

# Clinical Trial Protocol

## Iranian Registry of Clinical Trials

10 Jun 2026

### The comparison maitland mobilization and mobilization with movement effects on pain, rang of motion and static balance in ankle sprain with mechanical instability

#### Protocol summary

##### Study aim

The comparison of maitland mobilization and mobilization with movement effects on pain, range of motion and static balance in ankle sprain with mechanical instability

##### Design

Fifty patients participating in this study are placed randomly in two receiving intervention groups. Patients are treated six sessions, 3 times a week.

##### Settings and conduct

Patients will be treated at the physiotherapy clinic of Semnan university of medical sciences, The treatment protocol includes the application of grade 3 maitland mobilization in the anteroposterior direction of talus bone in a group of patients and application of mobilization with movement based on mulligan technique in the other group

##### Participants/Inclusion and exclusion criteria

Inclusion criteria: age range between 20 and 40 years old; detection of mechanical degree of instability by orthopedic specialist; motionless between two weeks and four weeks before intervention; second grade injury of the lateral ligament of ankle; hasn't fracture, surgery or any lower limb damage except ankle sprain in last 6 months; hasn't systematic diseases like diabetes or rheumatism diseases; hasn't spinal cord problems or each problems that reduce the person balance. Exclusion criteria: exacerbation of pain or any other problem for the person during the test intra-articular steroid injection in the last 6 months; neurological, vascular or visual disturbances that disturb the person balance; having a rehabilitation program before entering the study; being professional sportsman.

##### Intervention groups

In a group of patients, grade 3 of maitland mobilization is applied in the anteroposterior direction of the talus bone. In the other group, mobilization with movement based on

the Mulligan technique is applied.

##### Main outcome variables

Assessment of pain based on visual analogue scale and measurement the dorsiflexion range of motion based on WBLT method will be done before and after intervention.

#### General information

##### Reason for update

##### Acronym

##### IRCT registration information

IRCT registration number: **IRCT20190108042292N2**

Registration date: **2019-02-17, 1397/11/28**

Registration timing: **prospective**

Last update: **2019-02-17, 1397/11/28**

Update count: **0**

##### Registration date

2019-02-17, 1397/11/28

##### Registrant information

##### Name

Cyrus Taghizadeh Delkhosh

##### Name of organization / entity

##### Country

Iran (Islamic Republic of)

##### Phone

+98 23 3365 4180

##### Email address

cyrustaghizadeh@semums.ac.ir

##### Recruitment status

**Recruitment complete**

##### Funding source

##### Expected recruitment start date

2019-04-21, 1398/02/01

##### Expected recruitment end date

2019-05-22, 1398/03/01

**Actual recruitment start date**

empty

**Actual recruitment end date**

empty

**Trial completion date**

empty

**Scientific title**

The comparison maitland mobilization and mobilization with movement effects on pain, rang of motion and static balance in ankle sprain with mechanical instability

**Public title**

The effect of mobilization on ankle sprain

**Purpose**

Treatment

**Inclusion/Exclusion criteria****Inclusion criteria:**

Age range between 20 and 40 years  
Detection of mechanical degree of instability by orthopedic specialist  
Motionless between two weeks and four weeks before intervention  
Second grade injury of the lateral ligament of ankle  
Hasn't fracture, surgery or any lower limb damage except ankle sprain in last 6 months  
Hasn't systematic diseases like diabetes or rheumatism  
Hasn't spinal cord problems or each problems that reduce the person balance

**Exclusion criteria:**

Exacerbation of pain or any other problem for the person during the test  
Intra-articular steroid injection in the last 6 months  
Neurological, vascular or visual disturbances that disturb the person balance  
Having a rehabilitation program before entering the study  
Being professional sportsman

**Age**

From **20 years** old to **40 years** old

**Gender**

Both

**Phase**

N/A

**Groups that have been masked**

*No information*

**Sample size**

Target sample size: **50**

**Randomization (investigator's opinion)**

Randomized

**Randomization description**

In this study, patients will be divided into two groups with equal number by simple randomized sampling method. In such away that by assignning a coin, it is determined which group of each patient will be placed in this way, if one of the groups is completed earlier, the rest of the persons will be in the other group

**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**

Ethics Committee of Semnan University of Medical Sciences

**Street address**

Semnan University of Medical Sciences, Basij Blvd., Semnan

**City**

Semnan

**Province**

Semnan

**Postal code**

3519899951

**Approval date**

2018-12-18, 1397/09/27

**Ethics committee reference number**

IR.SEMUMS.REC.1397.205

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

Ankle sprain

**ICD-10 code**

S90.9

**ICD-10 code description**

Unspecified superficial injury of ankle, foot and toe

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

Pain Intensity in VAS

**Timepoint**

Before and After Intervention

**Method of measurement**

Visual Analogue Scale

**Secondary outcomes**

empty

**Intervention groups****1****Description**

Intervention group: six sessions of treatment, 3 times a week include the application of grade 3 maitland mobilization in the antroposterior direction of Talus bone 3 sets 30 seconds and 30 seconds rest between sets

**Category**

Rehabilitation

## 2

### Description

Intervention group: six sessions of treatment, 3 times a week include the application of mobilization with movement based on Mulligan technique 3 sets 30 seconds and 30 seconds rest between sets

### Category

Rehabilitation

## Recruitment centers

### 1

#### Recruitment center

##### Name of recruitment center

Ebn Sina Rehabilitation Clinic

##### Full name of responsible person

Adeleh Noruzi

##### Street address

Ebn Sina Clinic, 17 Shahrivar Blvd, Semnan

##### City

Semnan

##### Province

Semnan

##### Postal code

3519899951

##### Phone

+98 23 3332 2332

##### Email

Ad\_norouzi@yahoo.com

## Sponsors / Funding sources

### 1

#### Sponsor

##### Name of organization / entity

Semnan University of Medical Sciences

##### Full name of responsible person

Dr Parviz Kokhaie

##### Street address

Semnan University of Medical Sciences, Basij Blvd,  
Semnan

##### City

Semnan

##### Province

Semnan

##### Postal code

3514799442

##### Phone

+98 23 3345 1336

##### Email

p\_kokha@yahoo.com

##### Grant name

##### Grant code / Reference number

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

Yes

##### Title of funding source

Semnan 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

Semnan University of Medical Sciences

##### Full name of responsible person

Dr Syrus Taghizadeh

##### Position

Assistant professor

##### Latest degree

Ph.D.

##### Other areas of specialty/work

Physiotherapy

##### Street address

School of Rehabilitation, Semnan University of  
Medical Sciences, Damghan Rd., Semnan

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## Person responsible for scientific inquiries

#### Contact

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Semnan University of Medical Sciences

##### Full name of responsible person

Dr Syrus Tghizadeh

##### Position

Assistant Professor

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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**

No additional information

**Study Protocol**

No - There is not a plan to make this available

**Statistical Analysis Plan**

No - There is not 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**

No - There is not a plan to make this available