Outcome Assessor has been kept blind during the trial

**Placebo**

Not used

**Assignment**

Parallel

**Other design features****Secondary Ids**

empty

**Ethics committees****1****Ethics committee****Name of ethics committee**

Advanced Studies & Research Board of Khyber Medical University

**Street address**

Block-IV PDA building, Phase-V Hayatabad

**City**

Peshawar

**Postal code**

25000

**Approval date**

2014-09-29, 1393/07/07

**Ethics committee reference number**

ASRB000223/CA/IPM&amp;R

**Health conditions studied****1****Description of health condition studied**

The “Sacroiliac Joint (SIJ) Dysfunction” indicates a pain in the SI joint region that is usually caused by either too much movement (hypermobility) or too little movement (hypo mobility) at the joint that typically results in an irritation of the joint. The mechanical SIJ dysfunction typically causes a dull ache that is located at the base of the spine on the affected side. The pain may become worse and 'sharp' in nature during the activities such as sitting, bending, lifting, standing up from a seated position, or lifting the knee up to the chest during stair

climbing. Sometimes the pain can refer to the groin, buttock or the back of the thigh but rarely goes below the knee. The patients with severe and disabling SI joint dysfunction can suffer from insomnia and depression. The main causes of SIJ dysfunction are hypermobility i.e. ligamentous laxity and hypomobility i.e. degenerative joint disease, traumatic incident, hormonal imbalance, unilateral weak lower limb, reversal of concavo-convex locking relationship of SI joint, scoliosis, lumbar spinal fusion, spondyloarthropathies, hip osteoarthritis, femoroacetabular impingement, leg-length inequality, poor-quality footwear, biomechanical or muscle length imbalances.

**ICD-10 code**

**ICD-10 code description**

## Primary outcomes

### 1

**Description**

PAIN

**Timepoint**

At the start of intervention and then after one month (12 sessions) of treatment administration

**Method of measurement**

VAS (Visual Analogue Scale) for measuring the Pain.

## Secondary outcomes

### 1

**Description**

DISABILITY

**Timepoint**

At the start of intervention and then after one month (12 sessions) of treatment administration.

**Method of measurement**

MODI (Modified Oswestry Disability Index) for measuring the Disability

## Intervention groups

### 1

**Description**

Intervention group: Group-A of 30 patients (Experimental group) was treated with Muscle Energy Technique that was applied on Quadratus Lumborum, Iliopsoas and Piriformis muscles of the affected side for 1 set of 5 repetitions with 10 sec hold along with Lumbopelvic stability exercises which were targeted to the ipsilateral gluteus maximus, contralateral latissimus dorsi and abdominals in 3 sets of 10 reps with 10 sec hold.

**Category**

Treatment - Other

### 2

**Description**

Control group: Group-B of 30 patients (Control group) was treated with Sacroiliac Joint Maitland mobilizations in

3 sets of 30 oscillations each on the affected side along with Lumbopelvic stability exercises which were targeted to the ipsilateral gluteus maximus, contralateral latissimus dorsi and abdominals in 3 sets of 10 reps with 10 sec hold.

**Category**

Treatment - Other

## Recruitment centers

### 1

**Recruitment center**

**Name of recruitment center**

Khyber Teaching Hospital

**Full name of responsible person**

Dr. Abid Ali

**Street address**

University Rd, Rahat Abad

**City**

Peshawar

**Postal code**

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**Phone**

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**Email**

info@kth.com.pk

**Web page address**

<https://www.kth.gov.pk/>

### 2

**Recruitment center**

**Name of recruitment center**

Lady Reading Hospital

**Full name of responsible person**

Dr. Muhammad Khan

**Street address**

Hospital Road

**City**

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**Postal code**

25000

**Phone**

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info@lrh.gov.pk

**Web page address**

<https://lrh.edu.pk/>

## Sponsors / Funding sources

### 1

**Sponsor**

**Name of organization / entity**

khyber medical university

**Full name of responsible person**

Dr. Mohammad Bin Afser Jan

**Street address**

Block-IV, PDA building, Phase-V Hayatabad

**City**

Peshawar

**Postal code**

25000

**Phone**

+92 91 5892885

**Email**

ipmr@kmu.edu.pk

**Web page address**

<http://www.kmu.edu.pk/>

**Grant name**

**Grant code / Reference number**

**Is the source of funding the same sponsor organization/entity?**

Yes

**Title of funding source**

khyber medical university

**Proportion provided by this source**

100

**Public or private sector**

Public

**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**

The University of Lahore

**Full name of responsible person**

Faryal Zaidi

**Position**

Assistant Professor

**Latest degree**

Master

**Other areas of specialty/work**

Physiotherapy

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**Province**

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## Person responsible for scientific inquiries

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**Full name of responsible person**

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**Latest degree**

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**Other areas of specialty/work**

Physiotherapy

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## Person responsible for updating data

**Contact**

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**Full name of responsible person**

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**Position**

Assistant Professor

**Latest degree**

Master

**Other areas of specialty/work**

Physiotherapy

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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**  
there is no further information  
**Study Protocol**  
No - There is not a plan to make this available  
**Statistical Analysis Plan**  
No - There is not 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**  
Yes - There is 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**  
Informed Consent Form, Clinical Study Report, Analytic

Code files could be shared  
**When the data will become available and for how long**  
2 months after publication  
**To whom data/document is available**  
people working in academic institutions or people working in businesses can also apply to receive it  
**Under which criteria data/document could be used**  
Intervention purpose  
**From where data/document is obtainable**  
Faryal.pt@gmail.com  
**What processes are involved for a request to access data/document**  
Full description about the Purpose/Aim of using the documents Insight about the Disorder and intervention of the research  
**Comments**