

# Clinical Trial Protocol

## Iranian Registry of Clinical Trials

03 Jun 2026

### Comparison of the effect of mulligan SNAG and Maitland mobilization techniques on the kinematic parameters of Lumbo-pelvic during stand to sit and sit to stand in athletes with Non- specific chronic low back pain

#### Protocol summary

##### Study aim

1-Determining the effect of Mulligan and Maitland treatment techniques on mean and standard deviation of pain and disability in athletes with non-specific chronic low back pain 2- Kinematics of lumbar-pelvic spine after Mulligan techniques while sitting and getting up from a chair in athletes with non-specific chronic low back pain 3- Kinematic determination of lumbar-pelvic spine after performing Maitland techniques while sitting and getting up from a chair in athletes with non-specific chronic low back pain

##### Design

A clinical trial with a control group, double-blind, randomized with parallel groups will be done on 30 participants.

##### Settings and conduct

The study will be done in Semnan Neuromuscular Rehabilitation Research Center. Participants in the first group will receive the Maitland mobilization as an parallel movements and forces down and at the level of the facet joint. Second group will receive the Mulligan SNAG mobilization as an glide during flexion. Both groups will be treated for 4 days a week for 4 weeks, each session lasting 30 minutes. For standard treatment in both groups, TENS modalities and IR will be used.

##### Participants/Inclusion and exclusion criteria

Inclusion criteria :People in the age range of 18-50 years low back pain that lasts at least 12 weeks; Having a VAS between 30-60 based on a 100 mm pain scale. Non-inclusion criteria : diffuse pain originating from sciatic nerve involvement; BMI more than 30 kg/m<sup>2</sup> ; leg pain; paresthesia in the legs; movement defect or motor involvement in the muscles of the lower limbs; acute intervertebral disc herniation

##### Intervention groups

In the first group, they will receive the Maitland mobilization as PA Glide. In the second group, Mulligan

Mobilization will receive SNAG as a spinal glide. There is no intervention in the control group. The control group is healthy people.

##### Main outcome variables

Pain : Disability

#### General information

##### Reason for update

##### Acronym

##### IRCT registration information

IRCT registration number: **IRCT20160808029264N11**

Registration date: **2021-06-18, 1400/03/28**

Registration timing: **prospective**

Last update: **2021-06-18, 1400/03/28**

Update count: **0**

##### Registration date

2021-06-18, 1400/03/28

##### Registrant information

##### Name

Rasool Bagheri

##### Name of organization / entity

##### Country

Iran (Islamic Republic of)

##### Phone

+98 23 3344 1022

##### Email address

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##### Recruitment status

**Recruitment complete**

##### Funding source

##### Expected recruitment start date

2021-08-20, 1400/05/29

##### Expected recruitment end date

2022-02-18, 1400/11/29

**Actual recruitment start date**

empty

**Actual recruitment end date**

empty

**Trial completion date**

empty

**Scientific title**

Comparison of the effect of mulligan SNAG and Maitland mobilization techniques on the kinematic parameters of Lumbo-pelvic during stand to sit and sit to stand in athletes with Non- specific chronic low back pain

**Public title**

The effect of mulligan and Maitland techniques in athletes with low back pain

**Purpose**

Treatment

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

The age range of 18-50 years Having a VAS between 30-60

**Exclusion criteria:**

Diffuse pain with sciatic nerve root involvement History of surgery and fracture of the lumbar spine or other spinal structures BMI greater than 30 kg / m<sup>2</sup> leg pain spreading below the knee paresthesia in the legs movement impairment or motor involvement in limb muscles Acute intervertebral disc herniation Malignancy Having any medical condition that has been contraindicated for exercise therapy Pregnancy Absence of radicular symptoms during daily activities especially walking Rheumatic and heart diseases Local swelling in the spine Skin changes in the spine due to skin problems and burns

**Age**

From **18 years** old to **50 years** old

**Gender**

Both

**Phase**

3

**Groups that have been masked**

- Participant
- Investigator

**Sample size**

Target sample size: **30**

**Randomization (investigator's opinion)**

Randomized

**Randomization description**

This study is available and non-probable sampling that after entering the samples will be randomly entered into one of groups one and two using a sealed envelope and then a healthy group with this group of patients They will be matched in terms of age, sex, height and weight. They will be evaluated kinematically.

**Blinding (investigator's opinion)**

Double blinded

**Blinding description**

Patients do not know if they are in the Maitland or Mulligan group. Because each group will receive a different intervention through the manual contact on

their lumbar spine. In addition, the evaluator will not know which group the patient is in.

**Placebo**

Not used

**Assignment**

Parallel

**Other design features**

Participants in the first group will receive the Midland Mobilization as PA Glide. In the initial sessions of treatment, 1 degree of oscillation will be applied. In the next sessions, the amount of mobilization will change according to the patient's response, which will be used in grades 2 and 3. Participants in the second group will receive SNAG Mulligan Mobilization as a spinal slide. Sustainable manual force is applied directly to the spinal cord of the lumbar vertebrae during active flexion.

**Secondary Ids**

empty

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

Ethics committee of Semnan University of Medical Sciences

**Street address**

Basij Blvd

**City**

Semnan

**Province**

Semnan

**Postal code**

3513138111

**Approval date**

2020-03-14, 1398/12/24

**Ethics committee reference number**

IR.SEMUMS.REC.1398.302

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

Chronic low back pain

**ICD-10 code**

M54.5

**ICD-10 code description**

Low back pain

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

Lumbo-pelvic kinematic

**Timepoint**

before and after treatment

**Method of measurement**

motion analysis system of qualysis

## 2

### **Description**

disability

### **Timepoint**

Before and after treatment

### **Method of measurement**

ODI Disability questionnaire

## 3

### **Description**

pain

### **Timepoint**

Before and after treatment

### **Method of measurement**

100 mm VAS pain scale

## **Secondary outcomes**

empty

## **Intervention groups**

### 1

#### **Description**

Intervention group 1: Participants in the first group will receive the Maitland Mobilization as an anterior-posterior glide, which is 4 days a week for 4 weeks and 16 sessions, each lasting 30 minutes.

#### **Category**

Treatment - Other

### 2

#### **Description**

Intervention group 2: This group will receive Mulligan mobilization as a spinal glide, which is 4 days a week for 4 weeks and 16 sessions, each session lasting 30 minutes.

#### **Category**

Rehabilitation

## **Recruitment centers**

### 1

#### **Recruitment center**

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

Neuromuscular Rehabilitation Research Center

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

Sahar Pishgoo

##### **Street address**

Neuromuscular Rehabilitation Research Center;  
Ghods Ave.

##### **City**

Semnan

##### **Province**

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##### **Postal code**

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##### **Phone**

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##### **Email**

spishgoo71@yahoo.com

## **Sponsors / Funding sources**

### 1

#### **Sponsor**

##### **Name of organization / entity**

Semnan University of Medical Sciences

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

Dr Parviz Kokhaei

##### **Street address**

Deputy of research and technology; Basij Ave

##### **City**

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##### **Province**

Semnan

##### **Postal code**

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##### **Phone**

+98 23 3356 4180

##### **Email**

rasool.baagheri@ymail.com

#### **Grant name**

#### **Grant code / Reference number**

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

No

#### **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**

Sahar Pishgoo

##### **Position**

Ms student

##### **Latest degree**

Bachelor

##### **Other areas of specialty/work**

Physiotherapy

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## Person responsible for scientific inquiries

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**Other areas of specialty/work**

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## Person responsible for updating data

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**Position**

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**Latest degree**

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**Other areas of specialty/work**

Physiotherapy

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## Sharing plan

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

Undecided - It is not yet known if there will be a plan to make this available

**Study Protocol**

Undecided - It is not yet known if there will be a plan to make this available

**Statistical Analysis Plan**

Undecided - It is not yet known if there will be a plan to make this available

**Informed Consent Form**

Undecided - It is not yet known if there will be a plan to make this available

**Clinical Study Report**

Undecided - It is not yet known if there will be a plan to make this available

**Analytic Code**

Undecided - It is not yet known if there will be a plan to make this available

**Data Dictionary**

Undecided - It is not yet known if there will be a plan to make this available