

Clinical Trial Protocol

Iranian Registry of Clinical Trials

27 Jul 2026

The effect of stretching exercises and kinesiotaping on pain and movement performance of athletes with chronic tibial compartment syndrome

Protocol summary

Study aim

The effect of stretching exercises and kinesiotaping on pain and performance in athletes with chronic tibial compartment syndrome

Design

This study was designed as a randomized, parallel-group, single-blind, controlled clinical trial. The sample size consisted of 30 athletes diagnosed with chronic exertional compartment syndrome of the lower leg. Randomization of participants

Settings and conduct

The participants will include male and female athletes aged 18-25 who will be selected from the students of the Faculty of Physical Education, University of Guilan. This research will be conducted in the Laboratory of Sports injury and Corrective Exercises, Faculty of Physical Education, University of Guilan. After obtaining consent from the participants, they will be divided into three groups using sealed envelopes. The participants will not be informed of the group they are in. The research process will be carried out over four days and assessments will be made.

Participants/Inclusion and exclusion criteria

Participants were eligible if they reported pain along the posterolateral border of the tibia in both legs, localized to the middle third, that occurred during exercise and persisted for several hours or days. The pain was required to be distributed over an area of approximately 5 cm in length.

Intervention groups

Intervention group 1: Stretching exercises + kinesiotaping: Structured stretching program with kinesiotaping by a trained person for the calf muscles
Intervention group 2: Stretching exercises: Stretching exercises of the first intervention group
Control group: Performing daily activities

Main outcome variables

Ankle joint range of motion (inversion, eversion, dorsi and plantar flexion) - calf circumference - reaction time - figure of 8 hop test, side hop test, 6m cross over hop test and triple hop test

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20250812066834N1**

Registration date: **2025-10-16, 1404/07/24**

Registration timing: **registered_while_recruiting**

Last update: **2025-10-16, 1404/07/24**

Update count: **0**

Registration date

2025-10-16, 1404/07/24

Registrant information

Name

Samane Sohrabi

Name of organization / entity

University of Guilan

Country

Iran (Islamic Republic of)

Phone

+98 13 3369 0274

Email address

samane771027@gmail.com

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2025-10-11, 1404/07/19

Expected recruitment end date

2025-10-18, 1404/07/26

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

The effect of stretching exercises and kinesiotaping on pain and movement performance of athletes with chronic tibial compartment syndrome

Public title

The effect of stretching exercise and taping on leg pain in athletes

Purpose

Supportive

Inclusion/Exclusion criteria**Inclusion criteria:**

Having a body mass index between 18-25 Willingness to participate and collaborate in research Male and female student athletes

Exclusion criteria:

Unwillingness to continue cooperation Failure to participate in post-tests on time

Age

From **18 years** old to **25 years** old

Gender

Both

Phase

N/A

Groups that have been masked

- Participant

Sample size

Target sample size: **30**

Randomization (investigator's opinion)

Randomized

Randomization description

Random assignment to groups was done through sealed numbered envelopes, and 3 letters A, B, C were used to identify each group, which were randomly numbered and placed in sealed envelopes inside the box. Envelope A was the stretching exercises group with the kinesio taping (n=10), Envelope B was stretching exercises (n=10), and Envelope C was the control group. Thus, the participants were divided into three groups.

Blinding (investigator's opinion)

Single blinded

Blinding description

Blinding of subjects will be done using sealed envelopes labeled A, B, and C, where A represents the stretching exercises group with kinesiotherapy, B represents the stretching exercises group, and C represents the control group. Subjects in one group will not be informed of the group in which the other subjects are placed.

Placebo

Not used

Assignment

Parallel

Other design features**Secondary Ids**

empty

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

Research Ethics Committees of University of Guilan

Street address

Guilan University Complex, 5th km of Tehran Road, Persian Gulf Highway, Rasht.

City

Rasht

Province

Guilan

Postal code

4199613776

Approval date

2025-06-02, 1404/03/12

Ethics committee reference number

IR.GUILAN.REC.1404.050

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

The disease will not be investigated.

ICD-10 code**ICD-10 code description****Primary outcomes****1****Description**

Ankle joint range of motion (inversion, eversion, plantar and dorsi flexion)

Timepoint

One pre-test phase and three post-test phases 24 hours apart

Method of measurement

Using a Universal goniometer

2**Description**

Calf circumference

Timepoint

One pre-test phase and three post-test phases 24 hours apart

Method of measurement

Tape measure

3**Description**

Reaction time

Timepoint

One pre-test phase and three post-test phases 24 hours apart
Method of measurement
Video camera

4

Description

Figure of 8 hop test

Timepoint

One pre-test phase and three post-test phases 24 hours apart

Method of measurement

Recording time with a stopwatch

5

Description

Side hop test

Timepoint

One pre-test phase and three post-test phases 24 hours apart

Method of measurement

Recording time with a stopwatch

6

Description

6 meter cross over hop test

Timepoint

One pre-test phase and three post-test phases 24 hours apart

Method of measurement

Recording time with a stopwatch

7

Description

Triple hop test

Timepoint

One pre-test phase and three post-test phases 24 hours apart

Method of measurement

Recording distance using a tape measure

Secondary outcomes

empty

Intervention groups

1

Description

Intervention group 1: 2 sessions of kinesio taping 2 days apart, with the patient extending their legs forward, knees straight, ankles in a plantar flexion position, and stretching the tibialis anterior muscle. Kinesio taping in the shape of an (I) is applied from the medial side of the foot to the fibula with light tension to the origin of the tibialis anterior muscle, and then stretching exercises will be performed. Both kinesio taping and stretching exercises will target the anterior calf muscles.

Category

Rehabilitation

2

Description

Second intervention group: Perform 2 sessions of static stretching exercises two days apart after training with the aim of stretching the ankle overturning muscles for a total of 240 seconds (Peroneus longus muscle stretch: The participant sits on a chair and stretches the muscles in a neutral ankle position. When the foot is on the floor and the knee joint is in a 90-degree flexion position, the ankle is slowly moved inward. At this time, the outer edge of the foot is in contact with the ground. Stretching of the brevis and peroneus muscles: The participant, still sitting on a chair, stretches the muscles in a plantar flexion position of the ankle. The leg that is not being stretched is on the floor, the other leg that is being stretched is lifted and placed on the knee. Then, the subject stretches his ankle inward and forward with the help of his hands and holds it.) Stretching of the ankle dorsiflexor muscles for 120 seconds (Tibialis muscle stretch Anterior: The participant sits on a chair, bends the knee joint towards the back of the thigh, and pulls the ankle back, with only the toes in contact with the floor. At the same time, the person shifts their body weight forward and brings the ankle further back.

Category

Rehabilitation

3

Description

Control group: The subjects in this group will not do any exercise and will simply carry out their daily activities.

Category

N/A

Recruitment centers

1

Recruitment center

Name of recruitment center

Sport injury and Corrective Exercise Laboratory,
Faculty of Physical Education and Sport Sciences, U

Full name of responsible person

Dr Ali Shamsi Majelan

Street address

Guilan University Complex, 5th km of Tehran Road,
Persian Gulf Highway, Rasht.

City

Rasht

Province

Guilan

Postal code

4199613776

Phone

+98 13 3369 0274

Email

samane771027@gmail.com

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

University of Guilan

Full name of responsible person

Ali Bani

Street address

Guilan University Complex, 5th km of Tehran Road,
Persian Gulf Highway, Rasht.

City

Rasht

Province

Guilan

Postal code

4199613776

Phone

+98 13 3369 0274

Email

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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

Laboratory facilities

Proportion provided by this source

100

Public or private sector

Public

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**

University of Guilan

Full name of responsible person

Ali Shamsi Majelan

Position

Associate Professor

Latest degree

Ph.D.

Other areas of specialty/work

Sports injury and corrective exercises

Street address

Guilan University Complex, Rasht, 5th km of Tehran
Road, Persian Gulf Highway

City

Rasht

Province

Guilan

Postal code

4199613776

Phone

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Email

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Person responsible for scientific inquiries

Contact**Name of organization / entity**

University of Guilan

Full name of responsible person

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Position

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Phone

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Email

samane771027@gmail.com

Person responsible for updating data

Contact**Name of organization / entity**

University of Guilan

Full name of responsible person

Ali ShamsiMajelan

Position

Associate Professor

Latest degree

Ph.D.

Other areas of specialty/work

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Email

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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

No - There is not a plan to make this available

Statistical Analysis Plan

Yes - There is a plan to make this available

Informed Consent Form

Yes - There is a plan to make this available

Clinical Study Report

Yes - There is a plan to make this available

Analytic Code

No - There is not a plan to make this available

Data Dictionary

No - There is not a plan to make this available

Title and more details about the data/document

The analyzed data from the results of this research will be used for publication in journals and will be published in general.

When the data will become available and for how long

After the study is published in a reputable, international journal, the data resulting from the peer-reviewed analysis will be made available in accordance with the journal's publication policies.

To whom data/document is available

In accordance with the publication's publishing policies, any applicant must act in accordance with the policies.

Under which criteria data/document could be used

Necessary actions must be taken in accordance with the policies of the publication in question.

From where data/document is obtainable

The person in charge of this research is Dr. Ali Shamsi Majlan. Requests can be sent via the email address Alishamsim@yahoo.com.

What processes are involved for a request to access data/document

The type of request submitted must be clear and unambiguous, and requests submitted will be responded to within two business days.

Comments