

Clinical Trial Protocol

Iranian Registry of Clinical Trials

10 Jun 2026

Comparing the Effects of Instrumental Assisted Soft Tissue Mobilization and Muscle Energy Technique on Improving Range of Motion and Reducing Pain in Patients with Gastrocnemius and Soleus Muscle Tightness A Randomized Clinical Trail

Protocol summary

Study aim

To check and compare the effects of Instrument-Assisted Soft Tissue Mobilization and METS(post isometric relaxation)on Gastrocnemius, soleus muscle tightness.

Design

It will be single blinded randomized clinical trail.A total of 20 participants will be recruited according to criteria. Teaching Experience more than 2 years.teachers who stand for prolonged period at least 3-5 hours per day. Lottery method will be used for recruitment of patients in 2 equal groups.

Settings and conduct

Study Setting:Progressive Science Girls High School, American Lyceum School and Islamic Science Foundation School. City:faisalabad, Pakistan;study population:patients will be school teachers. Experience more than 2 years who stand for 3-5 hours per day;blinding:it will be single blinded study and lottery method will be used for the recruitment of patients in two equal groups.

Participants/Inclusion and exclusion criteria

Inclusion criteria:Both genders male and female. Age range 25-40 year Teaching Experience more than 2 years. Teachers who stand for prolonged period at least 3-5 hours per day Positive Knee to wall test/ Silfverskiold Test. Pain mild to moderate If ankle dorsiflexion and plantarflexion ranges limited. Exclusion criteria:Patients with history of any recent traumatic lower limb injury History of Bursitis, fasciitis, ligamentous injury or tendinopathy Patients with symptoms of sensory loss in lower extremities History of diabetes Patients with visible foot deformities (Cavus, flat feet, hammer toe, hallux valgus) Patients with planter cones , foot warts , calluses Patient had history of surgery Not willing to participate in study

Intervention groups

Intervention Group A=baseline treatment and instrument-assisted soft-tissue mobilization, intervention group B=baseline treatment and post isometric relaxation of METS

Main outcome variables

Pain,Rom,functional status

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20250106064292N1**

Registration date: **2025-02-11, 1403/11/23**

Registration timing: **prospective**

Last update: **2025-02-11, 1403/11/23**

Update count: **0**

Registration date

2025-02-11, 1403/11/23

Registrant information

Name

Hania Mahmood

Name of organization / entity

The University of Faisalabad

Country

Pakistan

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Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2025-02-20, 1403/12/02

Expected recruitment end date

2025-06-20, 1404/03/30

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Comparing the Effects of Instrumental Assisted Soft Tissue Mobilization and Muscle Energy Technique on Improving Range of Motion and Reducing Pain in Patients with Gastrocnemius and Soleus Muscle Tightness A Randomized Clinical Trail

Public title

Effects of Instrumental Assisted Soft Tissues Mobilization and MET(post isometric relaxation)on Gastrocnemius and Soleus muscle tightness

Purpose

Health service research

Inclusion/Exclusion criteria**Inclusion criteria:**

Teaching Experience more than 2 years.Teachers who stand for prolonged period at least 3-5 hours per day .Positive Knee to wall test/ Silfverskiold Test.Pain mild to moderate.If ankle dorsiflexion and plantarflexion ranges limited. Both genders male and female.Age range 25-40 year. All participants must be currently employed as primary and secondary school teachers.

Exclusion criteria:

Patients with history of any recent traumatic lower limb injury.History of Bursitis, fasciitis, ligamentous injury or tendinopathy.Patients with symptoms of sensory loss in lower extremities .History of diabetes .Patients with visible foot deformities (Cavus, flat feet, hammer toe, hallux valgus) Patients with planter cones , foot warts , calluses.Patient had history of surgery.Not willing to participate in study

Age

From **25 years** old to **40 years** old

Gender

Both

Phase

N/A

Groups that have been masked

- Participant

Sample size

Target sample size: **24**

Randomization (investigator's opinion)

Randomized

Randomization description

Participants will be screened according to criteria and 24 Participants who met the inclusion criteria of study will be selected. Participants will be divided randomly into 2 treatment groups.12 each ,by using lottery method.each participants will be asked to choose between 2 pieces of paper,with group A and group B written on them

participants will be allocated into treatment groups according to piece of paper they will choose.after completing 12 participants in one group,all other participants will be assigned to the other treatment group.so that both treatment groups have equal participants.

Blinding (investigator's opinion)

Single blinded

Blinding description

Each participants will be asked to choose between two pieces of paper,with group A and group B written on them participants will be allocated into treatment groups according to the piece of paper they choose.the patients will not know in which Group he/she is enrolled to avoid bias.

Placebo

Not used

Assignment

Other

Other design features**Secondary Ids**

empty

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

Ethics committee of The University of Faisalabad

Street address

West canal ,faisalabad

City

Faisalabad

Postal code

38000

Approval date

2025-01-06, 1403/10/17

Ethics committee reference number

TUF/Reg/SB/BASR/054

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

Gastrocnemius and Soleus Muscles Tightness

ICD-10 code

M62.9

ICD-10 code description

Disorder of muscle, unspecified

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

Gastrocnemius and Soleus Muscles pain

Timepoint

Gastrocnemius and soleus muscle tightness measured

three times.before the start of 1st session,after 3 weeks and third time after 6 weeks.

Method of measurement

Numeric Pain Rating Scale

2

Description

Gastrocnemius and soleus muscle range of motion

Timepoint

Gastrocnemius and soleus muscle tightness measured three times.before the start of 1st session,after 3 weeks and third time after 6 weeks.

Method of measurement

Universal goniometer

3

Description

Functional Scale

Timepoint

Gastrocnemius and soleus muscle tightness measured three times.before the start of 1st session,after 3 weeks and third time after 6 weeks.

Method of measurement

Lower Extremity Functional Scale

Secondary outcomes

empty

Intervention groups

1

Description

Intervention group: group A will receive instrument-assisted soft-tissue mobilization 2 sessions per week for 6 weeks.in one session 10 minutes apply Instrumental Assisted Soft Tissues Mobilization on Gastrocnemius and Soleus Muscles

Category

Treatment - Other

2

Description

Intervention group: group B will receive 2 sessions of post isometric relaxation techniques per week.this apply on Gastrocnemius and Soleus Muscles .in one session 3 repetitions will be performed

Category

Treatment - Other

Recruitment centers

1

Recruitment center

Name of recruitment center

Progressive Science Girls High School

Full name of responsible person

Dr.Hania Mahmood

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225 Rb malkanwala faisalabad, satiyana road faisalabad.

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Recruitment center

Name of recruitment center

Islamic science foundation school

Full name of responsible person

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Recruitment center

Name of recruitment center

American Lyceum School

Full name of responsible person

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Sponsors / Funding sources

1

Sponsor

Name of organization / entity

The University Of faisalabad

Full name of responsible person

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Grant name
Grant code / Reference number
Is the source of funding the same sponsor organization/entity?
No
Title of funding source
All financial expenses are bear by myself
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
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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
No - There is not 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