Clinical Trial Protocol
Iranian Registry of Clinical Trials

22 Nov 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
+98 21 4451 6542

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
Street address
Jalal Al Ahmad St
City
Tehran
Province
Tehran
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
somaye shokri khalife mahale
Street address
Jalal Al Ahmad St
City
Tehran
Province
Tehran
Postal code
1411713116
Phone
+98 21 8288 3590
Fax
+98 21 8288 4555
Email
med@modares.ac.ir
Web page address
https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&cad=rja&uact=8&ved=2ahUKEwip1_b33M2DAxVh0gIHHQouClYQFnoECAcQAQ&url=https%3A%2F%2Fmed.modares.ac.ir%2F&usg=AOvVaw0Ta56xRT5I-_WOFnxxwaDe&opi=89978449

Sponsors / Funding sources

1

Sponsor
Name of organization / entity
Tarbiat Modares University
Full name of responsible person
Seyyed Gholamreza Mousavi
Street address
Jalal Al Ahmad St
City
Tehran
Province
Tehran
Postal code
1411713116
Phone
+98 21 8288 3827
Fax
+98 21 8288 4580
Email
Res@modares.ac.ir
Web page address
https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&cad=rja&uact=8&ved=2ahUKEwi_lc2f3s2DAxVd3gIHHehQCLMQFnoECAcQAQ&url=https%3A%2F%2Fmodares.ac.ir%2F&usg=AOvVaw2f68-3L0badCojEgGk0qbI&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
Street address
Jalal Al Ahmad St
City
Tehran
Province
Tehran
Postal code
1411713116
Phone
+98 21 8288 3590
Fax
+98 21 8288 4555
Email
somayeshokrikhalife@gmail.com
Web page address
https://med.modares.ac.ir/

Person responsible for scientific 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

Street address
Jalal Al Ahmad St

City
Tehran

Province
Tehran

Postal code
1411713116

Phone
+98 21 8288 3590

Fax
+98 21 8288 4555

Email
somayeshokrikhalife@gmail.com

Web page address
https://med.modares.ac.ir/

Person responsible for updating data

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

Street address
Jalal Al Ahmad St

City
Tehran

Province
Tehran

Postal code
1411713116

Phone
+98 21 8288 3590

Fax
+98 21 8288 4555

Email
somayeshokrikhalife@gmail.com

Web page address
https://med.modares.ac.ir/

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