

Clinical Trial Protocol

Iranian Registry of Clinical Trials

12 Sep 2026

The effect of TRX suspension training on proprioception, landing error and fear of re-injury in athletes with a history of anterior cruciate ligament reconstruction

Protocol summary

Study aim

The effect of TRX suspension training on proprioception, landing error and fear of re-injury in athletes with a history of anterior cruciate ligament reconstruction

Design

The clinical trial consisted of an experimental group and a control group, with parallel and random groups. The Roll of dice method was used for randomization.

Settings and conduct

The present study is a quasi-experimental research with a pretest-posttest design with an experimental group and a control group. 30 athletes with a history of anterior cruciate ligament reconstruction are randomly divided into experimental and control groups. Proprioception, landing error and fear of re-injury are measured before and after exercise.

Participants/Inclusion and exclusion criteria

Inclusion criteria: Athletes with a history of anterior cruciate ligament reconstruction; Exclusion criteria: Inability to perform exercises, aggravation of symptoms and pain, 3 sessions of absence in exercises

Intervention groups

The first intervention group includes athletes with a history of anterior cruciate ligament reconstruction who receive suspension training intervention with TRX. The control group included athletes with a history of anterior cruciate ligament reconstruction who did not receive any intervention.

Main outcome variables

Proprioception, landing error, fear of re-injury

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20200107046035N9**

Registration date: **2022-06-26, 1401/04/05**

Registration timing: **prospective**

Last update: **2022-06-26, 1401/04/05**

Update count: **0**

Registration date

2022-06-26, 1401/04/05

Registrant information

Name

Hossein Shahrokhi

Name of organization / entity

Hakim Sabzevari University

Country

Iran (Islamic Republic of)

Phone

+98 51 4401 2756

Email address

h.shahrokhi@hsu.ac.ir

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2022-07-11, 1401/04/20

Expected recruitment end date

2022-07-21, 1401/04/30

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

The effect of TRX suspension training on proprioception, landing error and fear of re-injury in athletes with a history of anterior cruciate ligament reconstruction

Public title

The effect of suspension training on proprioception, landing error and fear of re-injury in athletes with a history of anterior cruciate ligament reconstruction

Purpose

Treatment

Inclusion/Exclusion criteria**Inclusion criteria:**

Athletes with a history of anterior cruciate ligament reconstruction Having a history of surgery Absence in the acute stage

Exclusion criteria:

Taking painkillers and inflammation Arthritis Abnormal BMI

Age

From **18 years** old to **45 years** old

Gender

Both

Phase

N/A

Groups that have been masked

No information

Sample size

Target sample size: **30**

Randomization (investigator's opinion)

Randomized

Randomization description

En A simple randomization method was used to assign individuals to two groups. In this method, the Roll of a dice method was used to create a random sequence. In this method, the numbers 1 and 2 and 3 were considered for the first group and the numbers 4 and 5 and 6 for the second group. Then, in order not to determine which group the individuals will be assigned to before dividing them into three groups, or in other words, allocation concealment, the central randomization method was used.

Blinding (investigator's opinion)

Not blinded

Blinding description**Placebo**

Not used

Assignment

Parallel

Other design features**Secondary Ids**

empty

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

Sport sciences research institute

Street address

No. 3, 5th Alley, Miremad Street, Motahhari Street, Tehran, Iran.

City

Tehran

Province

Tehran

Postal code

1587958711

Approval date

2022-05-21, 1401/02/31

Ethics committee reference number

IR.SSRC.REC.1401.033

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

Anterior cruciate ligament tear

ICD-10 code

S83

ICD-10 code description

Dislocation and sprain of joints and ligaments of knee

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

Proprioception

Timepoint

At the beginning of the study (before the start of the intervention) and after 8 weeks of intervention

Method of measurement

Goniometer

2**Description**

Landing error

Timepoint

At the beginning of the study (before the start of the intervention) and after 8 weeks of intervention

Method of measurement

Landing Error Scoring System

3**Description**

Fear of re-injury

Timepoint

At the beginning of the study (before the start of the intervention) and after 8 weeks of intervention

Method of measurement

Tempa Scale Kensiophobi

Secondary outcomes

empty

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

Intervention group: TRX suspension training, for 8 weeks,

3 sessions per week, 2 hour per session

Category

Treatment - Other

2

Description

Control group: Without any training and just doing normal daily activities

Category

N/A

Recruitment centers

1

Recruitment center

Name of recruitment center

Raja University

Full name of responsible person

Zhino Bahari

Street address

Novrizian, Motahhari blvd.

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95834-34148

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+98 28 3367 7101

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Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Raja university

Full name of responsible person

Hadi Miri

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Phone

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Email

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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

Raja university

Proportion provided by this source

10

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

Hakim Sabzevari University

Full name of responsible person

Hossein Shahrokhi

Position

Assistant professor

Latest degree

Ph.D.

Other areas of specialty/work

حرکات اصلاحی

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Tohid Shahr - Sabzevar - Iran

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Person responsible for scientific inquiries

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Person responsible for updating data

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Sharing plan

Deidentified Individual Participant Data Set (IPD)

Yes - There is a plan to make this available

Study Protocol

Yes - There is 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

All potential data can be shared after people have not been identified

When the data will become available and for how long

Start the access period one year after printing the results

To whom data/document is available

Data will be available to academic and scientific researchers

Under which criteria data/document could be used

Any kind of functional analysis on the submitted data is allowed

From where data/document is obtainable

by Email: h.shahrokhi@hsu.ac.ir

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

by Email: h.shahrokhi@hsu.ac.ir and the reason for using the documents

Comments