Clinical Trial Protocol
Iranian Registry of Clinical Trials

10 Jun 2026

Comparing the immediate effect of active stretching versus self-myofascial release on iliotibial band flexibility and functional activity in semi elite athletes

Protocol summary

Study aim
Evaluation of the immediate effect of active stretching techniques and self-release of myofascial tissue on the performance and flexibility of the iliotibial band in semi-professional athletes

Design
Clinical trial with three groups, with parallel groups, single blind, with random sequence by block randomization method on 51 patients. Random allocation software is used for randomization.

Settings and conduct
This is a clinical trial study that is performed in Shiraz School of Rehabilitation Sciences. Patients entered the study after signing the informed consent form and by using block randomization method are divided into three groups including PNF stretching technique group, foam roller group and combined foam roller therapy and PNF stretching technique group. The range of motion of hip adduction and the functional activities of patients are assessed before intervention and immediately after its completion. The study is single blind and evaluation and treatment are performed by two different physiotherapists and the evaluator is blind to the type of interventions performed.

Participants/Inclusion and exclusion criteria
Inclusion criteria: 20 to 40 years old semi-professional athletes, confirmation of unilateral or bilateral length reduction in iliotibial band by using modified Ober test. Exclusion criteria: Having iliotibial band syndrome with pain or limping symptoms, history of surgery in the last three months in the lower limb, lower limb surgery more than twice, severe structural and postural disorders, neurological disorders

Intervention groups
group 1: using foam roller for 3 minutes group 2: using Proprioceptive Neuromuscular Facilitation (PNF) for 3 to 5 minutes group 3: Combination therapy of foam roller and PNF stretching technique

Main outcome variables
Hip adduction range of motion; Iliotibial band flexibility; Movement assessment

General information

Reason for update

Acronym

IRCT registration information
IRCT registration number: **IRCT20210505051181N1**
Registration date: **2021-08-13, 1400/05/22**
Registration timing: **prospective**

Last update: **2021-08-13, 1400/05/22**
Update count: **0**

Registration date
2021-08-13, 1400/05/22

Registrant information

Name
Mehrnaz Kajbafvala

Name of organization / entity

Country
Iran (Islamic Republic of)

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+98 21 2304 6688

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Recruitment status
Recruitment complete

Funding source

Expected recruitment start date
2021-08-23, 1400/06/01

Expected recruitment end date
2021-09-22, 1400/06/31

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Comparing the immediate effect of active stretching versus self-myofascial release on iliotibial band flexibility and functional activity in semi elite athletes

Public title

Comparing passive and active stretching techniques on iliotibial band

Purpose

Treatment

Inclusion/Exclusion criteria

Inclusion criteria:

20 to 40 years old semi-professional athletes Confirmation of unilateral or bilateral length reduction in iliotibial band by using modified Ober test

Exclusion criteria:

Having iliotibial band syndrome with pain or limping symptoms Surgery history in the last 3 months in each of the musculoskeletal structures of the lower limbs and pelvic girdle People who have had lower limb surgery more than twice Rheumatic patients Existence of structural or postural disorders such as severe kyphosis or scoliosis in the individual Having neurological disorders Structural disorders in pelvis and lower limbs Pregnancy History of lower limb fracture or trauma in the last year

Age

From **20 years** old to **40 years** old

Gender

Both

Phase

N/A

Groups that have been masked

- Outcome assessor

Sample size

Target sample size: **51**

Randomization (investigator's opinion)

Randomized

Randomization description

In this study, the limited randomization method of block randomization will be used. Blockage is usually used to balance the number of samples allocated to each of the studied groups. The size of all the blocks is equal and in this trial which includes 51 patients in three groups, we will have blocks with size of 6. Random allocation software is also used for randomization. In order to conceal allocation of participants to the groups, sequentially numbered, sealed, opaque envelopes (SNOSE) will be used.

Blinding (investigator's opinion)

Single blinded

Blinding description

This study is single blind and the stages of evaluation and treatment are performed by two different physiotherapists and the evaluator is blind to the type of interventions performed and thus bias is prevented.

Placebo

Not used

Assignment

Parallel

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee

Ethics committee of Iran University of Medical Sciences

Street address

No. 8, Fourth Floor, Arshia Apartment, Eight Alley, Shiraz Abrishami St.

City

Shiraz

Province

Fars

Postal code

7144816874

Approval date

2020-11-11, 1399/08/21

Ethics committee reference number

IR.IUMS.REC.1399.788

Health conditions studied

1

Description of health condition studied

Iliotibial band syndrome

ICD-10 code

M76.3

ICD-10 code description

Iliotibial band syndrome

Primary outcomes

1

Description

Range of motion of hip joint adduction

Timepoint

Before the intervention and immediately after the intervention

Method of measurement

Electro goniometer and inclinometer

2

Description

Iliotibial band flexibility

Timepoint

Before the intervention and immediately after the

intervention

Method of measurement

goniometer

Secondary outcomes

1

Description

Movement assessment by using single leg hop test

Timepoint

Before the intervention and immediately after the intervention

Method of measurement

Tape meter

2

Description

Movement assessment by using vertical jump test

Timepoint

Before the intervention and immediately after the intervention

Method of measurement

Tape meter

3

Description

Movement assessment by using lateral hop test

Timepoint

Before the intervention and immediately after the intervention

Method of measurement

Tape meter

Intervention groups

1

Description

First intervention group: People using the hard model foam roller with dimensions of 60 by 15 cm by Behsazan Modern Company in one session. After learning how to use the foam roller, how to position during use and also the duration of using the foam roller to the participants, people are asked to lie on their side, then place the foam roller at the highest junction of the iliotibial band structures, slightly below the iliac crest. Individuals are asked to roll the foam roller towards the distal end of the iliotibial band junction at a constant speed and slowly by moving the body. The average speed of moving the foam roller is 5 movements per 30 seconds on average, and this speed is the same and constant in all people. Individuals are asked to do this slowly for three minutes.

Category

Treatment - Devices

2

Description

Second intervention group: People using Proprioceptive Neuromuscular Facilitation (PNF) stretching technique for 3 to 5 minutes in three steps. In the first step, the therapist gently moves the patient's limb from the hip joint to the end of the range of extension, adduction, and external rotation so that the iliotibial band at the end of the range is stretched. In the second stage, the patient is then asked to apply force in the direction of flexion, abduction and internal rotation by pressing his/her foot on the therapist's hand for 5 to 8 seconds. In the third step, the patient is then asked to relax his/her muscles again, and this time the therapist gently moves the patient's limbs to a new range of extension, adduction, and external rotation of the hip joint, and maintains traction by reaching the end of the range. These steps continue until there is no further increase in range of motion.

Category

Treatment - Other

3

Description

Third intervention group: Combination therapy group of foam roller and proprioceptive neuromuscular facilitation (PNF) stretching techniques

Category

Treatment - Other

Recruitment centers

1

Recruitment center

Name of recruitment center

Shiraz School of Rehabilitation Sciences, Fars University of Medical Sciences

Full name of responsible person

Ehsan Afshari

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Sponsors / Funding sources

1

Sponsor

Name of organization / entity

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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?
Yes

Title of funding source
Iran University of Medical Sciences

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
Iran University of Medical Sciences

Full name of responsible person
Ehsan Afshari

Position
Scholar

Latest degree
Bachelor

Other areas of specialty/work
Physiotherapy

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Sharing plan

Deidentified Individual Participant Data Set (IPD)
Yes - There is a plan to make this available

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

Yes - There is a plan to make this available

Data Dictionary

Yes - There is a plan to make this available

Title and more details about the data/document

Data can be shared after making participants unrecognizable.

When the data will become available and for how long

Start access period 6 months after the results publication

To whom data/document is available

Any researchers will have access to the data after allowance of corresponding author.

Under which criteria data/document could be used

Performing any analysis to any data resulted form this study will be allowed only with the permission of corresponding author.

From where data/document is obtainable

Email the researcher, Ehsan Afshari pt.Afshari@yahoo.com

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

Email the researcher - Request from the Vice Chancellor for Research - Provide information to the applicant

Comments