

# Clinical Trial Protocol

## Iranian Registry of Clinical Trials

10 Jun 2026

### The comparison of two taping methods on pain, EMG activity and dynamic balance in athletes with patellofemoral pain syndrome

#### Protocol summary

##### Summary

Objectives: Comparison of two muscle taping techniques on the pain, electromyographic activity and dynamic balance in athletes with patellofemoral pain syndrome. Design: This is a randomized, blind, clinical trial. Thirty two athletes will be randomly assigned to two groups: Vastus Lateralis (VL) inhibitory taping and Vastus Medialis Obliquus (VMO) facilitatory taping technique. Participants: 32 athletes aged 18-40 years old will take part in the study. Inclusion criteria: unilateral anterior or retro patellar knee pain; existence of symptoms for at least 2 months and an average pain level of 3 on visual analog scale. Exclusion criteria: history of hip; knee or ankle surgery; a history of patellar dislocation or subluxation; or clinical evidence of meniscal lesion and ligamentous instability. Interventions: Kinesiology tape will be attached to VL inhibitory group from from tibial tuberosity following VL path, up to 1/3 of the proximal thigh. for VMO facilitatory group Kinesiology tape will be attached from 1/3 of the proximal thigh following VMO path down to tibial tuberosity. Individuals in both groups will be assessed for pain, electromyographic activity of vasti in voluntary heel and toe raises and postural balance before and after interventions. Main Outcome Measures: participants will rate the perceived pain level using the 10-cm visual analog scale, electromyographic onset and activity of VMO and VL assessed during heel rise and down, Reach distance that normalize by dividing the distance by the participants' leg length during star excursion balance test performance.

#### General information

##### Acronym

##### IRCT registration information

IRCT registration number: **IRCT2014071515932N3**

Registration date: **2014-08-16, 1393/05/25**

Registration timing: **prospective**

Last update:

Update count: **0**

##### Registration date

2014-08-16, 1393/05/25

##### Registrant information

###### Name

Alireza Motealleh

###### Name of organization / entity

Shiraz University of Medical Sciences

###### Country

Iran (Islamic Republic of)

###### Phone

+98 71 1626 5108

###### Email address

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##### Recruitment status

**Recruitment complete**

##### Funding source

Shiraz University of Medical Sciences

##### Expected recruitment start date

2014-08-23, 1393/06/01

##### Expected recruitment end date

2014-11-22, 1393/09/01

##### Actual recruitment start date

empty

##### Actual recruitment end date

empty

##### Trial completion date

empty

##### Scientific title

The comparison of two taping methods on pain, EMG activity and dynamic balance in athletes with patellofemoral pain syndrome

##### Public title

The effect of taping on performance in athletes with patellofemoral pain syndrome

##### Purpose

Supportive

### **Inclusion/Exclusion criteria**

Inclusion criteria: unilateral anterior or retropatellar knee pain while engaged in at least 2 of the following activities: prolonged sitting, climbing stairs, squatting, running, kneeling and jumping; existence of symptoms for at least 2 month; an average pain level of 3cm on a 10-cm visual analog scale; an insidious onset of symptoms unrelated to a traumatic incident and at least grade 11 in Functional Index Questionnaire. Exclusion criteria: recent history of hip; knee or ankle surgery; a history of patellar dislocation or subluxation; or clinical evidence of meniscal lesion; ligamentous instability; patellar tendon pathology; chondral damage; osteoarthritis; or spinal referred pain; systemic diseases such as diabetes and rheumatism and bilateral PFP.

### **Age**

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

### **Gender**

Both

### **Phase**

N/A

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

*No information*

### **Sample size**

Target sample size: **32**

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

Randomized

### **Randomization description**

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

Single blinded

### **Blinding description**

### **Placebo**

Not used

### **Assignment**

Parallel

### **Other design features**

## **Secondary Ids**

empty

## **Ethics committees**

### 1

#### **Ethics committee**

##### **Name of ethics committee**

Shiraz University of Medical Sciences

##### **Street address**

Shiraz University of Medical Sciences, Zand Ave

##### **City**

Shiraz

##### **Postal code**

71345-1987

#### **Approval date**

2014-06-28, 1393/04/07

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

ct-9373-7053

## **Health conditions studied**

### 1

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

Patellofemoral pain syndrome

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

M94.2

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

Chondromalacia

## **Primary outcomes**

### 1

#### **Description**

The onse and amplitude of electromyographic activity

#### **Timepoint**

Before the intervention and immediately after intervention

#### **Method of measurement**

Telemetry EMG (Mega electronics Ltd.Finland)

### 2

#### **Description**

Pain

#### **Timepoint**

Before the intervention and immediately after intervention

#### **Method of measurement**

Visual analog scale

### 3

#### **Description**

Reach distance in dynamic balance

#### **Timepoint**

Before the intervention and immediately after intervention

#### **Method of measurement**

Tape

## **Secondary outcomes**

empty

## **Intervention groups**

### 1

#### **Description**

Kinesio logic tape will be attached with 15%-25% tension to VL inhibitory group from insertion to origin so it will be applied from tibial tuberosity following VL path, up to 1/3 of the proximal tigh.

#### **Category**

Rehabilitation

### 2

#### **Description**

For VMO facillatory group tape with 25%-50% tension will be attached from origin to insertion so it will be applied from 1/3 of the proximal tigh following VMO path down to tibial tuberosity

**Category**

Rehabilitation

**Recruitment centers****1****Recruitment center****Name of recruitment center**

Ghadir sports club

**Full name of responsible person**

Ms Zaravar

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Shiraz School of Rehabilitation, First Abiverdi Ave,  
Chamran Boulevard

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**Sponsors / Funding sources****1****Sponsor****Name of organization / entity**

Shiraz University of Medical Sciences

**Full name of responsible person**

Dr. Mohammad Ali Sahmeddini

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**City**

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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**

Shiraz University of Medical Sciences

**Proportion provided by this source**

100

**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**

Shiraz School of Rehabilitation, Shiraz University of  
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Vahideh Foroozantabar

**Position**

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**Web page address****Person responsible for scientific inquiries****Contact****Name of organization / entity**

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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*