

# Clinical Trial Protocol

## Iranian Registry of Clinical Trials

10 Jun 2026

### the effect of sacroiliac joint manipulation on balance and knee position sense of patients with patellofemoral pain syndrome

#### Protocol summary

##### Summary

**Objectives:**To examine the effectiveness of sacroiliac joint manipulation to improve balance and knee position sense of patients with patellofemoral pain syndrome.  
**Design of study:** 44 persons (men & women) that have anterior knee pain participate in this study. Inclusion criteria consist of: have anterior or retro-patellar knee pain at least as long as 6 month; pain during squat, step up and step down, running and jumping; At least one positive test: eccentric step down test, vastus medialis coordination test, patellar apprehension test. exclusion criteria: pain is due to trauma; acute and subacute neuromuscular disease; history of surgery in the knee.  
**Interventions:** volunteers divide in two groups, the first group is received manipulation to the sacroiliac joint and second group is not received manipulation but received manipulation position. position sense and balance at both groups is measured before and after by Biodex Dynamometer and star excursion balance test. Primary outcome measures: knee position sense error For angles 20 and 60 according to degrees. Secondary outcome measures: reach direction measures at anterior, postero-lateral, postero- medial by used of star excursion balance test before and after at both group. One group the high-velocity low-amplitude (HVLA) manipulation and the other group receive position(placebo) in a single session.  
**Measurement:** using the Biodex dynamometer to evaluate position sense and star execution test to evaluate balance ability and VAS(visual analog scale) to evaluate pain before and after intervention in both groups

#### General information

##### Acronym

##### IRCT registration information

IRCT registration number: **IRCT2013061213651N1**

Registration date: **2013-10-13, 1392/07/21**

Registration timing: **retrospective**

Last update:

Update count: **0**

##### Registration date

2013-10-13, 1392/07/21

##### Registrant information

###### Name

Ali Barzegar

###### Name of organization / entity

Yazd University of Medical Sciences

###### Country

Iran (Islamic Republic of)

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###### Email address

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##### Recruitment status

**Recruitment complete**

##### Funding source

Shiraz University of Medical Sciences

##### Expected recruitment start date

2013-07-20, 1392/04/29

##### Expected recruitment end date

2013-09-20, 1392/06/29

##### Actual recruitment start date

empty

##### Actual recruitment end date

empty

##### Trial completion date

empty

##### Scientific title

the effect of sacroiliac joint manipulation on balance and knee position sense of patients with patellofemoral pain syndrome

##### Public title

knee pain and position sense

##### Purpose

Treatment

## Inclusion/Exclusion criteria

inclusion criteria: they have anterior or retro-patellar and around knee pain; pain at least as long as 6 month; pain during squat, step up and step down, running and jumping; At least one positive test: eccentric step down test, vastus medialis coordination test, patellar apprehension test. exclusion criteria: pain is due to trauma; acute and subacute neuromuscular disease; history of surgery in the knee.

## Age

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

## Gender

Both

## Phase

N/A

## Groups that have been masked

*No information*

## Sample size

Target sample size: **44**

## 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

Shiraz university of Medical Sciences

##### Street address

Central Building of Shiraz University of Medical Sciences, Zand avenue ,Shiraz

##### City

Shiraz

##### Postal code

#### Approval date

2013-05-14, 1392/02/24

#### Ethics committee reference number

CT- 92- 6512

## Health conditions studied

### 1

#### Description of health condition studied

Patellofemoral pain syndrome

#### ICD-10 code

M22.2 , M2

## ICD-10 code description

Patellofemoral disorders, Chondromalacia patellae

## Primary outcomes

### 1

#### Description

knee Position Sense

#### Timepoint

Before - After

#### Method of measurement

by Biodex Dynamometer Based on degrees

## Secondary outcomes

### 1

#### Description

Balance

#### Timepoint

Before - After

#### Method of measurement

by Star Execution Test Based on centimeter by tape meter

## Intervention groups

### 1

#### Description

Intervention: The patient to be evaluated before intervention.After a fifteen minute rest in the intervention group: the patient is supine and the therapist bends contralateral to the side which is to be manipulated.The patient is passively move into side bending. toward the side to be manipulated. The patient interlock the fingers behind his or her head. The therapist passively rotate the patient, and then deliver a quick thrust to the Anterior Superior Iliac Spine (ASIS) in a posterior and inferior direction. Treatment is one session.Then the patient to br evaluated immediately and the information to be recorded.

#### Category

Rehabilitation

### 2

#### Description

Control group: The patient to be evaluated beforeid given sacroiliac manipulation position.After a fifteen minute rest.the patient is given sacroiliac manipulation position But the technique should not be placed.Then the patient to be evaluated immediately and the information to be recorded

#### Category

Rehabilitation

## Recruitment centers

1

### Recruitment center

**Name of recruitment center**

Rehabilitation Collage of Shiraz Medical Science  
University

**Full name of responsible person**

Ali Reza Motealleh

**Street address**

NO.32, Abiverdi 1 Avenue, Chamran Blvd, Shiraz ,Fars

**City**

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### Sponsors / Funding sources

1

#### Sponsor

**Name of organization / entity**

Shiraz University of Medical Sciences

**Full name of responsible person**

Dr. Hatam

**Street address**

Central Building of Shiraz University of Medical  
Sciences ,Zand avenue ,Shiraz

**City**

Shiraz

**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 University of Medical Sciences

**Full name of responsible person**

Ali Barzegar Bafrouei

**Position**

student

**Other areas of specialty/work**

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### Person responsible for scientific inquiries

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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*