

# Clinical Trial Protocol

## Iranian Registry of Clinical Trials

10 Jun 2026

### Comparative Effect Of Post Isometric Relaxation and Static Stretching on Stride Length And Flexibility In Patients With Hamstrings Tightness; A Randomized Clinical Trial

#### Protocol summary

##### Study aim

To determine the comparative effect of post isometric relaxation and static stretching on stride length in students with hamstrings tightness.

##### Design

A single blinded quantitative study following the randomized clinical trial with blinded post-treatment outcome and assessment and randomization will be done by lottery method.

##### Settings and conduct

The population for this study will be undergraduate students of Government college University Faisalabad, Pakistan. Participants will be blinded they will not be aware which treatment technique will they have. Data will be collected pre and post treatment.

##### Participants/Inclusion and exclusion criteria

Inclusion Criteria •University students •Age from 18-27 years •Sitting duration more than 6 hours •Subjects with at least 15° loss of knee extension on Active knee extension test •SLR less than 60° •Bilateral Hamstrings tightness Exclusion Criteria • Any recent trauma history (within last 3 months) •Neuromuscular disorders of the lower extremity • Acute spasm of hamstring muscles •Spinal deformity or injury •Leg length discrepancy • Recent hamstring strain •Foot deformity/ disorder

##### Intervention groups

For static stretching group (Group A) treatment protocol will be passive static stretch with 30 se hold and repeat for 3 in each session. 3 sessions in a week will give to subjects on alternate days and for 3 weeks. For PIR group (Group B) therapist will ask subject to perform isometric contraction with 20% force and hold it for 10 sec after that subject will relax and therapist will apply passive stretch and hold for 30 sec. the same process will be repeated 3 times in each session. 3 sessions in a week will be given to subjects on alternate days and for 3 weeks

#### Main outcome variables

Stride length and hamstrings flexibility

#### General information

##### Reason for update

##### Acronym

PIR (Post Isometric relaxation), SS (Static Stretching)

##### IRCT registration information

IRCT registration number: **IRCT20230628058605N1**

Registration date: **2024-05-20, 1403/02/31**

Registration timing: **retrospective**

Last update: **2024-05-20, 1403/02/31**

Update count: **0**

##### Registration date

2024-05-20, 1403/02/31

##### Registrant information

##### Name

Alina Mann

##### Name of organization / entity

The University of Faisalabad

##### Country

Pakistan

##### Phone

+92 324 7106668

##### Email address

anniemann64@gmail.com

##### Recruitment status

**Recruitment complete**

##### Funding source

##### Expected recruitment start date

2023-08-17, 1402/05/26

##### Expected recruitment end date

2023-09-18, 1402/06/27

##### Actual recruitment start date

empty  
**Actual recruitment end date**  
empty  
**Trial completion date**  
empty

**Scientific title**  
Comparative Effect Of Post Isometric Relaxation and Static Stretching on Stride Length And Flexibility In Patients With Hamstrings Tightness; A Randomized Clinical Trial

**Public title**  
Effect of Post Isometric Relaxation and Static Stretching on Stride Length and Flexibility in Patients with Hamstrings Tightness

**Purpose**  
Treatment

**Inclusion/Exclusion criteria**

**Inclusion criteria:**

The University students who have age from 18 to 27 years. Sitting duration more than 6 hours Subjects with at least 15° loss of knee extension on Active knee extension test and SLR less than 60° Subjects having Bilateral Hamstrings tightness

**Exclusion criteria:**

Any recent trauma history (within last 3 months) Neuromuscular disorders of the lower extremity Acute spasm of hamstring muscles Spinal deformity or injury Leg length discrepancy Recent hamstring strain Foot deformity/ disorder

**Age**  
From **18 years** old to **27 years** old

**Gender**  
Both

**Phase**  
N/A

**Groups that have been masked**

- Participant

**Sample size**  
Target sample size: **44**

**Randomization (investigator's opinion)**  
Randomized

**Randomization description**  
Sample is allocated in two groups by simple randomization. Randomization is done by lottery method. Randomly a number is picked and allocated to group A and Group B.

**Blinding (investigator's opinion)**  
Single blinded

**Blinding description**  
Participants of both group will be unaware of the treatment. Participants of both groups will receive the same baseline treatment that is 10 minutes walking. After that Physiotherapist will apply two techniques PIR and SS to both groups and subjects will unaware of that which one will they have.

**Placebo**  
Not used

**Assignment**  
Other

**Other design features**

**Secondary Ids**

empty

**Ethics committees**

1

**Ethics committee**

**Name of ethics committee**

Ethics committe of The University of Faisalabad

**Street address**

4-Km, Sargodha road, university town, Faisalabad  
Pakistan

**City**

Faisalabad

**Postal code**

38000

**Approval date**

2023-08-16, 1402/05/25

**Ethics committee reference number**

TUF/DR/MSPP/322

**Health conditions studied**

1

**Description of health condition studied**

Hamstring tightness which represents itself as limited motion at the hip and knee due to the diminished capacity of the muscle to stretch and permit adequate joint movement needed to perform the important activities is common issue. Hamstring tightness is considered to be the result of decrease ability of muscle to elongate which can be due to myofascial adhesions and neural or mechanical problems. This restricted the ability of muscle to glide freely and limit the full joint motion.

**ICD-10 code**

**ICD-10 code description**

**Primary outcomes**

1

**Description**

Stride Length

**Timepoint**

Before treatment, after 3 weeks of treatment and after 1 month follow up

**Method of measurement**

Peadometer

**Secondary outcomes**

1

**Description**

Hamstrings Flexibility

## Timepoint

Before intervention after 3 weeks of intervention and after 1 month follow up

## Method of measurement

By active knee extension test and straight leg raise test

## Intervention groups

### 1

#### Description

Intervention group1: Static stretching (Group A): For static stretching group treatment protocol will be passive static stretch with 30 se hold and repeat for 3 in each session. 3 sessions in a week will give to subjects on alternate days and for 3 weeks.

#### Category

Rehabilitation

### 2

#### Description

Intervention group 2: Post isometric relaxation (Group B): For PIR group passively flex the hip until restriction will be found at this point therapist will ask subject to perform isometric contraction with 20% force and hold it for 10 sec after that subject will relax and therapist will apply passive stretch and hold for 30 sec. the same process will be repeated 3 times in each session. 3 sessions in a week will be given to subjects on alternate days and for 3 weeks

#### Category

Rehabilitation

## Recruitment centers

### 1

#### Recruitment center

##### Name of recruitment center

Government college university of Faisalabad , Pakistan

##### Full name of responsible person

Prcipal of University

##### Street address

Kotwali Rd, Gurunanakpura, Faisalabad, Punjab

##### City

Faisalabad

##### Postal code

38000

##### Phone

+92 41 9200886

##### Email

info@gcuf.edu.pk

##### Web page address

https://gcuf.edu.pk/

## Sponsors / Funding sources

### 1

#### Sponsor

##### Name of organization / entity

The University of Faisalabad

##### Full name of responsible person

Dr Sidra Majeed

##### Street address

4-Km Sargodha road university town, Faisalabad, Pakistan

##### City

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38000

##### Phone

+92 41 87509715

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info@tuf.edu.pk

##### Web page address

#### Grant name

#### Grant code / Reference number

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

No

#### Title of funding source

The university of Faisalabad

#### 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 Faisalabad

##### Full name of responsible person

Dr. Sidra Majeed; PT

##### Position

Associate Professor

##### Latest degree

Master

##### Other areas of specialty/work

Physiotherapy

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4-Km Sargodha road, University town Faisalabad, Pakistan

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## Person responsible for scientific inquiries

**Contact**

**Name of organization / entity**

The University of Faisalabad

**Full name of responsible person**

Alina Tariq Mann

**Position**

student

**Latest degree**

Master

**Other areas of specialty/work**

Physiotherapy

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## Person responsible for updating data

**Contact**

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**Province**

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**Email**

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## Sharing plan

**Deidentified Individual Participant Data Set (IPD)**

Yes - There is a plan to make this available

**Study Protocol**

Yes - There is a plan to make this available

**Statistical Analysis Plan**

Yes - There is a plan to make this available

**Informed Consent Form**

Yes - There is 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

**Title and more details about the data/document**

All collected deidentified participant data set for the  
outcome measure.

**When the data will become available and for how  
long**

4 months after publication

**To whom data/document is available**

People working in academic institutions

**Under which criteria data/document could be used**

IPD and any additional supporting documents will be  
provided

**From where data/document is obtainable**

Contact person: Alina Mann Contact: 923247106668

Email: anniemann64@gmail.com

**What processes are involved for a request to access  
data/document**

Data files will be provided

**Comments**