

Clinical Trial Protocol

Iranian Registry of Clinical Trials

23 Jul 2026

The immediate effect of local vibration after quadriceps muscle fatigue on balance and performance in healthy young semi-professional male soccer players

Protocol summary

Study aim

To determine the immediate effect of local vibration after quadriceps muscle fatigue on balance and performance in healthy young semi-professional male soccer players

Design

Clinical Randomized Controlled trial , Two arm parallel group , single blinded , Phase III Trial , 26 Participants .

Settings and conduct

The study is practical in the form of a randomised, controlled clinical trial, single blinded that the participants are not aware of the type of intervention. The place of research is the physiotherapy laboratory of the school rehabilitation of Tehran university of medical sciences .

Participants/Inclusion and exclusion criteria

Inclusion Criteria: semi-professional soccer players Men 18 to 35 years old Absence of neurological, vestibular, orthopedic and respiratory cardiovascular disorders
Exclusion Criteria: The participant's lack of consent to participate in the trial before or during the research The participant's inability to complete the research process The participant's awareness of how to conduct the experiment for himself before the research Fatigue of the participant before the start of the trial for any reason, including recent intense sports activity

Intervention groups

Intervention Group: Quadriceps Muscle Local Vibration of Dominant Leg , 2 minutes , 50 Hz frequency Control group: Rest for 2 minutes

Main outcome variables

1- Maximum isometric torque of quadriceps muscle 2- Dynamic Balance 3- Performance

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20230325057773N1**

Registration date: **2023-09-12, 1402/06/21**

Registration timing: **prospective**

Last update: **2023-09-12, 1402/06/21**

Update count: **0**

Registration date

2023-09-12, 1402/06/21

Registrant information

Name

Mostafa Jafari

Name of organization / entity

Country

Iran (Islamic Republic of)

Phone

+98 21 6684 4442

Email address

amjidsph007@gmail.com

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2023-09-23, 1402/07/01

Expected recruitment end date

2023-10-23, 1402/08/01

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

The immediate effect of local vibration after quadriceps muscle fatigue on balance and performance in healthy

young semi-professional male soccer players

Public title

The immediate effect of local vibration on quadriceps muscle fatigue recovery in soccer players

Purpose

Treatment

Inclusion/Exclusion criteria**Inclusion criteria:**

semi-professional soccer players Men 18 to 35 years old
Absence of neurological, vestibular, orthopedic and respiratory cardiovascular disorders

Exclusion criteria:

The participant's lack of consent to participate in the trial before or during the research
The participant's inability to complete the research process
The participant's awareness of how to conduct the experiment for himself before the research
Fatigue of the participant before the start of the trial for any reason, including recent intense sports activity

Age

From **18 years** old to **35 years** old

Gender

Male

Phase

N/A

Groups that have been masked

- Outcome assessor

Sample size

Target sample size: **26**

Randomization (investigator's opinion)

Randomized

Randomization description

General questionnaires have been prepared to the number of sample size and on the back of half of sheets are written "intervention" and the other half are written "control". The participants should be randomly divided into two intervention and control groups of each 13 people. For this purpose, the sheets are placed in a jumbled manner and each participant chooses one of the sheets upon arrival and based on the title on the back of the sheet, it is placed in one of the intervention or control groups. In this way, the sheet chosen by the participant is separated from the questionnaire sheets

Blinding (investigator's opinion)

Single blinded

Blinding description

The assessment of result of the Single Leg Hop test and the Y balance test will be done by the Assessor and the quadriceps torque will be determined by the isokinetic device, and the interventionist will not be present. Also, the Assessor does not know which of the control or intervention groups the participant is in, and the Assessor will not be present during the intervention (rest or local vibration).

Placebo

Not used

Assignment

Parallel

Other design features**Secondary Ids**

empty

Ethics committees**1****Ethics committee****Name of ethics committee**

Research Ethics Committees of School of Nursing and Midwifery & Rehabilitation - Tehran University o

Street address

Tehran University of Medical Sciences Headquarters ,
Qods st. , Corner, Keshavarz Blvd.

City

Tehran

Province

Tehran

Postal code

1417653761

Approval date

2023-04-26, 1402/02/06

Ethics committee reference number

IR.TUMS.FNM.REC.1402.006

Health conditions studied**1****Description of health condition studied**

Balance and Performance after Muscle Fatigue

ICD-10 code

M62.9

ICD-10 code description

Disorder of muscle, unspecified

Primary outcomes**1****Description**

Maximum isometric torque of quadriceps muscle

Timepoint

Before fatigue , Immediately after fatigue , Immediately after intervention / rest

Method of measurement

Isokinetic device Dynamometer

2**Description**

Dynamic Balance

Timepoint

Before fatigue , Immediately after fatigue , Immediately after intervention / rest

Method of measurement

Y balance test in anterior, posterior-internal, posterior-external directions

3

Description

Performance

Timepoint

Before fatigue , Immediately after fatigue , Immediately after intervention / rest

Method of measurement

Single leg jump test

Secondary outcomes

empty

Intervention groups

1

Description

Case Group: Quadriceps muscle local vibration of the dominant leg: creation of mechanical vibration in the muscle locally by an electrical mechanical device called vibrator 717A made in Japan. Local vibration is applied to the case group for two minutes with a manual vibrator device without pressure on the quadriceps muscle with a frequency of 50 Hz.

Category

Rehabilitation

2

Description

Control group: Rest for 2 minutes

Category

Rehabilitation

Recruitment centers

1

Recruitment center

Name of recruitment center

Faculty of Rehabilitation of Tehran University of Medical Sciences

Full name of responsible person

Mostafa Jafari

Street address

Faculty of Rehabilitation ,corner of Safi Alisha St.,Pich Shamiran, Enghelab St.,

City

Tehran

Province

Tehran

Postal code

6511111489

Phone

+98 21 7753 3939

Email

rehabilitation@tums.ac.ir

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Tehran University of Medical Sciences

Full name of responsible person

Akbar Fotoohi

Street address

Research and Technology Vice-Chancellor , 6th floor, Central Organization of the University, corner of Quds St. , Keshavarz Blvd.

City

Tehran

Province

Tehran

Postal code

1417653761

Phone

+98 21 8163 3685

Email

vcr@sina.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

Mostafa Jafari

Position

Msc Student

Latest degree

Bachelor

Other areas of specialty/work

Physiotherapy

Street address

Faculty of Rehabilitation , Enghelab Ave.

City

Tehran

Province

Tehran

Postal code

1344763351

Phone

+98 21 6684 4442

Fax
Email
amjidsph007@gmail.com

Person responsible for scientific inquiries

Contact

Name of organization / entity
Tehran University of Medical Sciences
Full name of responsible person
Mostafa Jafari
Position
Msc Student
Latest degree
Bachelor
Other areas of specialty/work
Physiotherapy
Street address
Faculty of Rehabilitation , Enghelab Ave.
City
Tehran
Province
Tehran
Postal code
1344763351
Phone
+98 21 6684 4442
Fax
Email
amjidsph007@gmail.com

Person responsible for updating data

Contact

Name of organization / entity
Tehran University of Medical Sciences
Full name of responsible person
Mostafa Jafari
Position
Msc Student
Latest degree
Bachelor
Other areas of specialty/work
Physiotherapy
Street address
Faculty of Rehabilitation , Enghelab Ave.

City
Tehran
Province
Tehran
Postal code
1344763351
Phone
+98 21 6684 4442
Fax
Email
amjidsph007@gmail.com

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

Not applicable

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

Not applicable

Data Dictionary

Not applicable

Title and more details about the data/document

Individual data of participants: All data except personal information can be published

When the data will become available and for how long

The start of the access period at the same time as the results are printed

To whom data/document is available

Academic researchers and people working in medical engineering are allowed to access the data.

Under which criteria data/document could be used

Data can be used in new researches and making the vibrator device.

From where data/document is obtainable

Mostafa Jafari amjidsph007@gmail.com

What processes are involved for a request to access data/document

The request will be sent to the email and the data will be provided to them as soon as possible

Comments