# Clinical Trial Protocol
# Iranian Registry of Clinical Trials

22 Nov 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**

Iran University of Medical Sciences, School of Rehabilitation Sciences

**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.
**Age**
From **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/د

## 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, extention 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
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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
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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

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## Person responsible for scientific

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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*