

Clinical Trial Protocol

Iranian Registry of Clinical Trials

11 Sep 2026

Effects of Shock Absorbing Insoles with and without Periosteal Pecking on Pain and Functional Mobility in Athletes with Medial Tibial Stress Syndrome

Protocol summary

Study aim

To determine the effect of periosteal pecking and shock absorbing insoles to improve pain and functional mobility in athletes with Medial Tibial Stress Syndrome.

Design

This study will be a Randomized Controlled Trial

Settings and conduct

Pakistan Sports Board

Participants/Inclusion and exclusion criteria

Inclusion Criteria • Pain along the posteromedial border of tibia that triggers with activity and relieves with rest • Positive single leg Hop test • Pain on resisted plantar flexion • local Tenderness < 5cm at distal postero medial border of tibia Exclusion Criteria • Athletes with Tibial stress fracture • Compartment syndrome • Popliteal artery entrapment

Intervention groups

Group A: 18 participants Participants will be given shock absorbing insoles and Kinesthetic awareness exercises will be used as baseline treatment and will be given to all participants irrespective of their group allocation. In addition Group A participants will receive periosteal pecking i.e. using dry needling technique, Pre, intermediate and post measures for NPRS, HOP Test and FMS will be taken. 3 follow ups for this session will be done on 0, 3rd and 6th week respectively. Group B: 18 Participants after allocation to Group B will be given shock absorbing insoles of a standard height of 1.5 cm for a period of 6 weeks and pre , intermediate and post reading of measuring tools NPRS, HOP Test and FMS will be taken on 0, 3rd and 6th week respectively.

Main outcome variables

Functional movement screening scale NPRS Hop test (single Hop, Triple Hop, Cross over Hop, 6 meter timed Hop

General information

Reason for update

Acronym

MTSS

IRCT registration information

IRCT registration number: **IRCT20231103059934N1**

Registration date: **2023-11-12, 1402/08/21**

Registration timing: **prospective**

Last update: **2023-11-12, 1402/08/21**

Update count: **0**

Registration date

2023-11-12, 1402/08/21

Registrant information

Name

Laila Niaz khan

Name of organization / entity

Riphah International University, Lahore, Pakistan

Country

Pakistan

Phone

+92 345 1055934

Email address

lailaniaz321@gmail.com

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2023-12-04, 1402/09/13

Expected recruitment end date

2024-01-21, 1402/11/01

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Effects of Shock Absorbing Insoles with and without Periosteal Pecking on Pain and Functional Mobility in Athletes with Medial Tibial Stress Syndrome

Public title

Effects of Periosteal pecking and shock absorbing insoles in Medial Tibial Stress syndrome in Athletes

Purpose

Treatment

Inclusion/Exclusion criteria**Inclusion criteria:**

Pain along the posteromedial border of tibia that triggers with activity and relieves with rest
Tenderness at Tendo Achilles
Positive single leg Hop test
Positive 6 meters timed run
Test local Tenderness < 5cm at distal posteromedial border of tibia
Pain on resisted plantar flexion

Exclusion criteria:

Compartment syndrome
Popliteal artery entrapment
Bilateral lower limb injuries
Lumbar radiculopathy
Athletes with Tibial stress fracture

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: **36**

Randomization (investigator's opinion)

Randomized

Randomization description

Sealed Envelop

Blinding (investigator's opinion)

Not blinded

Blinding description**Placebo**

Used

Assignment

Parallel

Other design features

This study will be a Randomized Controlled Trial

Secondary Ids

empty

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

Research & Ethics Committee

Street address

Riphah International University, Gullberg Campus,
Lahore, Pakistan

City

Lahore

Postal code

54810

Approval date

2023-08-03, 1402/05/12

Ethics committee reference number

REC/RCR&AHS/23/04/0450

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

Medial Tibial Stress syndrome

ICD-10 code

M70.8

ICD-10 code description

Tibialis Posterior tendon overuse injury

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

Functional movement screening scale

Timepoint

Before intervention and 6th week after intervention

Method of measurement

Functional Movement Screening Scale

Secondary outcomes**1****Description**

pain Reduction

Timepoint

Before intervention and 6th week after intervention

Method of measurement

Numerical Pain Rating Scale

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

Intervention Group 1 : 18 participants will be randomly allocated to Group A. Participants will be given shock absorbing insoles and Kinesthetic awareness exercises will be used as baseline treatment and will be given to all participants irrespective of their group allocation. In addition Group A participants will receive periosteal pecking i.e. using dry needling technique, in which dry needle of 30mm will be inserted at tendon osseous (T-O) junction and when it comes into contact with periosteum of tibia at distal posteromedial border, needle will be removed after 20 taps , it will promote growth and repair by stimulating inflammatory activity. Pre and post measures for NPRS, HOP Test and FMS will be taken. 3 follow ups for this session will be done on 0, and 6th

week respectively.

Category

Treatment - Other

2**Description**

Control Group: 18 Participants after allocation to Group B will be given shock absorbing insoles of a standard height of 1.5 cm for a period of 6 weeks and pre and post reading of measuring tools NPRS, HOP Test and FMS will be taken on 0, and 6th week respectively. Kinesthetic awareness exercises will be used as baseline treatment and will be given to all participants irrespective of their group allocation.

Category

Treatment - Other

Recruitment centers**1****Recruitment center****Name of recruitment center**

Pakistan Sports Board Lahore

Full name of responsible person

Laila Niaz Khan

Street address

Pakistan Sports Board, Qazafi Stadium, Lahore

City

Lahore

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Fax**Email**

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Web page address**Sponsors / Funding sources****1****Sponsor****Name of organization / entity**

Riphah International University, Lahore

Full name of responsible person

Dr. Muhammad Hashim

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Riphah International University, Gulberg III Campus,
Lahore 25 Raza Saeed Rd, Bhabra Block M Gulberg III,
Lahore, Punjab 25-M Block, Lahore,

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Muhammad.hashim@riphah.edu.pk

Web page address

<https://www.riphah.edu.pk/lahore/>

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

Yes

Title of funding source

Riphah International University, Lahore

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 International University, Lahore

Full name of responsible person

Laila Niaz Khan

Position

Student

Latest degree

Medical doctor

Other areas of specialty/work

Physiotherapy

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Person responsible for scientific inquiries**Contact****Name of organization / entity**

Riphah International University, Lahore

Full name of responsible person

Laila Niaz Khan

Position

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Latest degree

Medical doctor

Other areas of specialty/work

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Position

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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

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