Clinical Trial Protocol
Iranian Registry of Clinical Trials

28 Oct 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.

City

Qazvin

Province

Qazvin

Postal code

95834-34148

Phone

+98 28 3367 7101

Email

faridabahari11@gmail.com

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Raja university

Full name of responsible person

Hadi Miri

Street address

Novrizian, Motahhari Bolv

City

Qazvin

Province

Qazvin

Postal code

95834-34148

Phone

+98 28 3367 7101

Email

hd.miri@gmail.com

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

Street address

Tohid Shahr - Sabzevar - Iran

City

Sabzevar

Province

Razavi Khorasan

Postal code

9617976487

Phone

+98 51 4401 2756

Fax

Email

h.shahrokhi@hsu.ac.ir

Person responsible for scientific 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

Street address

Tohid Shahr - Sabzevar - Iran

City

Sabzevar

Province

Razavi Khorasan

Postal code

9617976487

Phone

+98 51 4401 2756

Fax

Email

h.shahrokhi@hsu.ac.ir

Person responsible for updating data

Contact

Name of organization / entity

Hakin Sabzevari University

Full name of responsible person

Hossein Shahrokhi

Position

Assistant professor

Latest degree

Ph.D.

Other areas of specialty/work

Sport injury and corrective exercise

Street address

Hakim sabzevari university - tohidshahr - Sabzevar

City

Sabzevar

Province

Razavi Khorasan

Postal code

9617976487

Phone

+98 51 4401 2756

Email

h.shahrokhi@hsu.ac.ir

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