

Clinical Trial Protocol

Iranian Registry of Clinical Trials

11 Sep 2026

The effect of low intensity pulsed magnetic field radiation on pain, lumbar range of motion and lumbar disability in patients with neuropathic pain.

Protocol summary

Summary

(1) Objectives: The aim of the present study is investigation of the effects of low intensity pulsed magnetic field on radicular pain, active range of motion of lumbar spine and disability in patient with lumbar radicular pain. (2) Design: This is a randomized clinical trial on 24 radicular pain patients which will be divided to two groups (physiotherapy with and without magnet radiation) randomly. The patient will not aware about she/his group. (3) Setting and conduct: a) The patients will divided to two groups randomly: group 1 with a routine physiotherapy protocol for 10 sessions (3 sessions each week) included transcutaneous electrical stimulation (TENS), hot pack for 20 minutes and routine exercises for lumbar region. The same physiotherapy protocol will execute for group 2 but 30 minutes of low intensity pulsed magnet radiation with pulse frequency of 50 pulse per second and intensity of 80 G (Gauss) will add to the protocol. Pain will be measured in each session based on visual analog scale (VAS) but active range of motion of lumbar spine and disability index will be measured in 1ST, 5th and 10th sessions. Active range of lumbar spine flexion and extension will be measured based on modified-modified Schober test and active lateral bending range of motion will be measured based on the measurement the distant of middle finger from the ground. Ostwestry questionnaire will be used for disability index. The variables will be compared before and after physiotherapy for each group and also between groups. (4) Participants: Lumbar radicular pain patients. Inclusion criteria: Age between 20-50; evidence of lumbar radiculopathy based on presence of sharp and shooting permanent or intermittent radicular pain in buttock or thigh or leg of one side associated with one of the following features: pain evoked by straight leg raising (SLR) test under 60 degree or positive prone knee bending test or MRI with evidences of lumbar radiculopathy. Exclusion criteria: Patients with pacemaker; pregnancy or breast-feeding; pain

attributable to inflammation or infection; spondylolisthesis grade 2 and more; numbness and pain because of diabetic polyneuropathy or peripheral vascular disease; history of surgery in spinal column; piriformis syndrome; steroid injection; having other rehabilitation treatment during the present research; If the patient dose not complete the physiotherapy program and missing the sessions for more than two. The patient will stop his/she program any time he/she wants. (5) Intervention: Two routine physiotherapy protocols with and without low intensity pulsed magnetic field for 10 sessions. (6) Variables: The main variables are pain, active lumbar range of motion and disability index.

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT2014102818754N2**

Registration date: **2015-01-27, 1393/11/07**

Registration timing: **prospective**

Last update:

Update count: **0**

Registration date

2015-01-27, 1393/11/07

Registrant information

Name

Javad Sarrafzadeh

Name of organization / entity

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Country

Iran (Islamic Republic of)

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Recruitment status**Recruitment complete****Funding source**

Vice chancellor for research of Iran University of Medical Sciences

Expected recruitment start date

2015-01-30, 1393/11/10

Expected recruitment end date

2015-08-06, 1394/05/15

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

The effect of low intensity pulsed magnetic field radiation on pain, lumbar range of motion and lumbar disability in patients with neuropathic pain.

Public title

The effect of magnetic field radiation on pain, range of motion and disability in patients with neuropathic pain.

Purpose

Treatment

Inclusion/Exclusion criteria

Inclusion criteria: Age between 20-50; evidence of lumbar radiculopathy based on presence of sharp and shooting permanent or intermittent radicular pain in buttock or thigh or leg of one side associated with one of the following features: pain evoked by straight leg raising (SLR) test under 60 degree or positive prone knee bending test MRI with evidences of lumbar radiculopathy. Exclusion criteria: Patients with pacemaker; pregnancy or breast-feeding; pain attributable to inflammation or infection; spondylolisthesis grade 2 and more; numbness and pain because of diabetic polyneuropathy or peripheral vascular disease; history of surgery in spinal column; piriformis syndrome; steroid injection; having other rehabilitation treatment during the present research; If the patient dose not complete the physiotherapy program and missing the sessions for more than two. The patient will stop his/she program any time he/she wants.

AgeFrom **20 years** old to **49 years** old**Gender**

Both

Phase

2-3

Groups that have been masked*No information***Sample size**Target sample size: **24****Randomization (investigator's opinion)**

Randomized

Randomization description**Blinding (investigator's opinion)**

Single blinded

Blinding description**Placebo**

Not used

Assignment

Parallel

Other design features**Secondary Ids**

empty

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

Ethics committee of Iran University of Medical Sciences

Street address

5th floor, Iran University of Medical Sciences, Hemmat highway

City

Tehran

Postal code**Approval date**

2014-06-24, 1393/04/03

Ethics committee reference number

93/105/1453/3

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

Lumbar radiculopathy

ICD-10 code

M51.1

ICD-10 code description

Lumbar and other intervertebral disc disorders with radiculopathy

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

Pain

Timepoint

Each session

Method of measurement

Visual analog scale (VAS)

2**Description**

Lumbar region active range of motions include flexion, extension and lateral bending.

Timepoint

First, fifth and tenth sessions.

Method of measurement

A measuring tape and modified-modified Schober test

3

Description

Low back disability

Timepoint

First, fifth and tenth sessions.

Method of measurement

Oswestry low back disability questionnaire

Secondary outcomes

empty

Intervention groups

1

Description

Transcutaneous electrical nerve stimulation or TENS for both groups.

Category

Rehabilitation

2

Description

Lumbar therapeutic exercises for both groups.

Category

Rehabilitation

3

Description

Low intensity pulsed magnetic field radiation for group 2.

Category

Rehabilitation

4

Description

Superficial heating by hot pack for both groups.

Category

Rehabilitation

Recruitment centers

1

Recruitment center

Name of recruitment center

Sports Medicine Federation of the Islamic Republic of Iran

Full name of responsible person

Javad Sarrafzadeh

Street address

Sport Medicine Federation , Varzandeh St, Mofateh Ave,

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Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Iran University of Medical Sciences, Vice chancellor for research

Full name of responsible person

Seyed Ali Javad Moosavi, Vice chancellor for research

Street address

5th Floor, Iran University of Medical Sciences, Hemmat highway

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Tehran

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, Vice chancellor for research

Proportion provided by this source

100

Public or private sector

empty

Domestic or foreign origin

empty

Category of foreign source of funding

empty

Country of origin

Type of organization providing the funding

empty

Person responsible for general inquiries

Contact

Name of organization / entity

School of Rehabilitation Sciences, Iran University of Medical Sciences

Full name of responsible person

Javad Sarrafzadeh

Position

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Sharing plan

Deidentified Individual Participant Data Set (IPD)

empty

Study Protocol

empty

Statistical Analysis Plan

empty

Informed Consent Form

empty

Clinical Study Report

empty

Analytic Code

empty

Data Dictionary

empty