

Clinical Trial Protocol

Iranian Registry of Clinical Trials

09 Jun 2026

Comparative effects of Mulligan Stretch With Traction Technique And Post Isometric Relaxation On Hamstring Flexibility in Athletes

Protocol summary

Study aim

The purpose of this study is to compare the effectiveness of mulligan stretch with traction technique and muscle energy technique to increase hip flexion range of motion in athletes with hamstring tightness

Design

Randomized, Parallel Group, Single Blinded

Settings and conduct

The data was collected from Athletes in Shapes Executive Gym, Gulberg Lahore. Subject/patient were blinded throughout the study about assessment and inclusion in group

Participants/Inclusion and exclusion criteria

Inclusion Criteria: Age 18-30 yrs., Both male and female, negative Spring test, Asymptomatic, SLR < 80 Exclusion Criteria Symptoms of lower back pain, Lumbar Straightening, SI Joint Dysfunction, History of hamstring injury, Current musculoskeletal pain in hip region, Any other comorbidity limiting joint Range of motion

Intervention groups

DESCRIPTION • Baseline measurements for both groups was done prior to start any intervention. • Intervention was performed for 4 weeks and 2 days within a week. • Midline measurements for both the groups was taken after 2 weeks of intervention. • Final measurement for both the groups was taken after 4 weeks of intervention. o Group A: Conventional hot pad for 10 mins daily and static self-stretching for hamstring flexibility as a home plan is guided to athlete. Muscle energy technique (METs) will be applied by using post isometric relaxation technique. o Group B: Conventional hot pad for 10 mins daily and static self-stretching for hamstring flexibility as a home plan is guided to athlete. Mulligan Stretch with traction Technique was applied

Main outcome variables

Hip Flexion ROM, SLR

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20210811052138N1**

Registration date: **2021-09-20, 1400/06/29**

Registration timing: **retrospective**

Last update: **2021-09-20, 1400/06/29**

Update count: **0**

Registration date

2021-09-20, 1400/06/29

Registrant information

Name

Halima Shoukat

Name of organization / entity

Riphah international university, Lahore

Country

Pakistan

Phone

+92 55 4284121

Email address

halima.shoukat@yahoo.com

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2021-04-29, 1400/02/09

Expected recruitment end date

2021-06-30, 1400/04/09

Actual recruitment start date

2021-04-29, 1400/02/09

Actual recruitment end date

2021-06-30, 1400/04/09

Trial completion date

2021-07-10, 1400/04/19

Scientific title

Comparative effects of Mulligan Stretch With Traction Technique And Post Isometric Relaxation On Hamstring Flexibility in Athletes

Public title

Comparative effects of Mulligan Stretch With Traction Technique And Post Isometric Relaxation On Hamstring Flexibility in Athletes

Purpose

Treatment

Inclusion/Exclusion criteria**Inclusion criteria:**

Age 18-30 yrs Both male and female Negative Spring test Asymptomatic SLR < 80

Exclusion criteria:

Symptoms of Lower Back Pain Lumbar Straightening SI Joint Dysfunction History of hamstring injury Current musculoskeletal pain in hip region Any other comorbidity limiting joint ROM

Age

From **18 years** old to **30 years** old

Gender

Both

Phase

N/A

Groups that have been masked

- Participant

Sample size

Target sample size: **32**

Actual sample size reached: **26**

Randomization (investigator's opinion)

Randomized

Randomization description

Participants were selected by non-probability convenience sampling from the college setting and were randomly allocated to the two groups via random table method.

Blinding (investigator's opinion)

Single blinded

Blinding description

This study was a single blinded study. There was a clinician for administering the treatment. The patient/subject was blinded throughout the study.

Placebo

Not used

Assignment

Parallel

Other design features**Secondary Ids**

empty

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

Ethics Committee of Riphah College of Rehabilitation

and Allied Health Sciences

Street address

13-14 C Civic center, township near hamdard chowck, lahore

City

LAHORE

Postal code

54000

Approval date

2020-11-27, 1399/09/07

Ethics committee reference number

REC/RCR & AHS/21/0419

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

Hamstring Tightness

ICD-10 code

M62.459

ICD-10 code description

Contracture of muscle, unspecified thigh

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

Hip Flexion Range of Motion

Timepoint

Baseline - Week 2 - Week 4 POST Treatment

Method of measurement

Manual Goniometer

Secondary outcomes

empty

Intervention groups**1****Description**

Intervention group 1: treatment with Post Isometric Muscle Energy Technique applied over the period of 4 weeks.

Category

Treatment - Other

2**Description**

Intervention group 2: Mulligan Stretch with Traction Technique applied over the period of 4 weeks.

Category

Treatment - Other

Recruitment centers

1

Recruitment center

Name of recruitment center

Riphah College of Rehabilitation and Allied Health Sciences

Full name of responsible person

Muhammad Hassan

Street address

13-14 C Civic center, township, near hamdard chowck, Lahore

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Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Riphah College of Rehabilitation and Allied Health Sciences

Full name of responsible person

Halima Shaukat

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Grant name

Educational

Grant code / Reference number**Is the source of funding the same sponsor organization/entity?**

Yes

Title of funding source

Riphah College of Rehabilitation and Allied Health Sciences

Proportion provided by this source

15

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**

Riphah international university, Lahore

Full name of responsible person

Muhammad Hassan

Position

Student

Latest degree

Master

Other areas of specialty/work

Physiotherapy

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Person responsible for updating data

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Latest degree

Master

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

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