Clinical Trial Protocol
Iranian Registry of Clinical Trials

10 Jun 2026

Comparative Effects Of Post Isometric Relaxation Technique And Strain-Counterstrain In Patients With Piriformis Syndrome

Protocol summary

Study aim

To evaluate comparative effects of post isometric relaxation technique and straincounterstrain in patients with piriformis syndrome.

Design

In the randomized clinical trial, participants were randomly assigned to either the Post-Isometric Relaxation or Strain Counter-Strain therapy groups, ensuring unbiased distribution. Both groups received standard conventional treatments, with each group getting its assigned therapy. This design improved the reliability and validity of the results.

Settings and conduct

Participants were selected from Outdoor Patient Department of Allied hospital, National hospital Faisalabad

Participants/Inclusion and exclusion criteria

Participants were eligible if they were aged 30-50 years, of either sex, with unilateral piriformis muscle involvement and positive FAIR and Beatty tests. Exclusion criteria included pregnancy, SIJ pain, lumbar radiculopathy, malignancy, previous hip, knee, or ankle surgery, pre-existing musculoskeletal abnormalities in the lumbar spine.

Intervention groups

Both groups received 15 minutes of hot packs, 30-second piriformis stretches, and hip abductor strengthening. Group A received Post-Isometric Relaxation therapy with resisted piriformis contractions, while Group B had Strain Counter-Strain therapy with gentle pressure on the piriformis trigger point. Each additional therapy was given three times per session, three times a week, for four weeks.

Main outcome variables

OUTCOME MEASURES A primary outcome measure was pain which was assessed by Numeric Pain Rating Scale (NPRS). Secondary outcome measures were hip abduction and internal rotation range of motion that was measured through universal goniometer and Lower Extremity Functional Status was assessed by Lower Extremity Functional Scale (LEFS).

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20240718062453N1**
Registration date: **2024-08-27, 1403/06/06**
Registration timing: **retrospective**

Last update: **2024-08-27, 1403/06/06**
Update count: **0**

Registration date

2024-08-27, 1403/06/06

Registrant information

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Umaira Ijaz

Name of organization / entity

The University of Faisalabad

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Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2024-02-18, 1402/11/29

Expected recruitment end date

2024-06-08, 1403/03/19

Actual recruitment start date

2024-02-18, 1402/11/29

Actual recruitment end date

2024-06-08, 1403/03/19

Trial completion date

2024-06-18, 1403/03/29

Scientific title

Comparative Effects Of Post Isometric Relaxation Technique And Strain-Counterstrain In Patients With Piriformis Syndrome

Public title

Comparative Effects Of PIR Technique And SCS In Patients With Piriformis Syndrome

Purpose

Education/Guidance

Inclusion/Exclusion criteria

Inclusion criteria:

Pain in buttocks not more than 2 weeks Numeric Pain Rating Scale (3-9 on scale) Complain of Pain while sitting, standing, or lying longer than 15 to 20 minutes Positive FAIR test Positive Beatty test

Exclusion criteria:

pregnancy SIJ pain Lumbar radiculopathy malignancy rheumatoid disease

Age

From **30 years** old to **50 years** old

Gender

Both

Phase

2

Groups that have been masked

No information

Sample size

Target sample size: **66**

Actual sample size reached: **66**

Randomization (investigator's opinion)

Randomized

Randomization description

Subjects were randomly allocated into two groups through lottery method. Participants were randomly allocated into two groups using the lottery method to ensure unbiased group assignment. Each participant was assigned a unique identifier, which was written on a slip of paper. These slips were placed into a container, mixed thoroughly, and drawn one by one. The first slip was assigned to Group A, the second to Group B, and this alternation continued until all participants were allocated. This method ensured equal chances of being assigned to either group, maintaining the integrity of the randomization process.

Blinding (investigator's opinion)

Not blinded

Blinding description

Placebo

Not used

Assignment

Parallel

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee

research and ethics technical commette

Street address

Faisal Town, West Canal Road, Faisalabad

City

Faisalabad

Postal code

38000

Approval date

2024-02-05, 1402/11/16

Ethics committee reference number

TUF/Addl Reg/SB/796

Health conditions studied

1

Description of health condition studied

piriformis syndrome

ICD-10 code

ICD-10 code description

Primary outcomes

1

Description

A primary outcome measure was pain which was assessed by Numeric Pain Rating Scale (NPRS).

Timepoint

This brief assessment ensured minimal disruption to the therapy sessions and provided a quick and effective way to monitor pain changes over time. measurement was taken before intervention, at 2nd week , 4rth week.

Method of measurement

Pain, the primary outcome measure, was assessed using the Numeric Pain Rating Scale (NPRS). Participants rated their pain on a scale from 0 (no pain) to 10 (worst possible pain). Measurements were taken at four time points: baseline (before the start of the intervention), at the end of the 2nd week, at the end of the 4th week (after the intervention period), and at the 8th week follow-up. This method ensured a comprehensive evaluation of pain reduction over time.

Secondary outcomes

1

Description

Secondary outcome measures were hip abduction and internal rotation range of motion that was measured through universal goniometer and Lower Extremity Functional Status was assessed by Lower Extremity Functional Scale (LEFS).

Timepoint

1.Hip Abduction and Internal Rotation Range of Motion: Measured using a universal goniometer. Each measurement typically took about 5-10 minutes per hip, including positioning the participant, taking measurements, and recording results. outcome measurement was taken before treatment , at 2nd week and at 4th week. Lower Extremity Functional Status: Assessed using the Lower Extremity Functional Scale (LEFS). Completing the LEFS questionnaire generally took about 5 minutes per participant.In total, assessing both range of motion and functional status would take approximately 10-15 minutes per participant per assessment session.outcome measurement was taken before treatment , at 2nd week and at 4th week.

Method of measurement

For secondary outcome measures, hip abduction and internal rotation range of motion were assessed using a universal goniometer. Lower Extremity Functional Status was assessed using the Lower Extremity Functional Scale (LEFS). Participants completed a 20-item questionnaire evaluating their ability to perform daily activities, with responses scored from 0 (extreme difficulty or unable to perform) to 4 (no difficulty).

Intervention groups

1

Description

Intervention group 1=will receive Positional Release Therapy

Category

Rehabilitation

2

Description

Intervention group:2= Group B will receive Post isometric relaxation

Category

Rehabilitation

Recruitment centers

1

Recruitment center

Name of recruitment center

Allied Hospital Faislabad

Full name of responsible person

Umaira Ijaz

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Sponsors / Funding sources

1

Sponsor

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Full name of responsible person

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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

The University of Faislabad

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

The University of Faislabad

Full name of responsible person

Umaira ijaz

Position

Student

Latest degree

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Other areas of specialty/work

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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
No - There is not 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
N/A
When the data will become available and for how long
N/A
To whom data/document is available
N/A
Under which criteria data/document could be used
N/A
From where data/document is obtainable
N/A
What processes are involved for a request to access data/document
N/A
Comments
provided all the information above