# Clinical Trial Protocol
# Iranian Registry of Clinical Trials

09 Nov 2026

## The effect of Functional training on FMS score and balance of upper and lower limb in students prone to injury.

## Protocol summary

**Study aim**
Determining the Effectiveness of Eight weeks of Functional training programs on Functional movement screening test scores and dynamic balance of the lower and upper limbs in students prone to injury.

**Design**
Clinical trial, with control group, with parallel groups, double-blind, randomized, phase 2 on 60 patients, Excel software will be used for randomization.

**Settings and conduct**
This research is a quasi-experimental study focused on injury prevention, to be conducted at Bu-Ali Sina University in Hamedan. Informed consent will be obtained from all participants, who will be randomly assigned to either an intervention group or a control group. Following an initial assessment, the intervention group will undergo an eight-week functional training program, and the results will be analyzed at the conclusion of the study. The assessor and the researcher are blinded.

**Participants/Inclusion and exclusion criteria**
Being a student. Not Injuri.

**Intervention groups**
Functional exercises group : (exercises performed using body weight that have applications in daily life) Control group: (Routine sports and exercises during physical education classes, such as soccer)

**Main outcome variables**
Functional Movement Screening Score, Dynamic Balance

## General information

**Reason for update**

**Acronym**

**IRCT registration information**
IRCT registration number: **IRCT20260226068958N1**
Registration date: **2026-10-29, 1405/08/07**
Registration timing: **prospective**
Last update: **2026-10-29, 1405/08/07**
Update count: **0**

**Registration date**
2026-10-29, 1405/08/07

**Registrant information**

**Name**
Bahman Aghamohammadi

**Name of organization / entity**
University of bu ali sina

**Country**
Iran (Islamic Republic of)

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**Email address**
ghilich1377@gmail.com

**Recruitment status**
**Not yet recruiting**

**Funding source**

**Expected recruitment start date**
2026-11-22, 1405/09/01

**Expected recruitment end date**
2027-01-21, 1405/11/01

**Actual recruitment start date**
empty

**Actual recruitment end date**
empty

**Trial completion date**
empty

**Scientific title**
The effect of Functional training on FMS score and balance of upper and lower limb in students prone to injury.

**Public title**
The effect of Functional training on FMS score and Balance of upper and lower limb in students prone to injury.

**Purpose**

Prevention

**Inclusion/Exclusion criteria**

**Inclusion criteria:**

All students aged 9 to 12. All students aged 9–12 who are at risk of injury. All students aged 9–12 whose screening test score is below 14.

**Exclusion criteria:**

Students with no history of surgery. Students who have not participated in any corrective exercise program.

**Age**

From **9 years** old to **12 years** old

**Gender**

Male

**Phase**

N/A

**Groups that have been masked**

- Investigator
- Outcome assessor
- Data analyser

**Sample size**

Target sample size: **54**

**Randomization (investigator's opinion)**

Randomized

**Randomization description**

In this study, a simple randomization method using a random number table was employed to randomly assign individuals to groups. Each individual was assigned a random number that determined their group.

**Blinding (investigator's opinion)**

Double blinded

**Blinding description**

In this study, one colleague will randomly assign individuals to groups, another will conduct the exercises for each group, and a third will be responsible for assessment and statistical analysis. Notably, the person administering the exercises will be blinded to the results, and the assessor will be blinded to group assignments; this approach ensures that bias on the part of both the exercise administrator and the assessor is prevented.

**Placebo**

Not used

**Assignment**

Other

**Other design features**

Fifty-four students will be randomly assigned to either a control group or an experimental group. The control group will engage in routine physical activities during physical education classes for eight weeks, while the experimental group will perform functional exercises for the same duration. After eight weeks, variables such as balance and the angle of dorsiflexion will be compared with the baseline measurements taken prior to the start of the exercises.

## Secondary Ids

empty

## Ethics committees

**1**

**Ethics committee**

**Name of ethics committee**

Bu Ali University Research Ethics Committee.

**Street address**

Martyr Qurban Ali.

**City**

Milagerd.

**Province**

Markazi

**Postal code**

3855164453

**Approval date**

2024-02-27, 1402/12/08

**Ethics committee reference number**

IR.BASU.REC.1402.103

## Health conditions studied

**1**

**Description of health condition studied**

Ankle sprain.

**ICD-10 code**

S93.4

**ICD-10 code description**

Sprain and Strain of ankle

## Primary outcomes

**1**

**Description**

Balance - Functional Movement Screening Score - Proprioceptor - Power- Dorsy flexion ROM - Kensio Fubia - Function

**Timepoint**

At the beginning of the study and after eight weeks of training.

**Method of measurement**

Y test . FMS Test . Long Jump Stance . Goniametr. Goniametr . TSK-17 Test . FAAM Test

## Secondary outcomes

empty

## Intervention groups

**1**

**Description**

"Intervention group:" Bodyweight-based Functional exercises over 8 weeks, totaling 24 sessions of 60 minutes each.

**Category**

Rehabilitation

**2**

**Description**

Control group: Common exercises during PE class

**Category**

Rehabilitation

## Recruitment centers

**1**

**Recruitment center**

**Name of recruitment center**

Corrective Exercise Laboratory, Bu Ali Sina University, Hamadan

**Full name of responsible person**

Ali Yalfany

**Street address**

Saidieh Street

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## Sponsors / Funding sources

**1**

**Sponsor**

**Name of organization / entity**

Hamedan University of Medical Sciences

**Full name of responsible person**

Dr. Alireza Soltanian

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Bu-Ali Sina University, Shahid Fahmideh Boulevard (Eram Boulevard), Hamadan, Iran.

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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**

Hamedan 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**

Hamedan University of Medical Sciences

**Full name of responsible person**

Yalfani Ali

**Position**

Profeser

**Latest degree**

Ph.D.

**Other areas of specialty/work**

Rehabilitation management

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## Person responsible for updating data

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## Sharing plan

**Deidentified Individual Participant Data Set (IPD)**
No - There is not a plan to make this available
**Justification/reason for indecision/not sharing IPD**
The participants' information is confidential.
**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**
No - There is not a plan to make this available
**Clinical Study Report**
No - There is not a plan to make this available
**Analytic Code**
No - There is not a plan to make this available
**Data Dictionary**
Undecided - It is not yet known if there will be a plan to make this available