

# Clinical Trial Protocol

## Iranian Registry of Clinical Trials

10 Jun 2026

### Immediate Effects Of Autogenic Inhibition Versus Reciprocal Inhibition On Hamstring Muscle Flexibility

#### Protocol summary

##### Study aim

the aim of this study was to look for the immediate effects of autogenic inhibition versus reciprocal inhibition on pain, knee extension range of motion and hamstring flexibility in patients with altered hamstring flexibility.

##### Design

a single-blinded randomized clinical trial was conducted with forty two participants included using convenient sampling technique

##### Settings and conduct

the study was conducted at InMotion Physiotherapy Clinic, Ijaz Medical Center and Madinah Teaching Hospital Faisalabad. the participants were blinded of the treatment given to them.

##### Participants/Inclusion and exclusion criteria

the participants of both genders having age 25 to 50 years, no history of lower back injuries, unilateral or bilateral hamstring tightness, asymptomatic hamstring tightness with range 70 to 90 degrees measured via SLR test. any recent hip or knee injury, recent cases of ineffective arthroplasty at hip or knee joint, any lower limb nerve injury, hamstring injury and any neurological or orthopedic disorder, pregnancy, recent knee fracture

##### Intervention groups

there were two interventional groups named as group A (Autogenic inhibition) and group B (reciprocal inhibition). the participants of group A received autogenic inhibition technique as the treatment which targeted the hamstring muscle while the participants of group B received reciprocal inhibition as treatment approach in which the main target was quadriceps muscle group.

##### Main outcome variables

the main outcome variables were pain, knee extension range of motion and hamstring flexibility.

#### General information

##### Reason for update

##### Acronym

#### IRCT registration information

IRCT registration number: **IRCT20240719062473N1**

Registration date: **2024-07-23, 1403/05/02**

Registration timing: **retrospective**

Last update: **2024-07-23, 1403/05/02**

Update count: **0**

#### Registration date

2024-07-23, 1403/05/02

#### Registrant information

##### Name

Muhammad Usman Saqib

##### Name of organization / entity

The University of Faisalabad

##### Country

Pakistan

##### Phone

+92 324 7614679

##### Email address

usmansaqib2008@gmail.com

#### Recruitment status

**Recruitment complete**

#### Funding source

#### Expected recruitment start date

2024-02-12, 1402/11/23

#### Expected recruitment end date

2024-04-12, 1403/01/24

#### Actual recruitment start date

2024-02-17, 1402/11/28

#### Actual recruitment end date

2024-04-30, 1403/02/11

#### Trial completion date

2024-05-30, 1403/03/10

#### Scientific title

Immediate Effects Of Autogenic Inhibition Versus Reciprocal Inhibition On Hamstring Muscle Flexibility

## Public title

Immediate Effects Of Autogenic Inhibition Versus Reciprocal Inhibition On Hamstring Muscle Flexibility

## Purpose

Treatment

## Inclusion/Exclusion criteria

### Inclusion criteria:

participants having age between 25 to 50 years both genders no history of lower back injuries unilateral or bilateral hamstring muscle tightness asymptomatic hamstring tightness with range 70 to 90 degrees measured via SLR test

### Exclusion criteria:

any recent hip and knee injury recent cases of ineffective arthroplasty at hip or knee joint patient with any lower limb injury hamstring injury and any neurological or orthopedic disorder pregnancy all trimesters recent knee fracture

## Age

From **25 years** old to **50 years** old

## Gender

Both

## Phase

3

## Groups that have been masked

- Participant

## Sample size

Target sample size: **42**

Actual sample size reached: **42**

## Randomization (investigator's opinion)

Randomized

## Randomization description

Randomization was done using chit and draw method by making forty two chits numbered one to forty two. all the participants with even numbered chits were made to enter in group A while all the participants having odd numbered chits were entered in group B. this was done to avoid the probability of biasness.

## Blinding (investigator's opinion)

Single blinded

## Blinding description

the treatment techniques used in this study are manual therapy soft tissue techniques. both groups received a baseline treatment of hotpack so both groups were comparable and similar in order to blind the patients. the groups were homogenous at baseline i.e. of same age group and of similar levels of muscle tightness. the interventions given to both groups were sufficiently similar in terms of implementation without the use of any instrument in either group.

## Placebo

Not used

## Assignment

Parallel

## Other design features

## Secondary Ids

empty

## Ethics committees

### 1

#### Ethics committee

##### Name of ethics committee

Ethics Committee of The university of Faisalabad

##### Street address

University town, Sargodha road

##### City

Faisalabad

##### Postal code

38000

#### Approval date

2024-02-17, 1402/11/28

#### Ethics committee reference number

TUF/DR/SA/MSPP/2024/421

## Health conditions studied

### 1

#### Description of health condition studied

Hamstring Muscle Tightness

#### ICD-10 code

S76

#### ICD-10 code description

Injury of muscle, fascia and tendon at hip and thigh level

## Primary outcomes

### 1

#### Description

pain

#### Timepoint

before and after session

#### Method of measurement

Numeric pain rating scale was used

### 2

#### Description

range of motion

#### Timepoint

before and after session

#### Method of measurement

goniometer was used

### 3

#### Description

hamstring flexibility

#### Timepoint

before and after session

#### Method of measurement

knee extension angle measured via goniometer

## Secondary outcomes

empty

## Intervention groups

usmansaqib2008@gmail.com

### 1

#### Description

Intervention group: the participants of group A received hotpack as baseline treatment for 15 minutes. then they received autogenic inhibition in which the contraction was made by hamstring muscle. the contraction was hold for 8 seconds then there was a rest interval of 5 seconds and 5 repetitions were performed

#### Category

Rehabilitation

### 2

#### Description

Intervention group: the participants of group B received hotpack as baseline treatment for 15 minutes. then they received reciprocal inhibition in which the contraction was made by quadriceps muscle. the contraction was hold for 8 seconds then there was a rest interval of 5 seconds and 5 repetitions were performed.

#### Category

Rehabilitation

## Recruitment centers

### 1

#### Recruitment center

##### Name of recruitment center

InMotion Physiotherapy Clinic

##### Full name of responsible person

Dr. Hanan Abdullah

##### Street address

Haseeb Shaheed Colony

##### City

Faisalabad

##### Postal code

38000

##### Phone

+92 324 7614679

##### Email

usmansaqib2008@gmail.com

### 2

#### Recruitment center

##### Name of recruitment center

Ijaz Medical Center

##### Full name of responsible person

Muhammad Usman Saqib

##### Street address

Haseeb Shaheed Colony

##### City

faisalabad

##### Postal code

38000

##### Phone

+92 324 7614679

##### Email

### 3

#### Recruitment center

##### Name of recruitment center

Madinah Teaching Hospital

##### Full name of responsible person

Dr Ahmad Gul Nazir

##### Street address

Haseeb Shaheed Colony

##### City

Faisalabad

##### Postal code

38000

##### Phone

+92 324 7614679

##### Email

usmansaqib2008@gmail.com

## Sponsors / Funding sources

### 1

#### Sponsor

##### Name of organization / entity

The University of Faisalabad

##### Full name of responsible person

Muhammad Usman Saqib

##### Street address

Haseeb Shaheed Colony

##### City

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##### Postal code

38000

##### Phone

+92 324 7614679

##### Email

usmansaqib2008@gmail.com

#### Grant name

#### Grant code / Reference number

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

Yes

#### 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

Other

## Person responsible for general inquiries

#### Contact

##### Name of organization / entity

Madinah Teaching Hospital

**Full name of responsible person**

Muhammad Usman Saqib

**Position**

Physiotherapist

**Latest degree**

Master

**Other areas of specialty/work**

Physiotherapy

**Street address**

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**Province**

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**Postal code**

38000

**Phone**

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**Email**

usmansaqib2008@gmail.com

**Person responsible for scientific inquiries**

**Contact**

**Name of organization / entity**

madinah teaching hospital

**Full name of responsible person**

Muhammad Usman Saqib

**Position**

physiotherapist

**Latest degree**

Master

**Other areas of specialty/work**

Physiotherapy

**Street address**

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**Person responsible for updating data**

**Contact**

**Name of organization / entity**

Madinah Teaching Hospital

**Full name of responsible person**

Muhammad Usman Saqib

**Position**

Physiotherapist

**Latest degree**

Master

**Other areas of specialty/work**

Physiotherapy

**Street address**

Haseeb Shaheed Colony

**City**

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**Province**

Punjab

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**Email**

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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**

Not applicable

**Analytic Code**

Not applicable

**Data Dictionary**

Not applicable