Clinical Trial Protocol
Iranian Registry of Clinical Trials

07 Nov 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 participa

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)

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+98 13 3369 0274

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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.
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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, evresion, 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

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

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Sponsors / Funding sources

1

Sponsor
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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
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
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Other areas of specialty/work
Sports injury and corrective exercises
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Person responsible for updating data

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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