Clinical Trial Protocol
Iranian Registry of Clinical Trials

27 Jul 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 Reseaarch 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 Muligan 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
Street address
Basij Blvd
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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 Reseaarch 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
Dr Parviz Kokhaei
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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
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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