

Clinical Trial Protocol

Iranian Registry of Clinical Trials

09 Jun 2026

Effects of Post-Isometric Relaxation Technique and Static Stretching of Quadratus Lumborum on Pain and Functional Disability in Patients with Mechanical Low Back Pain

Protocol summary

Study aim

To compare the effects of post-isometric relaxation technique and static stretching of quadratus lumborum with routine physical therapy on pain and functional disability in patients with mechanical low back pain.

Design

A concealed, randomized, single blinding, randomized clinical trial with a parallel group design of 78 patients.

Settings and conduct

Study was conducted in district head quarter hospital Narowal. Single blinding is done with blinding of assessor by labeling the experimental and control groups with unidentifying terms such as symbols or digits.

Participants/Inclusion and exclusion criteria

Participants of both gender with the age of 18 to 50 years having low back pain less than 12 weeks and visual analogue scale not less than point 3 are included in this study. Participants having specific low back pain such as lumbar spondylosis, lumbar canal stenosis, spondylolisthesis, sensory deficits, malignancies, tuberculosis, prolapsed intervertebral discs with instability or any radicular symptoms.

Intervention groups

Participants in control group received routine physical therapy and Participants in experimental group received Post-isometric relaxation technique and static stretching along routine physical therapy

Main outcome variables

Pain and Functional disability

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20220922056020N1**
Registration date: **2023-06-24, 1402/04/03**

Registration timing: **retrospective**

Last update: **2023-06-24, 1402/04/03**

Update count: **0**

Registration date

2023-06-24, 1402/04/03

Registrant information

Name

Rukhsar Amanat

Name of organization / entity

University Of Lahore

Country

Pakistan

Phone

+92 542 412110

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ansarirukhsar822@gmail.com

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2022-06-01, 1401/03/11

Expected recruitment end date

2022-07-05, 1401/04/14

Actual recruitment start date

2022-07-18, 1401/04/27

Actual recruitment end date

2022-11-05, 1401/08/14

Trial completion date

empty

Scientific title

Effects of Post-Isometric Relaxation Technique and Static Stretching of Quadratus Lumborum on Pain and Functional Disability in Patients with Mechanical Low Back Pain

Public title

Post-isometric relaxation technique in Mechanical low back pain

Purpose

Treatment

Inclusion/Exclusion criteria**Inclusion criteria:**

low back pain less than 12 weeks. Both gender. Age 18 to 50 years. VAS not less than point 3.

Exclusion criteria:

participants having specific low back pain lumbar spondylosis lumbar canal stenosis sensory deficient Malignancies prolapse intervertebral discs with instability or any radicular symptoms Tuberculosis

Age

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

Gender

Both

Phase

2

Groups that have been masked

- Data analyser

Sample size

Target sample size: **78**

Actual sample size reached: **78**

Randomization (investigator's opinion)

Randomized

Randomization description

non-probability sampling technique will be used to enroll the patients in intervention and control group and concealed envelop will be used for the random allocation. we prepare opaque envelopes which contain slip of paper that indicate the treatment allocation in control and interventional group. Then randomly assign the slip of paper to envelopes, ensure concealment of treatment assignment. When participant enroll, they select the envelop randomly and assign the participant to the corresponding treatment without the knowledge of allocation. Then we open the envelop in the presence of participant and reveal the treatment assignment to maintain the transparency. Then repeat the process for subsequent participants and make ensure that the randomization is concealed and unbiased throughout the research.

Blinding (investigator's opinion)

Single blinded

Blinding description

single blinding study with blinding of assessor by labeling the experimental and control groups with unidentifying terms such as symbols or digits

Placebo

Not used

Assignment

Parallel

Other design features**Secondary Ids****1****Registry name****Secondary trial Id****Registration date**

empty

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

Ethic committee of university of Lahore

Street address

University of lahore new campus Defence road allied bank, lahore

City

Lahore \ narowal

Postal code

12345

Approval date

2022-07-18, 1401/04/27

Ethics committee reference number

173

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

Mechanical low back pain

ICD-10 code

M54.5

ICD-10 code description

Low back pain

Primary outcomes**1****Description**

Pain

Timepoint

outcome measured first at baseline then at the follow up of 3rd week then at 6th week

Method of measurement

pain measured by visual analogue scale

2**Description**

Functional disability

Timepoint

outcome measured first at baseline then at the follow up of 3rd week then at 6th week.

Method of measurement

Functional disability measured by modified Oswestry disability index.

Secondary outcomes

empty

Intervention groups

1

Description

Control group: Participants received routine physical therapy which include TENS with Hot pack and exercises for the strengthening of muscles. Hot Moist pack: 10 mins for relaxing soft tissue structures and increase extensibility. Transcutaneous Electrical stimulator:10 mins for pain relief. Exercises: 10 repetitions- 5 sec hold for strengthening the muscles •Side bending •Side bridging• Pelvic bridging •Cat camel

Category

Treatment - Other

2

Description

Intervention group: Participants received Post-isometric relaxation technique and static stretching with routine physical therapy. Post-isometric relaxation technique: Thirty-nine participants received post-isometric relaxation technique for Quadratus lumborum. Position of the patient is side lying with uppermost arm fully extended. Position of the therapist; behind the patient at waist level. Inhale and abduct the uppermost leg and hold the leg and breathe for 7-10 seconds allowing the gravity to provide resistance. Patient then hang the leg behind him over the back of the table. Release the breath on slowly ceasing contraction. Therapist cradles the pelvis with both hands to take out all slack during exhalation. Hold stretch for 10 seconds. Patient relaxed for 20 seconds and same procedure was repeated for 5 times. Hot moist pack:10 mins for relaxing soft tissue structure, increases extensibility and pain relief. Transcutaneous Electrical stimulator:10 mins for pain relief. Exercises: 10 repetitions- 5 sec hold for strengthening the muscles• Side bending• Static abdominal• Static back extensor• Side bridging• Pelvic bridging• Cat camel

Category

Treatment - Other

Recruitment centers

1

Recruitment center

Name of recruitment center

District head Quater Hospital Narowal

Full name of responsible person

Essa Shoukat Ali

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Circular Road, Near Jassar By-pass, District Narowal, (Punjab) - Pakistan

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Sponsors / Funding sources

1

Sponsor

Name of organization / entity

University of Lahore

Full name of responsible person

Awais Rauf

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Web page address

http://www.UOLI.edu.pk

Grant name

Awais Rauf

Grant code / Reference number

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

Yes

Title of funding source

University of Lahore

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

2

Sponsor

Name of organization / entity

University of Lahore

Full name of responsible person

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Yes

Title of funding source

University of Lahore

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

University of Lahore

Full name of responsible person

Rukhsar Amanat

Position

Student

Latest degree

Master

Other areas of specialty/work

Physiotherapy

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Person responsible for updating data

Contact

Name of organization / entity

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Full name of responsible person

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Latest degree

Master

Other areas of specialty/work

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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