

Clinical Trial Protocol

Iranian Registry of Clinical Trials

21 Jun 2026

The Effect of Whole Body Vibration (WBV) on Dynamic Postural Stability during Jump Landing in Athletes Following Anterior Cruciate Ligament Reconstruction

Protocol summary

Study aim

The Effect of Whole Body Vibration (WBV) on Dynamic Postural Stability during Jump Landing in Athletes after Anterior Cruciate Ligament Reconstruction

Design

Parallel, double blinded, randomised clinical trial with control group; Balanced Block Randomization by Randomization.com

Settings and conduct

Selected Participants will be given Explanations on how to conduct the Research and, if desired, the person will give his / her informed consent by signing a written consent. First, the evaluations are performed and the treatments are performed in the control group (exercise therapy) and in the intervention group (WBV + exercise therapy) for 4 weeks, and 48 hours after the last treatment session, the evaluation is performed again.

Participants/Inclusion and exclusion criteria

History of Anterior Cruciate Ligament Surgery (Hamstrings) without Surgery for Other Ligament and Meniscus Injuries More than 6 Months have passed since the Surgery; The operated Leg should be One-Sided; Having Mild to Moderate Physical Activity (at least 3 Times a Week and more than 30 Minutes each Time) in Jumping Sports; No Pain, Inflammation and Limited Range of Motion in the Knee Joint; The Person has returned to Exercise with the Advice of a Doctor and has received some Rehabilitation Programs after Surgery and before entering the Study; Not having Items that prohibit Whole Body Vibration.

Intervention groups

Participants in the Control Group receive only Exercise Therapy; In addition to Exercise Therapy, the Treatment Group also receives Whole Body Vibration.

Main outcome variables

AnteroPosterior (AP); Mediolateral(ML); vertical&resultant stability index(SI) during forward jump landing(FJL)&

diagonal Jump Landing(DJL); AP/ML/ vertical and resultant time to stabilization(TTS) during FJL & DJL; Distance traveled in the Y balance test in the anterior, posteromedial and posterolateral directions

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20220226054122N1**

Registration date: **2022-03-01, 1400/12/10**

Registration timing: **prospective**

Last update: **2022-03-01, 1400/12/10**

Update count: **0**

Registration date

2022-03-01, 1400/12/10

Registrant information

Name

Zahra Rostampour

Name of organization / entity

Country

Iran (Islamic Republic of)

Phone

+98 21 5514 2480

Email address

z.rostampur@gmail.com

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2022-04-03, 1401/01/14

Expected recruitment end date

2022-08-21, 1401/05/30

Actual recruitment start date

empty

Actual recruitment end date
empty

Trial completion date
empty

Scientific title
The Effect of Whole Body Vibration (WBV) on Dynamic Postural Stability during Jump Landing in Athletes Following Anterior Cruciate Ligament Reconstruction

Public title
Investigation of Whole Body Vibration Effect on Stability during Jump Landing

Purpose
Treatment

Inclusion/Exclusion criteria
Inclusion criteria:
History of Anterior Cruciate Ligament Surgery (Hamstrings) without Surgery for Other Ligament and Meniscus Injuries More than 6 Months have passed since the Surgery The operated Leg should be One-Sided Having Mild to Moderate Physical Activity (at least 3 Times a Week and more than 30 Minutes each Time) in Jumping Sports such as Volleyball, Basketball, Football, Handball, etc. No Pain, Inflammation and Limited Range of Motion in the Knee Joint The Person has returned to Exercise with the Advice of a Doctor and has received some Rehabilitation Programs after Surgery and before entering the Study
Exclusion criteria:
Not having Items that prohibit Whole Body Vibration (Pregnancy, Acute Thrombosis, Severe Cardiovascular Problems, Pacemaker, Discopathy, Spondylosis, Severe Diabetes, Epilepsy, Acute Infection, Severe Migraine, Tumor, Kidney Stones)

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

Gender
Both

Phase
N/A

Groups that have been masked

- Outcome assessor
- Data analyser

Sample size
Target sample size: **28**

Randomization (investigator's opinion)
Randomized

Randomization description
Random Allocation will be done through Randomization.com and Balanced Block Randomization Method. The Size of the Blocks is 4. Also, for Allocation Concealment, sealed and numbered Envelopes are used, which are provided to the Participants by the Secretary.

Blinding (investigator's opinion)
Double blinded

Blinding description
Assessor and Analyser

Placebo
Not 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

13th Floor, A block, Headquarters of the Ministry of Health, Simaye Iran Ave, between Zarafshan and South Falamak, Qods town

City

Tehran

Province

Tehran

Postal code

1363945641

Approval date

2022-02-23, 1400/12/04

Ethics committee reference number

IR.TUMS.FNM.REC.1400.211

Health conditions studied

1

Description of health condition studied

Poor Dynamic Postural Stability

ICD-10 code

ICD-10 code description

2

Description of health condition studied

Anterior Cruciate Ligament Reconstruction Surgery

ICD-10 code

ICD-10 code description

Primary outcomes

1

Description

AnteroPosterior/MedioLateral/ vertical and resultant time to stabilization during forward and diagonal jump landing

Timepoint

Before intervention and 48 hours after last treatment session

Method of measurement

Force plate

2

Description

AnteroPosterior/Mediolateral/ vertical and resultant stability index during forward and diagonal jump landing

Timepoint

Before intervention and 48 hours after last treatment session

Method of measurement

Force plate

Secondary outcomes

1

Description

Distance traveled in Y balance test in anterior/posteromedial and posterolateral

Timepoint

Before intervention and 48 hours after last treatment session

Method of measurement

Y balance test

Intervention groups

1

Description

Intervention group: Whole Body Vibration and exercise training 3 sessions a week and for 4 week. 9 positions are defined for the person, each of which from sessions 1 to 12 with different repetitions on the Whole Body Vibration device with a frequency between 30 to 50 Hz, amplitude 2.5 to 5 mm, number of sets between 8 to 16, rest Between sets of 60 seconds and duration of vibration 4 to 16 minutes, are performed from the first session to 12th session. Position 1: legs in the middle of the plate and slightly apart, knees slightly bent and back straight , Position 2: Standing on one leg, middle leg Plate, knees also slightly bent and waist straight, Position 3: Mini-squat / Position 4: Mini-squat on one leg / Position 5: Squat / Position 6: Squat on one leg / Position 7: Squat with the legs apart ./ Position 8: One foot in the middle of the plate and the other foot outside the plate, knees at 90 degrees flexion and back straight / Position 9: Standing on toes

Category

Rehabilitation

2

Description

Control group: exercise training. 10 RM. exercise training include strength training and perturbation training. 12 sessions: 3 sessions per week for 4 weeks

Category

Rehabilitation

Recruitment centers

1

Recruitment center

Name of recruitment center

Sports Medicine Federation of Iran

Full name of responsible person

Zahra Rostampour

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Web page address

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Tehran University of Medical Sciences

Full name of responsible person

dr.fotouhi

Street address

Sixth floor,Central Organization of the University,Qods Ave,Keshavarz Blvd

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vcr@tums.ac.ir

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

Zahra Rostampour

Position

Student

Latest degree

Bachelor

Other areas of specialty/work

Physiotherapy

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Ph.D.

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Position

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Latest degree

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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