

Clinical Trial Protocol

Iranian Registry of Clinical Trials

13 Jun 2026

The investigation of the local vibration effect on the knee Osteoarthritis complications

Protocol summary

Summary

Regarding several useful effects of vibration on the muscle performance improvement, this study has been designed to investigate the local vibration effect on the knee osteoarthritis (KO) complications. 60 Patient with mild or moderate osteoarthritis were allocated into two groups (30 in each group) to receive either 1 minute 50 Hz Vibration on the quadriceps plus conventional physiotherapy protocol including Hot Pack, TENS and necessary instructions or only conventional physiotherapy protocol (as above). The interventions will be applied in 15 therapeutic sessions (5 days in week). Main outcome measures are: increase in Isokinetic muscle concentric contraction torque of both quadriceps, decrease in pain perception measured through VAS, increase in pressure pain threshold, increase in standing static and dynamic equilibrium, increase in passive and active knee range of motion without pain, decrease in knee joint effusion, decrease in knee joint morning stiffness, increase in walking Speed.

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT138803061254N2**
Registration date: **2009-07-21, 1388/04/30**
Registration timing: **registered_while_recruiting**

Last update:

Update count: **0**

Registration date

2009-07-21, 1388/04/30

Registrant information

Name

Amir Hoshang Bakhtiary Davijani

Name of organization / entity

Semnan University of Medical Sciences

Country

Iran (Islamic Republic of)

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+98 23 1444 1983

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Recruitment status

Recruitment complete

Funding source

Semnan University of Medical Sciences

Expected recruitment start date

2009-06-22, 1388/04/01

Expected recruitment end date

2010-01-20, 1388/10/30

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

The investigation of the local vibration effect on the knee Osteoarthritis complications

Public title

The investigation of the local vibration effect on the knee Osteoarthritis complications

Purpose

Treatment

Inclusion/Exclusion criteria

Inclusion Criteria: mild to moderate unilateral or bilateral chronic tibiofemoral osteoarthritis, ability to walk with or without stick Exclusion criteria: other conditions such as Diabetic, Musculoskeletal, neuromuscular, pulmonary disorders, Joint injection or other invasive interventions on knee during 3 months prior to study, hip or knee arthroplasty, consumption of any medicine, trauma to knee in last week, severe weakness

Age

From **35 years** old to **76 years** old

Gender

Both

Phase

N/A

Groups that have been masked

No information

Sample size

Target sample size: **50**

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**

Ethic comitte of Semnan University of Medical Science

Street address

Blv. Bassij, Education Affaire Building

City

Semnan

Postal code**Approval date**

2009-05-26, 1388/03/05

Ethics committee reference number

2409

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

Knee Osteoarthritis

ICD-10 code

M17

ICD-10 code description

Gonarthrosis [arthrosis of knee]

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

Isokinetic muscle torque of Quadriceps and Hamstrings

muscles during concentric contraction (Extension/Flexion) at angular velocity of 30°, 60° and 90° per second in each right and left leg

Timepoint

Before and After 15 Session theraputic intervention and 4 week after the last intervention

Method of measurement

Using Muscles Torque meter

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

1)Dynamic and static balance indices in anterior-posterior, Medial-lateral directions and overall balance index 2) Western Ontario and McMaster universities osteoarthritis index

Timepoint

Before and After 15 Session theraputic intervention and 4 week after the last intervention

Method of measurement

Visual Analogue Scale

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

Physiotherapy including Hot pack, conventional TENS and recomended instruction 5 days a week for 15 sessions

Category

Other

2**Description**

Physiotherapy including Hot pack, conventional TENS and recomended instruction 5 days a week for 15 sessions in addition to Local 50 Hz Vibration for 1 minute on the quadriceps 5 days in a week for 15 session

Category

Other

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

Neuromuscular Rehabilitation Research Center

Full name of responsible person**Street address****City**

Semnan

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Semnan University of Medical Sciences

Full name of responsible person

Dr Faranoush

Street address

Educational and Research Affair, Semnan University of Medical Sciences, Basij Blvd.

City

Seman

Grant name

Grant code / Reference number

Is the source of funding the same sponsor organization/entity?

Yes

Title of funding source

Semnan University of Medical Sciences

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

Semnan University of Medical Sciences

Full name of responsible person

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Position

Associate professor/ PhD

Other areas of specialty/work

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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