

Clinical Trial Protocol

Iranian Registry of Clinical Trials

21 Jun 2026

Investigation and comparison of spinal mobilization with arm movement in Mulligan's method and retraction mobilization with McKenzie's method on pain, electromyographic activity, kinetics and kinematics of the cervical spine in people with cervical radiculopathy

Protocol summary

Study aim

Investigation and comparison of mobilization with Mulligan's cervical spine movement and McKenzie's retraction mobilization on pain, kinetics and kinematics of cervical spine in people with cervical radiculopathy.

Design

Sampling of this study will be in the form of placing an advertisement that the population under investigation is people with CR complications who will enter the study after checking the entry and exit criteria by the researcher. Candidates in this study will be selected for the study with knowledge of the research protocol, full satisfaction and compliance with the principles and rules of the medical ethics committee. The participants come to the laboratory at different times and have no information about how other groups are treated.

Settings and conduct

using a sealed envelope, and the colleague who records the kinetic and kinematic information is not aware of the grouping. The location of the study is in the laboratory of motion analysis of Tarbiat Modares University in Tehran.

Participants/Inclusion and exclusion criteria

BMI body mass index between 18.5 and 25 The size of the middle arm circumference is less than 27.9
Protrusion of the intervertebral disc in the posterolateral direction (bulging and protrusion) and spondylosis in cervical MRI Male and female patients between 31 and 55 years old History of neck pain along with pain, paraesthesia, numbness and weakness in one or both upper limbs in the last 6 months VAS in the range of 4 to 7 Positive at least three of the four tests: Spurling Test, Upper Limb Tension Test, Side Cervical Rotation ROM Limited More Than 60, Distraction Test

Intervention groups

Mackenzie Mobilization Spinal mobilization with arm movement in mulligan method

Main outcome variables

pain and range of motion

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20231214060362N1**

Registration date: **2024-01-09, 1402/10/19**

Registration timing: **prospective**

Last update: **2024-01-09, 1402/10/19**

Update count: **0**

Registration date

2024-01-09, 1402/10/19

Registrant information

Name

Somaye Shokri khalife mahale

Name of organization / entity

Tehran University of Medical Sciences

Country

Iran (Islamic Republic of)

Phone

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Email address

s.khalife@modares.ac.ir

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2024-01-19, 1402/10/29

Expected recruitment end date

2024-09-19, 1403/06/29

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Investigation and comparison of spinal mobilization with arm movement in Mulligan's method and retraction mobilization with McKenzie's method on pain, electromyographic activity, kinetics and kinematics of the cervical spine in people with cervical radiculopathy

Public title

Comparing the effect of Mulligan's mobilization and McKenzie's mobilization in people with referred neck pain

Purpose

Treatment

Inclusion/Exclusion criteria**Inclusion criteria:**

History of neck pain with paraesthesia, numbness and weakness in one or both upper limbs in the last 6 months

Exclusion criteria:

Osteoporosis

Age

From **31 years** old to **55 years** old

Gender

Both

Phase

N/A

Groups that have been masked

- Participant
- Outcome assessor
- Data analyser

Sample size

Target sample size: **42**

Randomization (investigator's opinion)

Randomized

Randomization description

Grouping is done by closed envelopes

Blinding (investigator's opinion)

Double blinded

Blinding description

The participants receive the treatment personally and do not know how other groups are treated The outcome evaluator has no knowledge of the participant's treatment process The data analyst receives the analysis with coded specifications and does not know the participant's name and treatment process

Placebo

Not used

Assignment

Parallel

Other design features**Secondary Ids**

empty

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

Ethics committee of Tarbiat Modares University

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Jalal Al Ahmad St

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Tehran

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Postal code

1411713116

Approval date

2023-11-17, 1402/08/26

Ethics committee reference number

IR.MODARES.REC.1402.170

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

Cervical Radiculopathy

ICD-10 code

M50.1

ICD-10 code description

Cervical disc disorder with radiculopathy

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

Pain

Timepoint

Daily

Method of measurement

Visual Analogue Scale

Secondary outcomes**1****Description**

Rang Of Motion

Timepoint

before the start of the intervention and day 6 after the end of the intervention

Method of measurement

Motion analysis system

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

Intervention group: Spinal Mobilization With Arm Movement In Mulligan Method

Category

Rehabilitation

Recruitment centers**1****Recruitment center****Name of recruitment center**

Tarbiat Modares University

Full name of responsible person

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Sponsors / Funding sources**1****Sponsor****Name of organization / entity**

Tarbiat Modares University

Full name of responsible person

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https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&cad=rja&uact=8&ved=2ahUKEwi_lc2f3s2DAXVd3gIHHQCLMQFnoECACQAQ&url=https%3A%2F%2Fmodares.ac.ir%2F&usg=AOvVaw2f68-3L0badCojEgGk0qbl&opi=89978449

Grant name**Grant code / Reference number****Is the source of funding the same sponsor organization/entity?**

Yes

Title of funding source

Tarbiat Modares University

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**

Tarbiat Modares University

Full name of responsible person

Somaye Shokri Khalife Mahale

Position

Student

Latest degree

Bachelor

Other areas of specialty/work

Physiotherapy

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Full name of responsible person

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Latest degree

Bachelor

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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

Due to the preservation of patients' private information

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