# Clinical Trial Protocol
# Iranian Registry of Clinical Trials

16 Sep 2026

## The effect of low-level laser on improvement of pain and function in patients with anterior knee pain

## Protocol summary

**Summary**

This study was aimed to investigate the effects of low-level laser on improvement of knee pain and function in patients with anterior knee pain. This double-blind, randomized clinical trial was carried out in Zahedan University of Medical Sciences, in 2008. A total of thirty patients with anterior knee pain were recruited through simple non-probability sampling. Patients were randomly assigned to either intervention or control. In the intervention group, a low-level Ga-As laser was applied with 5 KHz frequency, a 100 mW point probe (average power), wave length 905 nm, pulse duration 200 ns, 8 J/cm2 dosages per minute, for 3 minutes duration. In the control group, sham laser was used. Both groups received exercises including mini squat and hamstring stretching. A 16 session treatment program, during 4 weeks, 4 sessions per weeks was performed for both groups. Before and after the intervention, we measured pain through visual analog scale (VAS) (ordinal), Knee function with Knee and Osteoarthritis Outcome Score (KOOS), and range of knee flexion with goniometer (degree).

## General information

**Acronym**

**IRCT registration information**

IRCT registration number: **IRCT201101031675N4**
Registration date: **2011-01-14, 1389/10/24**
Registration timing: **retrospective**

Last update:
Update count: **0**

**Registration date**

2011-01-14, 1389/10/24

**Registrant information**

**Name**

Asghar Akbari

**Name of organization / entity**

Zahedan University of Medical Sciences

**Country**

Iran (Islamic Republic of)

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**Recruitment status**

**Recruitment complete**

**Funding source**

Zahedan University of Medical Sciences

**Expected recruitment start date**

2008-04-20, 1387/02/01

**Expected recruitment end date**

2008-12-21, 1387/10/01

**Actual recruitment start date**

empty

**Actual recruitment end date**

empty

**Trial completion date**

empty

**Scientific title**

The effect of low-level laser on improvement of pain and function in patients with anterior knee pain

**Public title**

The effect of low-level laser on improvement of pain and function in patients with anterior knee pain

**Purpose**

Treatment

**Inclusion/Exclusion criteria**

Inclusion criteria: Age between 14 and 40, having anterior knee pain, no history of surgery Exclusion criteria: no completion of the treatment, using other therapeutic modalities during study, trauma and surgery during the study and exacerbation of symptoms (pain, swelling and disability)

**Age**
From **14 years** old to **40 years** old
**Gender**
Both

**Phase**
N/A
**Groups that have been masked**
*No information*
**Sample size**
Target sample size: **30**
**Randomization (investigator's opinion)**
Randomized
**Randomization description**
**Blinding (investigator's opinion)**
Double blinded
**Blinding description**
**Placebo**
Not used
**Assignment**
Parallel
**Other design features**

## Secondary Ids

empty

## Ethics committees

### 1

**Ethics committee**
**Name of ethics committee**
Islamic Azad University, Zahedan Branch
**Street address**
Daneshgah St
**City**
Zahedan
**Postal code**
**Approval date**
2011-01-03, 1389/10/13
**Ethics committee reference number**
14-11-5-36261

## Health conditions studied

### 1

**Description of health condition studied**
Anterior knee pain
**ICD-10 code**
M22.2
**ICD-10 code description**
Patellofemoral disorders

## Primary outcomes

### 1

**Description**
Anterior knee pain
**Timepoint**
Before intervention, 4 weeks after intervention
**Method of measurement**
Visual Analogue Scale

### 2

**Description**
knee function
**Timepoint**
Before intervention, 4 weeks after intervention
**Method of measurement**
Knee and Osteoarthritis Outcome Score

### 3

**Description**
Range of knee flexion
**Timepoint**
Before intervention, 4 weeks after intervention
**Method of measurement**
Goniometer

## Secondary outcomes

empty

## Intervention groups

### 1

**Description**
a low-level Ga-As laser with 5 KHz frequency, a 100 mW point probe (average power), wavelength 905 nm, pulse duration 200 ns, 8 J/cm2 dosages per minute, for 3 minutes duration, and mini squat and hamstring stretching.
**Category**
Rehabilitation

### 2

**Description**
sham laser, mini squat and hamstring stretching.
**Category**
Rehabilitation

## Recruitment centers

### 1

**Recruitment center**
**Name of recruitment center**
Razmejo-Moghadam physiotherapy clinic, Zahedan
**Full name of responsible person**
Dr. Asghar Akbari
**Street address**
Razmejo-Moghadam Laboratory, School of Rehabilitation Sciences, Zahedan University of Medical Sciences, Ayatoallah Kafami St.
**City**
Zahedan

## Sponsors / Funding sources

**1**

**Sponsor**
**Name of organization / entity**
Zahedan University of Medical Sciences
**Full name of responsible person**
Dr. Asghar Akbari
**Street address**
Razmejo-Moghadam Laboratory, School of Rehabilitation Sciences, Zahedan University of Medical Sciences, Ayatoallah Kafami St.
**City**
Zahedan
**Grant name**
**Grant code / Reference number**
**Is the source of funding the same sponsor organization/entity?**
Yes
**Title of funding source**
Zahedan 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**
Zahedan University of Medical Sciences
**Full name of responsible person**
Dr. Asghar Akbari
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## Person responsible for scientific inquiries

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## Person responsible for updating data

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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*