

# 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

#### **Street address**

No.17, Varzandeh Ave., South Moffateh Ave

#### **City**

Tehran

#### **Province**

Tehran

#### **Postal code**

1571745613

#### **Phone**

+98 21 83826

#### **Fax**

#### **Email**

info@ifsm.ir

#### **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

#### **City**

Tehran

#### **Province**

Tehran

#### **Postal code**

1417653761

#### **Phone**

+98 21 8163 3698

#### **Email**

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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No. 1, Farahani Alley, Kamali Ave, Abouzar Blvd

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## Person responsible for scientific inquiries

### Contact

**Name of organization / entity**

Tehran University of Medical Sciences

**Full name of responsible person**

Roya Khanmohammadi

**Position**

Assistant professor

**Latest degree**

Ph.D.

**Other areas of specialty/work**

Physiotherapy

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**Postal code**

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**Phone**

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## Person responsible for updating data

### 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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## 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