

Clinical Trial Protocol

Iranian Registry of Clinical Trials

18 Sep 2026

Investigating the Effect of Dry Needling of Tibialis anterior, Peroneus Longus and Brevis Muscles on Proprioception, Ankle Muscle Strength and Balance in Young Amateur Athletes with Chronic Ankle Instability

Protocol summary

Study aim

Investigating the effect of dry needling of tibialis anterior, peroneus longus and brevis muscles on proprioception, ankle muscle strength and balance in young non-professional athletes with chronic ankle instability.

Design

The upcoming study is conducted as a double-blind randomized controlled clinical trial (RCT) in such a way that the evaluator and the patients are blinded.

Settings and conduct

The upcoming study is conducted as a double-blind randomized controlled clinical trial (RCT) in such a way that the evaluator and patients are blinded. The study is carried out in Baqiyat Allah Hospital.

Participants/Inclusion and exclusion criteria

Their age should be between 18 and 40 years. Doing three sessions of at least one hour of exercise per week. Have a history of sprained ankle. A history of at least one severe ankle sprain. primary torsion; occurred at least 12 months before the start of the study. The last injury occurred more than three months before the start of the study. Not having cases of non-use of dry needles.

Intervention groups

And the treatment in the control group (sham needle) and in the intervention group (dry needle) is performed for three sessions and one day in between.

Main outcome variables

Maximum muscle isometric strength the balance proprioception

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20230918059459N1**

Registration date: **2023-12-11, 1402/09/20**

Registration timing: **retrospective**

Last update: **2023-12-11, 1402/09/20**

Update count: **0**

Registration date

2023-12-11, 1402/09/20

Registrant information

Name

Maryam Asgari

Name of organization / entity

Country

Iran (Islamic Republic of)

Phone

+98 21 3337 7812

Email address

maryamasgari376@yahoo.com

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2023-11-06, 1402/08/15

Expected recruitment end date

2023-12-06, 1402/09/15

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Investigating the Effect of Dry Needling of Tibialis anterior, Peroneus Longus and Brevis Muscles on Proprioception, Ankle Muscle Strength and Balance in Young Amateur Athletes with Chronic Ankle Instability

Public title

Investigating the Effect of Dry Needling in Chronic Ankle Instability

Purpose

Treatment

Inclusion/Exclusion criteria

Inclusion criteria:

Have a History of Sprained Ankle. Have a History of at Least One Severe Ankle Sprain. Primary Torsion; Occurred at Least 12 Months Before the Start of the Study. Be Accompanied by Inflammatory Symptoms. At Least One Day of Physical Activity has Disturbed the Person. The Last Injury Occurred More than Three Months Before the Start of the Study. A History of Previous Ankle Injury in the form of Ankle Sprains or Sprains Repeats or Feels Unstable. Their Age Should be Between 18 and 40 Years. Do Three Sessions of at Least One Hour of Exercise Per Week. Do Not be Afraid of Needles. Do Not Have Trypanophobia.

Exclusion criteria:

Age

From **18 years** old to **40 years** old

Gender

Both

Phase

N/A

Groups that have been masked

- Participant
- Outcome assessor

Sample size

Target sample size: **34**

Randomization (investigator's opinion)

Randomized

Randomization description

People are Randomly Divided in to Two Groups using the Randomization Sequence. It will be done through Randomization.com and using Block Balanced Randomization Method; And for the Purpose of Cocleament Allocation, Sealed and Numbered Envelopes are Used, which are Provided to the Participants.

Blinding (investigator's opinion)

Double blinded

Blinding description

The Upcoming Study is Conducted as a Double-Blind Randomized Controlled Clinical Trial (RCT) in Such a Way that the Evaluator and the Patients are Blind.

Placebo

Used

Assignment

Parallel

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee

Ethics Committee of Tehran University of Medical Sciences

Street address

Rehabilitation of Medical Sciences Tehran, Enghelab Street

City

Tehran

Province

Tehran

Postal code

1148965111

Approval date

2023-09-13, 1402/06/22

Ethics committee reference number

IR.TUMS.FNM.REC.1402.130

Health conditions studied

1

Description of health condition studied

Chronic Ankle Instability

ICD-10 code

ICD-10 code description

Primary outcomes

1

Description

Muscle Strength

Timepoint

At the Beginning of the Study (Before the Start of the Intervention) and at the End of the Study (After the Intervention Sessions)

Method of measurement

A Dynamometer is Used to Measure Strength.

2

Description

Proprioception

Timepoint

At the Beginning of the Study (Before the Start of the Intervention) and at the End of the Study (After the Intervention Sessions).

Method of measurement

Joint Angle Reconstruction Error is Used to Measure Proprioception.

3

Description

Balance

Timepoint

At the Beginning of the Study (Before the Start of the Intervention) and at the End of the Study (After the Intervention Sessions).

Method of measurement

a One-Leg Standing Test is Used to Measure Balance.

Secondary outcomes

empty

Intervention groups

1

Description

Intervention group: for the intervention group, dry needling treatment is used in the tibialis anterior and peroneal muscles for three sessions.

Category

Rehabilitation

2

Description

Control group: For the control group, sham needles are used for three sessions in the muscles of the tibialis anterior and peroneal muscles.

Category

Rehabilitation

Recruitment centers

1

Recruitment center

Name of recruitment center

Baqiyatullah Hospital

Full name of responsible person

Maryam Asgari

Street address

Mulla Sadra

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141556437

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Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Tehran University of Medical Sciences

Full name of responsible person

Dr. Bahare Yazdizadeh

Street address

Keshavarz Blvd., Corner of Qods St., Headquarters of Tehran University of Medical Sciences, 6th Floor, Room 605, Research and Technology Affairs Management Unit

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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

Tehran 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

Tehran University of Medical Sciences

Full name of responsible person

Maryam Asgari

Position

Student

Latest degree

Bachelor

Other areas of specialty/work

Physiotherapy

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Faculty of Rehabilitation, corner of Safi Alishah St., Pich Shamiran St., Tehran

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Person responsible for scientific inquiries

Contact

Name of organization / entity

Tehran University of Medical Sciences

Full name of responsible person

Dr. Zeenat Ashnagar

Position

Assistant Professor

Latest degree

Ph.D.

Other areas of specialty/work

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Person responsible for updating data

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Full name of responsible person

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Position

Student

Latest degree

Bachelor

Other areas of specialty/work

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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