

# Clinical Trial Protocol

## Iranian Registry of Clinical Trials

10 Jun 2026

### Effect of Polarized Low-Level Laser on Treatment of Myofascial Trigger Points of the Trapezius Muscles

#### Protocol summary

##### Summary

Epidemiologic studies of musculoskeletal pain syndromes show that myofascial trigger point (MTP) pain is very common. More than 55% of neck pain and 85% of lumbar and back pain are MTP. the goal of this study is to examine the effectiveness of polarized low-level laser therapy (PLLLT) in reduction of cervical neck and back MTPs. We also compared its effectiveness in pain control with LLLT. Sixty patients with MTPs are selected from patients who referred themselves to Ali-ibn Abi Talib Hospital in Rafsanjan. Patients were randomly divided into two equal groups, PLLLT and LLLT. Each patient receive treatment for a period of 2 weeks, 5 sessions a week. The intensity of laser irradiation to the skin surface is 6 J/cm<sup>2</sup>. The system exit power is 160 mw at 755 nm wavelength. The Visual Analog Scale (VAS) for the 1st, 5th and 10th sessions is analyzed through two-way repeated measures ANOVA. In addition, Radicular pain (RP), limitation of neck movement (LNM), presence of muscular taut band (PMTB) and sensitivity of muscular taut band (SMTB) the end of the 10th session are compared with participants' condition at the beginning of the 1st session in both groups. this study is conducted in a double blind ( Participants and the evaluating physiotherapist)

#### General information

##### Acronym

##### IRCT registration information

IRCT registration number: **IRCT2015081623647N1**

Registration date: **2015-09-10, 1394/06/19**

Registration timing: **retrospective**

Last update:

Update count: **0**

##### Registration date

2015-09-10, 1394/06/19

#### Registrant information

##### Name

Seyed Ali Shafiei

##### Name of organization / entity

Rafsanjan University of Medical Sciences

##### Country

Iran (Islamic Republic of)

##### Phone

+98 34 3428 6143

##### Email address

sashafiei@rums.ac.ir

#### Recruitment status

##### Recruitment complete

#### Funding source

Rafsanjan University of Medical Sciences,

#### Expected recruitment start date

2014-09-23, 1393/07/01

#### Expected recruitment end date

2014-12-22, 1393/10/01

#### Actual recruitment start date

empty

#### Actual recruitment end date

empty

#### Trial completion date

empty

#### Scientific title

Effect of Polarized Low-Level Laser on Treatment of Myofascial Trigger Points of the Trapezius Muscles

#### Public title

Effect of Low-Level Laser in Pain Relief

#### Purpose

Treatment

#### Inclusion/Exclusion criteria

Inclusion criteria: Existence of all major criteria: local pain; radicular pain originating from trigger points; presence of tangible and taut muscular band in involved muscles; reduction in the range of motion and sensitivity along the length of the taut band. At least one of the

minor criteria: creation of fast muscular contraction response; spontaneous alteration of pain sensation when pressing trigger points; muscular pain associated with strain.

#### Age

No age limit

#### Gender

Both

#### Phase

N/A

#### Groups that have been masked

No information

#### Sample size

Target sample size: 60

#### 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

Ethics Committee of Rafsanjan University of Medical Sciences.

##### Street address

Rafsanjan University of Medical Sciences, Rafsanjan, Iran

##### City

Rafsanjan

##### Postal code

##### Approval date

2013-12-29, 1392/10/08

##### Ethics committee reference number

2688/9

## Health conditions studied

### 1

#### Description of health condition studied

Patients with myofascial trigger points (MTPs) in the trapezius muscles

#### ICD-10 code

R52.2

#### ICD-10 code description

Other chronic pain

## Primary outcomes

### 1

#### Description

Pain intensity

#### Timepoint

The 1st, 5th and 10th sessions

#### Method of measurement

Visual Analog Scale (VAS)

## Secondary outcomes

empty

## Intervention groups

### 1

#### Description

Plarized low-level laser therapy group: Each patient receives treatment for a period of 2 weeks, 5 sessions a week. The intensity of laser irradiation to the skin surface is 6 J/cm<sup>2</sup>.

#### Category

Treatment - Other

### 2

#### Description

low-level laser therapy group: Each patient receives treatment for a period of 2 weeks, 5 sessions a week. The intensity of laser irradiation to the skin surface is 6 J/cm<sup>2</sup>.

#### Category

Treatment - Other

## Recruitment centers

### 1

#### Recruitment center

##### Name of recruitment center

Ali-ibn Abi Talib Hospital in Rafsanjan

##### Full name of responsible person

Seyed Ali Shafiei

##### Street address

##### City

Rafsanjan

## Sponsors / Funding sources

### 1

#### Sponsor

##### Name of organization / entity

Rafsanjan University of Medical Sciences,

##### Full name of responsible person

Mohammad Reza Mirzaie

##### Street address

School of Medicine, Rafsanjan University of Medical Sciences, Rafsanjan, Iran

**City**  
Rafsanjan

**Grant name**  
**Grant code / Reference number**  
**Is the source of funding the same sponsor organization/entity?**  
Yes

**Title of funding source**  
Rafsanjan 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**  
Rafsanjan University of Medical Sciences

**Full name of responsible person**  
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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*