

# Clinical Trial Protocol

## Iranian Registry of Clinical Trials

10 Jun 2026

### Immediate effects of Mulligan Bent Leg Raise Technique and Conventional Physical Therapy on Pain and Hamstring Flexibility in patients with Non-specific Low Back Pain: A Randomized Control Trial

#### Protocol summary

##### Study aim

Investigating the immediate effects of Mulligan Bent Leg Raise in improving pain and hamstring flexibility in patients with Non-specific low back pain

##### Design

Two parallel group undergoing randomised trial with a blinded assessor and pre and post outcome assessment

##### Settings and conduct

For this study Hayatabad Medical Complex, Peshawar was selected as the setting with the trial undertaken in the physiotherapy dept. Only assessor was blind

##### Participants/Inclusion and exclusion criteria

Inclusion: Non-specific low back pain: chronic pain Limited SLR; tight hamstrings Exclusion: Systemic problems Neurologically compromised Mental issues Recent surgery; disability; medications Acute disc prolapse

##### Intervention groups

In Mulligan Bent Leg Raise, the patient lies supine and is on the plinth edge with hip and knee of the affected lower extremity in 90° flexion while the physiotherapist stands with a walk stance with the affected extremity. The physiotherapist's shoulder (near the affected side) will be under the participant's popliteal fossa and the physiotherapist will clasp (using both hands) the participant's thigh lower end. For the procedure, initially a length-wise traction is enforced and then hip flexion is added until physiotherapist feels resistance. If, during the process, participants feel pain then the therapist abducts or laterally rotates the hip by either adding more traction or no traction at all. Therapist holds the position for 20 seconds. Three times the process is repeated and then reassessed.

##### Main outcome variables

Numerical Pain Rating Score Goniometer

#### General information

##### Reason for update

##### Acronym

MBLR

##### IRCT registration information

IRCT registration number: **IRCT20210211050327N1**

Registration date: **2021-09-01, 1400/06/10**

Registration timing: **registered\_while\_recruiting**

Last update: **2021-09-01, 1400/06/10**

Update count: **0**

##### Registration date

2021-09-01, 1400/06/10

##### Registrant information

##### Name

Bakht Khan Sardar

##### Name of organization / entity

Khyber Medical University

##### Country

Pakistan

##### Phone

+92 91 5615140

##### Email address

sardarbakhtkhan.pt@gmail.com

##### Recruitment status

**Recruitment complete**

##### Funding source

##### Expected recruitment start date

2021-09-01, 1400/06/10

##### Expected recruitment end date

2021-10-01, 1400/07/09

##### Actual recruitment start date

empty

##### Actual recruitment end date

empty

## Trial completion date

empty

## Scientific title

Immediate effects of Mulligan Bent Leg Raise Technique and Conventional Physical Therapy on Pain and Hamstring Flexibility in patients with Non-specific Low Back Pain: A Randomized Control Trial

## Public title

Effects of Mulligan Bent Leg Raise on pain in the lower back and hamstring length

## Purpose

Treatment

## Inclusion/Exclusion criteria

### Inclusion criteria:

Male and Female Age (in years) 18-50 Chronic NSLBP with/without unilateral radiation between back and leg LBP score of 0-7 on NPRS SLR limited between 40°-70° Tight Hamstrings

### Exclusion criteria:

Bilateral SLR positive Acute pain; LBP severe and irritable; LBP score from 8-10 on NPRS Acute disc prolapse Neurologically compromised Dislocation, fracture, any bone and/or joint pathologies of the spine and lower limb Any trauma to back, hip and knee which makes us unable to perform the intervention Past 6 months surgical history of the back, hip and knee Any clinical condition that might cause hindrance for the subject(s) to participate Any infection or malignancy Mental disorders Taking analgesics/pain killer Not fulfilling the inclusion criteria

## Age

From **18 years** old to **50 years** old

## Gender

Both

## Phase

N/A

## Groups that have been masked

- Outcome assessor

## Sample size

Target sample size: **66**

## Randomization (investigator's opinion)

Randomized

## Randomization description

Participants randomly allocated to control group and experimental group using lottery method in which they were asked to select a piece of paper from a box. Piece of paper marked with initial of the groups (such as A or B) and participants then allocated to the group initial that was on paper.

## Blinding (investigator's opinion)

Single blinded

## Blinding description

Assessor was another physical therapist who just measured pre - trial and post - trial recordings of pain and ranges.

## Placebo

Not used

## Assignment

Parallel

## Other design features

## Secondary Ids

empty

## Ethics committees

### 1

#### Ethics committee

##### Name of ethics committee

Advance Studies & Research Board

##### Street address

F1 Phase-6 Rd, Phase 5 Hayatabad

##### City

Peshawar

##### Postal code

25100

#### Approval date

2021-07-05, 1400/04/14

#### Ethics committee reference number

DIR/KMU-AS&RB/IE/001398

## Health conditions studied

### 1

#### Description of health condition studied

Non - specific Low Back Pain

#### ICD-10 code

M54.16

#### ICD-10 code description

Radiculopathy, lumbar region

## Primary outcomes

### 1

#### Description

Pain

#### Timepoint

Before intervention and immediately after intervention

#### Method of measurement

Numerical Pain Rating Score

### 2

#### Description

Range of Straight Leg Raise

#### Timepoint

Before intervention and immediately after intervention

#### Method of measurement

Goniometry

### 3

#### Description

Range of Active Knee Extension

#### Timepoint

Before intervention and immediately after intervention

#### Method of measurement

Goniometry

## Secondary outcomes

### 1

#### Description

Pain Radiation

#### Timepoint

Before intervention and immediately after intervention

#### Method of measurement

Patient reported

## Intervention groups

### 1

#### Description

Intervention group: Consisted of Conventional Physical Therapy and Mulligan Bent Leg Raise (intervention)

#### Category

Treatment - Other

### 2

#### Description

Control group: Consisted of Conventional Physical Therapy only

#### Category

Rehabilitation

## Recruitment centers

### 1

#### Recruitment center

##### Name of recruitment center

Physiotherapy Department, Hayatabad Medical Complex (HMC-MTI)

##### Full name of responsible person

Dr. Zara Batool

##### Street address

Phase IV, Hayatabad,

##### City

Peshawar

##### Postal code

25000

##### Phone

+92 91 9217140

##### Email

sardarbakhtkhan.pt@gmail.com

##### Web page address

http://hmckp.gov.pk/

## Sponsors / Funding sources

### 1

#### Sponsor

##### Name of organization / entity

Institute of Physical Medicine & Rehabilitation, Khyber

Medical University

##### Full name of responsible person

Dr. Irfanullah PT

##### Street address

F1 Phase-6 Rd, Phase 5 Hayatabad

##### City

Peshawar

##### Postal code

25000

##### Phone

+92 91 9217703

##### Email

irfandpt@yahoo.com

##### Web page address

https://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

Institute of Physical Medicine & Rehabilitation, 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

Institute of Physical Medicine & Rehabilitation, Khyber Medical University

##### Full name of responsible person

Sardar Bakht Khan

##### Position

MSPT (MSK) Scholar

##### Latest degree

Bachelor

##### Other areas of specialty/work

Physiotherapy

##### Street address

F1 Phase-6 Rd, Phase 5 Hayatabad

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##### Province

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##### Email

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## Person responsible for scientific inquiries

### Contact

**Name of organization / entity**

Institute of Physical Medicine & Rehabilitation, Khyber Medical University

**Full name of responsible person**

Dr. Aatik Arsh PT

**Position**

Assistant Professor

**Latest degree**

Master

**Other areas of specialty/work**

Physiotherapy

**Street address**

F1 Phase-6 Rd, Phase 5 Hayatabad

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**Email**

aatikarshkmu@yahoo.com

## Person responsible for updating data

### Contact

**Name of organization / entity**

Institute of Physical Medicine and Rehabilitation, Khyber Medical University

**Full name of responsible person**

Sardar Bakht Khan

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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**

Not applicable

**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