

# Clinical Trial Protocol

## Iranian Registry of Clinical Trials

10 Jun 2026

### The Effects of Whole Body Vibration on Muscle Activity and Timing of the Upper Extremity Muscles

#### Protocol summary

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#### Summary

The aim of this study is to determine the effects of Whole Body Vibration on muscle activity and timing of the Upper Extremity muscles in Modified Push Up position. Forty female students will be divided into Whole Body Vibration (WBV) and Control (no vibration) groups. Participants in the WBV group use an experimental vibration protocol of 5 × 30 seconds at 5 mm and 30 Hz, in a modified push up position. Surface EMG will be measured for the Upper Trapezius, Serratus Anterior, Biceps Brachii and Triceps Brachii Before, during and after the vibration. Measurements of Reaction Time (premotor and motor time) will be collected before and after the vibration using a digital electrogoniometer.

#### Recruitment status

**Recruitment complete**

#### Funding source

Governmental

#### Expected recruitment start date

2011-05-22, 1390/03/01

#### Expected recruitment end date

2011-07-06, 1390/04/15

#### Actual recruitment start date

empty

#### Actual recruitment end date

empty

#### Trial completion date

empty

#### General information

#### Acronym

#### IRCT registration information

IRCT registration number: **IRCT201105186521N1**

Registration date: **2011-06-14, 1390/03/24**

Registration timing: **registered\_while\_recruiting**

Last update:

Update count: **0**

#### Registration date

2011-06-14, 1390/03/24

#### Registrant information

#### Name

Zinat Ashnagar

#### Name of organization / entity

Tehran University of Medical Sciences

#### Country

Iran (Islamic Republic of)

#### Phone

+98 21 8875 9469

#### Email address

#### Scientific title

The Effects of Whole Body Vibration on Muscle Activity and Timing of the Upper Extremity Muscles

#### Public title

The Effects of Whole Body Vibration on Upper Extremity Electromyography

#### Purpose

Other

#### Inclusion/Exclusion criteria

Inclusion criteria: age of 18 to 30 years; BMI between 20 to 24; Female; Right hand Dominancy; Having no Previous history of fractures, muscular, ligamentous or joint injury; They should be relatively sedentary and healthy who have not been participating in aerobic or resistance exercises more than once a week in the preceding year; able to do Push-Up exercise; non-smoker and do not drink Tea, Coffee or Coca Cola before test session; Having no contra-indications to Whole Body Vibration (i.e., diabetes, epilepsy, acute inflammation...); Having no previous history of surgery. Exclusion Criteria: consuming any drug which can affect motor and cognition performance; If the participant traumatized or injured during the test and couldn't continue; If the

participant do not like to continue the test or the Electromyography; signals not recorded properly.

#### **Age**

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

#### **Gender**

Female

#### **Phase**

N/A

#### **Groups that have been masked**

*No information*

#### **Sample size**

Target sample size: **40**

#### **Randomization (investigator's opinion)**

Randomized

#### **Randomization description**

#### **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**

Tehran University of Medical Sciences

###### **Street address**

Physical Therapy Dept., Faculty of Rehabilitation, Tehran University of Medical Sciences, Piche shemiran, Enghelab street

###### **City**

Tehran

###### **Postal code**

###### **Approval date**

2010-09-23, 1389/07/01

###### **Ethics committee reference number**

260/93

### **Health conditions studied**

#### 1

##### **Description of health condition studied**

Normal subjects

##### **ICD-10 code**

##### **ICD-10 code description**

### **Primary outcomes**

#### 1

##### **Description**

Muscle Activity

##### **Timepoint**

Before, during and after the Intervention

##### **Method of measurement**

Electromyography and Data Log Software

#### 2

##### **Description**

Reaction Time

##### **Timepoint**

Before and After the Intervention

##### **Method of measurement**

Electromyography

#### 3

##### **Description**

Premotor Time

##### **Timepoint**

Before and After the Intervention

##### **Method of measurement**

Electromyography

#### 4

##### **Description**

Motor Time

##### **Timepoint**

Before and After the Intervention

##### **Method of measurement**

Electromyography

### **Secondary outcomes**

empty

### **Intervention groups**

#### 1

##### **Description**

Intervention: 5 Sets of Vibration and each set lasts for 30 seconds.

##### **Category**

Rehabilitation

#### 2

##### **Description**

Control group do not receive any vibration.

##### **Category**

N/A

### **Recruitment centers**

#### 1

##### **Recruitment center**

###### **Name of recruitment center**

Faculty of Rehabilitation

###### **Full name of responsible person**

###### **Street address**

Physical Therapy Dept. Faculty of Rehabilitation,  
Tehran University of Medical Sciences, Piche  
shemiran, Enghelab street

**City**

Tehran

## Sponsors / Funding sources

### 1

**Sponsor**

**Name of organization / entity**

Faculty of Rehabilitation, Tehran University of Medical  
Sciences

**Full name of responsible person**

Dr. Azadeh Shadmehr

**Street address**

Physical Therapy Dept., Faculty of Rehabilitation,  
Tehran University of Medical Sciences, Piche  
shemiran, Enghelab street

**City**

Tehran

**Grant name**

**Grant code / Reference number**

**Is the source of funding the same sponsor  
organization/entity?**

Yes

**Title of funding source**

Faculty of Rehabilitation, Tehran University of Medical  
Sciences

**Proportion provided by this source**

**Public or private sector**

*empty*

**Domestic or foreign origin**

*empty*

**Category of foreign source of funding**

*empty*

**Country of origin**

**Type of organization providing the funding**

*empty*

### 2

**Sponsor**

**Name of organization / entity**

Physical Therapy Dept. Faculty of Rehabilitation,  
Tehran University of Medical Sciences

**Full name of responsible person**

Dr. Mohhamadreza Hadian

**Street address**

Piche-shemiran, Enghelab street

**City**

Tehran

**Grant name**

**Grant code / Reference number**

**Is the source of funding the same sponsor  
organization/entity?**

Yes

**Title of funding source**

Physical Therapy Dept. Faculty of Rehabilitation, Tehran  
University of Medical Sciences

**Proportion provided by this source**

**Public or private sector**

*empty*

**Domestic or foreign origin**

*empty*

**Category of foreign source of funding**

*empty*

**Country of origin**

**Type of organization providing the funding**

*empty*

## Person responsible for general inquiries

**Contact**

**Name of organization / entity**

Faculty of Rehabilitation

**Full name of responsible person**

Zinat Ashnagar

**Position**

Postgraduate (MS.C) Student of Physiotherapy

**Other areas of specialty/work**

**Street address**

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## Person responsible for scientific inquiries

**Contact**

**Name of organization / entity**

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## Person responsible for updating data

### Contact

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**Full name of responsible person**

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## Sharing plan

**Deidentified Individual Participant Data Set (IPD)**

*empty*

**Study Protocol**

*empty*

**Statistical Analysis Plan**

*empty*

**Informed Consent Form**

*empty*

**Clinical Study Report**

*empty*

**Analytic Code**

*empty*

**Data Dictionary**

*empty*