Clinical Trial Protocol
Iranian Registry of Clinical Trials

22 Nov 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/cm 2 or higher than 30 Kg/cm 2 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,

City
Gujrat

Postal code
50700

Phone
+92 53 3589155

Email
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
house 354 sector 3 canal view, Pakistan

City
Gujranwala

Postal code
52250

Phone
+92 42 35126110

Email
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

Street address
house 354 sector 3 canal view, Pakistan

City
Gujranwala

Province
Punjab

Postal code
52250

Phone
+92 42 35126110

Email
sehri.malick@gmail.com

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
Physiotherapy

Street address
house 354, sector 3 canal view, Pakistan

City
Gujranwala

Province
Punjab

Postal code
52250

Phone
+92 42 35126110

Email
sehri.malick@gmail.com

Person responsible for updating data

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
Physiotherapy

Street address
house 354, sector 3 , canal view , Pakistan

City
Gujranwala

Province
Punjab

Postal code
52250

Phone
+92 42 35126110

Email
sehri.malick@gmail.com

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