

Clinical Trial Protocol

Iranian Registry of Clinical Trials

19 Jul 2026

Comparison of the effect of Neural Mobilization Techniques on Pain, Disability and Straight leg raising in Patients after Lumbar Discectomy between the experimental and control group

Protocol summary

Study aim

To explore the effectiveness of neurodynamic techniques on pain, straight leg raising (SLR) range, and disability in patients after lumbar discectomy

Design

A clinical trial was conducted involving a control group, with factorial groups, utilizing a double-blind, two-sided randomized design, on a total of 30 patients. Coin tossing was employed for randomization.

Settings and conduct

A total of 10 physiotherapy sessions with a one-day interval for both groups at Iran University of Medical Sciences in. Blinding was implemented for the participants, the evaluator of final results, and the statistical analyser.

Participants/Inclusion and exclusion criteria

All individuals residing in Tehran who have undergone lumbar discectomy surgery at the lower levels of the lumbar spine

Intervention groups

Both control and intervention groups undergo a 10-session treatment program with a 1-day interval between sessions, which includes the following components: 1. 20-minute high TENS. 2. 15-minute infrared therapy. 3. Instruction in stability exercises provided to all patients. 4. For the intervention group, in addition to the aforementioned exercises, neural mobilization techniques targeting the lower extremities and lumbar spine joints are applied by the researcher, considering these structures' relationship with nerves.

Main outcome variables

SLR, radicular pain, degree of disability

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20230820059201N1**

Registration date: **2023-08-30, 1402/06/08**

Registration timing: **registered_while_recruiting**

Last update: **2023-08-30, 1402/06/08**

Update count: **0**

Registration date

2023-08-30, 1402/06/08

Registrant information

Name

Hasti Heydarpour

Name of organization / entity

Country

Iran (Islamic Republic of)

Phone

+98 21 2629 2512

Email address

hasti.heydarpour@yahoo.com

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2023-08-29, 1402/06/07

Expected recruitment end date

2023-09-29, 1402/07/07

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Comparison of the effect of Neural Mobilization Techniques on Pain, Disability and Straight leg raising in

Patients after Lumbar Discectomy between the experimental and control group		intervention grouping like S12).	
Public title	Effect of Neural Mobilization Techniques in Patients after Lumbar Discectomy	Placebo	Not used
Purpose	Treatment	Assignment	Parallel
Inclusion/Exclusion criteria	Inclusion criteria: Age range 20-50 Body mass index less than 30 Having undergone lumbar discectomy no more than one week prior to enrollment Positive Straight Leg Raise (SLR) test Onset of symptoms prior to surgery within a maximum of one year Severity of radicular pain ≥ 3 on the Visual Analog Scale (VAS). Oswestry Disability Index (ODI) score $\geq 20\%$ Exclusion criteria: patient's unwillingness to cooperate in the study history of previous spinal surgery history of mental disorders systemic diseases (any cardiovascular, infectious, metabolic condition that could affect the assessment and treatment process) stability disorders in the spine (spondylolysis, spondylolisthesis, etc.).No contractures or musculoskeletal disorders in the lower extremities that would hinder neurological mobilization tests and treatments contractures or musculoskeletal disorders in the lower extremities that would hinder neurological mobilization tests and treatments sacroiliac joint pain syndrome. hip joint disorders pregnancy established hyperlordotic posture nerve paralysis due to intervertebral disc protrusion.	Other design features	
Age	From 20 years old to 50 years old	Secondary Ids	
Gender	Both	empty	
Phase	N/A	Ethics committees	
Groups that have been masked	- Outcome assessor - Data analyser - Data and Safety Monitoring Board	1	
Sample size	Target sample size: 28	Ethics committee	
Randomization (investigator's opinion)	Randomized	Name of ethics committee	
Randomization description	Two test and control groups were designed for the study. The randomization was carried out using simple randomization and coin tossing. The control group was designated as "heads," and the test group as "tails." Based on the sample size, coin tossing was performed 28 times, and individuals were randomly assigned to two groups of 14 participants each.	Ethics committee of Iran University of Medical Sciences	
Blinding (investigator's opinion)	Single blinded	Street address	
Blinding description	Those responsible for data collection and those assessing the outcome are kept blind to the intervention groups. This is done by assigning neutral codes to the participants (without giving information about patients'	Hemmat Expressway, Next to Milad Tower, University of Medical Sciences of Iran, Central Headquarters Building, Research and Technology Deputy	
		City	
		Tehran	
		Province	
		Tehran	
		Postal code	
		1666692152	
		Approval date	
		2018-07-23, 1397/05/01	
		Ethics committee reference number	
		IR.IUMS.REC.1397.1130	
		Health conditions studied	
		1	
		Description of health condition studied	
		The patients after lumbar discectomy surgery with radicular pain	
		ICD-10 code	
		M51.16	
		ICD-10 code description	
		Intervertebral disc disorders with radiculopathy, lumbar region	
		Primary outcomes	
		1	
		Description	
		Straight leg raising range of motion test	
		Timepoint	
		Before the intervention begins and after completing 10 intervention sessions	
		Method of measurement	
		digital inclinometer (2170-1 model)	
		2	
		Description	

Radicular pain degree
Timepoint
Before the intervention begins and after completing 10 intervention sessions
Method of measurement
Visual analogue scale

3

Description
Patient's quality of life
Timepoint
Before the intervention begins and after completing 10 intervention sessions
Method of measurement
Oswestry disability index questionnaire

Secondary outcomes

empty

Intervention groups

1

Description
Intervention group: Routine physiotherapy includes stability exercises and the use of TENS and infrared therapy, along with neurodynamic techniques performed by the researcher on the patient.
Category
Rehabilitation

2

Description
Control group: Routine physiotherapy includes stability exercises and the use of TENS and infrared therapy
Category
Rehabilitation

Recruitment centers

1

Recruitment center
Name of recruitment center
Iran University of Medical Sciences
Full name of responsible person
Hasti Heydarpour
Street address
Mirdamad
City
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1545913487
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Email
rehab@iums.ac.ir

Sponsors / Funding sources

1

Sponsor
Name of organization / entity
Iran University of Medical Sciences
Full name of responsible person
Research and Technology Deputy
Street address
Hemmat Expressway, Next to Milad Tower, University of Medical Sciences of Iran, Central Headquarters Building, Research and Technology Deputy
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1449614535
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Fax
Email
iums@yahoo.com
Grant name
Grant code / Reference number
Is the source of funding the same sponsor organization/entity?
Yes
Title of funding source
Iran 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
Iran University of Medical Sciences
Full name of responsible person
Hasti Heydarpour
Position
Student
Latest degree
Master
Other areas of specialty/work
Physiotherapy
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Person responsible for updating data

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Sharing plan

Deidentified Individual Participant Data Set (IPD)

Yes - There is a plan to make this available

Study Protocol

Yes - There is a plan to make this available

Statistical Analysis Plan

Yes - There is a plan to make this available

Informed Consent Form

Yes - There is a plan to make this available

Clinical Study Report

Yes - There is a plan to make this available

Analytic Code

Yes - There is a plan to make this available

Data Dictionary

Yes - There is a plan to make this available

Title and more details about the data/document

All data potentially shareable after making the individuals unidentifiable

When the data will become available and for how long

access period begins immediately after publishing the results and lasts indefinitely.

To whom data/document is available

researchers employed at academic and scientific institutions

Under which criteria data/document could be used

Using the study results in similar research with proper citation is permissible. Contact method: Email

From where data/document is obtainable

Email: hasti.heydarpour@yahoo.com Hasti heydarpour

What processes are involved for a request to access data/document

A response will be provided within a maximum of one day after sending the email.

Comments