

Clinical Trial Protocol

Iranian Registry of Clinical Trials

23 Jun 2026

Immediate Effects Of Neurodynamic Sliding Versus Muscle Energy Technique On Hamstring Flexibility In Patients With Short Hamstring Syndrome

Protocol summary

Study aim

to compare the effect of Neurodynamic Sliding versus Muscle Energy Techniques in improving the flexibility of hamstring muscle in subjects with short hamstring syndrome

Design

Randomized clinical trial

Settings and conduct

out-patient department of physiotherapy at University of Lahore, Chenab campus, Gujrat

Participants/Inclusion and exclusion criteria

Inclusion criteria: 1. Age 18 to 35 years. 2. Individuals with limited straight leg raise (SLR) i.e. less than 80 degree when performed actively. 3. Both gender. 4. Controlled matched individuals in reference to weight, Height and Body mass index to some extent. Exclusion criteria: 1. Gymnasts 2. Hamstring injury within the past year. 3. Exceeding 80° in the initial Straight leg raise test. 4. Verbal report of performing regular lower extremity muscle stretching exercises. 5. History of neck trauma (whiplash), neck symptoms, history of fracture in any part of the body. 6. History of growth disorders, history of neurological or orthopedic disorders, diagnosis of herniated disk, low back pain in the last 6 months, and body mass index lower than 20 Kg/cm² or higher than 30 Kg/cm² 7. Individuals who undergone any flexibility training in last three months 8. Individuals who are on regular use of analgesic medication and muscle relaxant in the last two weeks.

Intervention groups

Intervention group A: neurodynamic sliding for hamstring flexibility Intervention group B: muscle energy technique hamstring

Main outcome variables

1. Active SLR (less than 80 degree) with Goniometer for range of Motion 2. Numeric Pain Rating Scale for Pain intensity .

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20200623047894N1**

Registration date: **2020-10-12, 1399/07/21**

Registration timing: **prospective**

Last update: **2020-10-12, 1399/07/21**

Update count: **0**

Registration date

2020-10-12, 1399/07/21

Registrant information

Name

Sehrish Ghaffar

Name of organization / entity

Ripah international University

Country

Pakistan

Phone

+92 55 9200525

Email address

sehri.malick@gmail.com

Recruitment status

Not yet recruiting

Funding source

Expected recruitment start date

2641-11-24, 2020/09/03

Expected recruitment end date

2642-04-24, 2021/02/04

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Immediate Effects Of Neurodynamic Sliding Versus Muscle Energy Technique On Hamstring Flexibility In Patients With Short Hamstring Syndrome

Public title

Immediate Effects Of Neurodynamic Sliding Versus Muscle Energy Technique On Hamstring Flexibility In Patients With Short Hamstring Syndrome

Purpose

Treatment

Inclusion/Exclusion criteria

Inclusion criteria:

Age 18 to 35 years. Individuals with limited Straight leg raising i.e. less than 80 degree when performed actively Both gender. Controlled matched individuals in reference to weight, Height and Body Mass Index to some extent

Exclusion criteria:

Gymnasts Hamstring injury within the past year Exceeding 80° in the initial Straight leg raising test. Verbal report of performing regular lower extremity muscle stretching exercises. History of neck trauma (whiplash), neck symptoms, history of fracture in any part of the body. History of growth disorders, history of neurological or orthopedic disorders, diagnosis of herniated disk, low back pain in the last 6 months, and body mass index lower than 20Kg/cm² or higher than 30Kg/cm² Individuals who undergone any flexibility training in last three months Individuals who are on regular use of analgesic medication and muscle relaxant in the last two weeks.

Age

From **18 years** old to **35 years** old

Gender

Both

Phase

N/A

Groups that have been masked

No information

Sample size

Target sample size: **24**

Randomization (investigator's opinion)

Randomized

Randomization description

Randomization by lottery method. Allocation concealment through sealed envelope. In a bowl we put closed slips of group A and group B. Participants fulfilling inclusion criteria will randomly pick up groups and then allocated through sealed envelopes.

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

Riphah International University

Street address

Madar e Millat Road, Quaid e Azam Industrial Estate
Quaid e Azam Industrial Estate, Lahore, Punjab

City

Lahore

Postal code

54782

Approval date

2641-09-09, 2020/06/18

Ethics committee reference number

REC/RCRS/20/2029

Health conditions studied

1

Description of health condition studied

Short Hamstring Syndrome : Hamstring syndrome is a condition caused by pressure on this nerve. The nerve may be pinched between the hamstring muscles and the pelvic bone or by the band of tissue that connects the hamstring muscles. This condition can cause pain in the hip and buttock and sometimes numbness down the back of the leg. It may hurt to sit down or stretch the hamstrings.

ICD-10 code

ICD-10 code description

Primary outcomes

1

Description

Range of motion (ROM)

Timepoint

Before intervention and after intervention

Method of measurement

Active SLR (less than 80 degree) with Goniometer

2

Description

Numeric pain rating scale (NPRS)

Timepoint

before and after intervention

Method of measurement

the scale will be shown to participants and they will mark their pain rate according to their pain.

Secondary outcomes

empty

Intervention groups

1

Description

Intervention group 1; Neurodynamic sliding will be used as a treatment to intervention group 1. Participants in the Neurodynamic group will receive sciatic neurodynamic sliders, performed in supine with passive straight leg raising 3 times. Goniometer will be used to measure range of motion . First reading will be taken pre treatment and second reading will be taken post treatment.

Category

Rehabilitation

2

Description

Intervention group 2; Muscle energy technique will be used as a treatment to intervention group 2. The participants will ask to contract a muscle for approximately 5 seconds against the resistant force applied by the physical therapist. The muscle contraction is performed by the participant 3 times in a row in the hopes to stretch the muscle further each time. first reading will be taken pre treatment and after intervention post readings will be measure.

Category

Rehabilitation

Recruitment centers

1

Recruitment center

Name of recruitment center

Univerisity of Lahore, Chenab Campus

Full name of responsible person

Sehrish Ghaffar

Street address

university of lahore, adjacent chenab bridge, Gujrat,

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Gujrat

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sehri.malick@gmail.com

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Riphah International University, Quaid e azam

industrial state Campus

Full name of responsible person

Sehrish Ghaffar

Street address

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rabiya.noor@riphah.edu.pk

Grant name

Grant code / Reference number

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

No

Title of funding source

Riphah College of Rehabilitation and Allied health Sciences

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

Riphah College of Rehabilitation and Allied health Sciences

Full name of responsible person

Sehrish Ghaffar

Position

Student

Latest degree

Bachelor

Other areas of specialty/work

Physiotherapy

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Person responsible for scientific inquiries

Contact

Name of organization / entity

Riphah International University

Full name of responsible person

Sehrish Ghaffar

Position

Student

Latest degree

Bachelor

Other areas of specialty/work

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Person responsible for updating data

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Position

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Latest degree

Bachelor

Other areas of specialty/work

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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

Undecided - It is not yet known if there will be a plan to make this available

Analytic Code

Not applicable

Data Dictionary

Undecided - It is not yet known if there will be a plan to make this available