Clinical Trial Protocol
Iranian Registry of Clinical Trials

14 Nov 2026

The effect of six weeks of motor control exercises on selected kinetic, kinematic and lower extremity functional status in male professional athletes with anterior cruciate ligament reconstruction

Protocol summary

Study aim

The effect of six weeks of motor control exercises on kinetic, kinematic and lower extremity functional status in male athletes with anterior cruciate ligament reconstruction should be investigated.

Design

Clinical trial with a control group based on community with a parallel group

Settings and conduct

After the selection and entry of the participants in the Physical Education Research Institute, pre-intervention tests are carried out using isoknetic and motion analysers and exercises at the gym. After 6 weeks of training then tests such as pre-test conditions at the Research Institute of Science Sports are done

Participants/Inclusion and exclusion criteria

Inclusion criteria: having the surgery of anterior cruciate ligament using auto graft hamstring for the first time, Passing 6 months after the surgery, Having at least 2 years of experience in the fields of Handball, Basketball, Football and Volleyball in the provincial level, Not having any specific pain and swelling in the knee, Aged between 18-30 , Having completed physiotherapy course.
Exclusion criteria: Hearing problems, balance problems

Intervention groups

control group:current exercises such as double leg squat, double leg press and lunges prescribed by surgeon within six weeks each week two sessions. Intervention group:Intervention group do the current exercises the surgeon prescribes for the athletes. Also are needed to do the external motor control exercises such as single leg squat in front of a barrier cone, landing in front of the barrier, single leg lunges in front of a barrier, countermoment jump, standing on the Boso ball with a bar foam and jumping along a straight line during six weeks, each week for two sessions.

Main outcome variables

Joint angles such as (trunk flexion,knee flexion and knee valgus while landing), quadriceps power , hamstring power

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20180412039278N1**
Registration date: **2018-12-21, 1397/09/30**
Registration timing: **prospective**

Last update: **2019-10-04, 1398/07/12**
Update count: **1**

Registration date

2018-12-21, 1397/09/30

Registrant information

Name

mohammad ghaderi

Name of organization / entity

The university of kharazmi

Country

Iran (Islamic Republic of)

Phone

+98 31 3559 1641

Email address

std_mohammad.ghaderi@khu.ac.ir

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2018-12-24, 1397/10/03

Expected recruitment end date

2019-01-07, 1397/10/17

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

The effect of six weeks of motor control exercises on selected kinetic, kinematic and lower extremity functional status in male professional athletes with anterior cruciate ligament reconstruction

Public title

Effect of feedback training on rehabilitation of anterior cruciate ligament

Purpose

Prevention

Inclusion/Exclusion criteria

Inclusion criteria:

All patients who have first performed anterior cruciate ligament restoration using hamstring auto grafting method. Six months from the date of surgery. Having Completed the physiotherapy course. No swelling and pain in the knee. Having done one of the sports (Basketball_Football_Volleyball_Handball) for at least two years in the provincial level. Aged between 18 and 30 years.

Exclusion criteria:

Having hearing problems Affected by any condition abnormalities affecting the research process including the Femoral anteversion, genu valgum, genu varum, tibia rotation, and flat foot (recognizable by standard clinical methods) Participation in any rehabilitation program for anterior cruciate ligament

Age

From **18 years** old to **30 years** old

Gender

Male

Phase

N/A

Groups that have been masked

No information

Sample size

Target sample size: **25**

Randomization (investigator's opinion)

Randomized

Randomization description

A) Randomization method: Simple randomization (random number table) B) Building Random sequence method: Determining beforehand reading the table (up, down, right, left) then we start reading numbers from 0 to 50 intervention groups and 51 to 99 control groups. C) Randomization unit: Individual D) Randomization Tool: Random number table, sealed envelopes (for making random sequences) E) Concealment: Snose method A number of aluminum-covered envelopes (in order to keep the contents of the envelopes unclear) are prepared and each random sequence created on the card is recorded and the cards are inserted into the envelopes respectively. In order to maintain a random sequence, the numbering of the envelopes on the outer surface is done in the same order. Finally, the flap is closed in pockets and placed in the box, respectively. At the time of registration of the participants, according to the order in which the participants are entered, one of the envelopes is opened and the allocated group of that participant is made known.

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

Ethics Committee of Shahid Beheshti University of Medical Sciences

Street address

Akhtar Hospital, Gheytariyeh

City

tehran

Province

Tehran

Postal code

1145676914

Approval date

2016-07-28, 1395/05/07

Ethics committee reference number

IR.SBMU.RETECH.REC.1397.313

Health conditions studied

1

Description of health condition studied

injury of the anterior cruciate ligament

ICD-10 code

S83.5

ICD-10 code description

Sprain of cruciate ligament of knee

Primary outcomes

1

Description

Dynamic knee valgus angle during descent

Timepoint

Before the intervention and the end of the intervention

Method of measurement

Cortex Movement Analyzer

2

Description
Knee flexion during landing
Timepoint
Before and after the intervention
Method of measurement
Cortex Movement Analyzer

3

Description
trunk flexion during landing
Timepoint
Before and after the intervention
Method of measurement
Cortex Movement Analyzer

Secondary outcomes

1

Description
Quadriceps power
Timepoint
Before and after the intervention
Method of measurement
Biodex 4 isokinetic system

2

Description
Hamstring power
Timepoint
Before and after the intervention
Method of measurement
Biodex 4 isokinetic system

Intervention groups

1

Description
Intervention group:Intervention group do the current exercises the surgeon prescribes for the athletes. Also are needed to do the external motor control exercises such as single leg squat in front of a barrier cone, landing in front of the barrier, single leg lunges in front of a barrier, countermoment jump, standing on the Boso ball with a bar foam and jumping along a straight line during six weeks, each week for two sessions.
Category
Rehabilitation

2

Description
Control group: current exercises such as double leg squat, double leg press and lunges prescribed by surgeon and or physiotherapist within six weeks each week two sessions.
Category
Rehabilitation

Recruitment centers

1

Recruitment center
Name of recruitment center
Akhtar Hospital
Full name of responsible person
Sohrab Keyhai
Street address
Akhtar Hospital, Gheytariyeh
City
Tehran
Province
Tehran
Postal code
1145676914
Phone
+98 21 2200 1072
Fax
+98 21 2352 3707
Email
akhtarhospital@sbmu.ac.ir

Sponsors / Funding sources

1

Sponsor
Name of organization / entity
Kharazmi university
Full name of responsible person
Jafar Jahanpanah
Street address
Kharazmi University, No.43. South Mofatteh Ave, Tehran, iran
City
Tehran
Province
Tehran
Postal code
15719-14911
Phone
+98 21 8884 8944
Email
jahanpanah@khu.ac.ir
Grant name
Grant code / Reference number
Is the source of funding the same sponsor organization/entity?
Yes
Title of funding source
Kharazmi university
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
Kharazmi university
Full name of responsible person
Mohammad Ghaderi
Position
Student
Latest degree
Master
Other areas of specialty/work
Sport Sciences
Street address
Kharazmi University, No.43. South Mofatteh Ave, Tehran, iran
City
Tehran
Province
Tehran
Postal code
1571914911
Phone
+98 21883292203
Email
mohammad.esf1995@gmail.com

Person responsible for scientific inquiries

Contact
Name of organization / entity
Kharazmi University
Full name of responsible person
Amir Letafatkar
Position
Assistant Professor
Latest degree
Ph.D.
Other areas of specialty/work
Sport Sciences
Street address
Address: No. 43, Shahid Mofatteh Ave., Kharazmi University, Faculty of Physical Education & Sport Sciences, Tehran.
City
Tehran
Province
Tehran
Postal code
1571914911
Phone
+98 26 3457 9600
Email
letafatkaramir@yahoo.com

Person responsible for updating data

Contact
Name of organization / entity
Kharazmi University
Full name of responsible person
Mohammad Ghaderi
Position
Student Master
Latest degree
Master
Other areas of specialty/work
Sport Sciences
Street address
Kharazmi University, No.43. South Mofatteh Ave, Tehran, iran
City
Tehran
Province
Tehran
Postal code
1571914911
Phone
+98 913 563 7663
Email
mohammad.esf1995@gmail.com

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
Yes - There is 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
Title and more details about the data/document
The data that the output of the isokinetic device is without identifying the subjects of the subject.
When the data will become available and for how long
6 months after printing results
To whom data/document is available
All interested persons
Under which criteria data/document could be used
There is no specific item.
From where data/document is obtainable
Send an email to mohammad.esf1995@gmail.com
What processes are involved for a request to access data/document
After posting, it will take two weeks for the documentation to reach.

Comments