Clinical Trial Protocol
Iranian Registry of Clinical Trials

22 Nov 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

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+92 55 4284121

Email address
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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 administrating 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

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

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Sponsors / Funding sources

1

Sponsor

Name of organization / entity
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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

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Position
Student

Latest degree
Master

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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