

Clinical Trial Protocol

Iranian Registry of Clinical Trials

10 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/m² ; 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)

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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 / m² 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

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Basij Blvd

City

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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

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Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Semnan University of Medical Sciences

Full name of responsible person

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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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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