

# Clinical Trial Protocol

## Iranian Registry of Clinical Trials

06 Aug 2026

### Efficacy of Intraoral Low-level Laser Therapy (LLLT) with a 940nm Wavelength Diode Laser On Pain, Swelling, and Trismus after impacted mandibular wisdom teeth surgery

#### Protocol summary

##### Study aim

Efficacy of Intraoral Low-level Laser Therapy (LLLT) with a 940nm Wavelength Diode Laser On Pain, Swelling, and Trismus after Impacted Mandibular Wisdom Teeth Surgery

##### Design

This clinical trial is performed on 25 patients aged 18-40 years old (aged 40- 18 years) with a third molar impacted on both sides of the mandible due to a single-person clinical study. The clinical trial is double-blinded

##### Settings and conduct

This clinical trial is performed on 25 patients aged 18-40 years old (aged 40- 18 years) with a third molar impacted on both sides of the mandible due to a single-person clinical and randomize study. The clinical trial is double-blinded. We will use a 940 nm diode laser inside the mouth immediately after suturing on the tested side.

##### Participants/Inclusion and exclusion criteria

Inclusion criteria: Mandibular Wisdom Teeth Surgery candidate, 18 to 40 years  
Exclusion criteria: Dissatisfaction, lack of systemic disease, not having periodontal disease

##### Intervention groups

We will use a 940 nm diode laser inside the mouth immediately after suturing on the tested side. In side of placebo after the surgery, the tip of the fiber is placed, but no radiation occurs in placebo group.

##### Main outcome variables

Trismus-pain-inflammation

#### General information

##### Reason for update

##### Acronym

##### IRCT registration information

IRCT registration number: **IRCT20141209020258N110**  
Registration date: **2019-05-04, 1398/02/14**

Registration timing: **retrospective**

Last update: **2019-05-04, 1398/02/14**

Update count: **0**

##### Registration date

2019-05-04, 1398/02/14

##### Registrant information

###### Name

Fariba Farokhi

###### Name of organization / entity

Arak University of Medical Sciences

###### Country

Iran (Islamic Republic of)

###### Phone

+98 86 3222 2003

###### Email address

f.farokhi@arakmu.ac.ir

##### Recruitment status

**Recruitment complete**

##### Funding source

##### Expected recruitment start date

2018-10-02, 1397/07/10

##### Expected recruitment end date

2018-12-31, 1397/10/10

##### Actual recruitment start date

empty

##### Actual recruitment end date

empty

##### Trial completion date

empty

##### Scientific title

Efficacy of Intraoral Low-level Laser Therapy (LLLT) with a 940nm Wavelength Diode Laser On Pain, Swelling, and Trismus after impacted mandibular wisdom teeth surgery

##### Public title

Efficacy of Intraoral Low-level Laser Therapy (LLLT) with a 940nm Wavelength Diode Laser On Pain, Swelling, and Trismus after impacted mandibular wisdom teeth surgery

## Purpose

Treatment

## Inclusion/Exclusion criteria

### Inclusion criteria:

Mandibular Wisdom Teeth Surgery candidate 18 to 40 years

### Exclusion criteria:

Dissatisfaction systemic disease having periodontal disease

## Age

From **18 years** old to **40 years** old

## Gender

Both

## Phase

2-3

## Groups that have been masked

- Participant
- Outcome assessor
- Data analyser

## Sample size

Target sample size: **25**

## Randomization (investigator's opinion)

Randomized

## Randomization description

Randomization with random numbers

## Blinding (investigator's opinion)

Double blinded

## Blinding description

This study is double blind. Participant and analyzer are blind (double blind). Participant and analyzer not aware from grouping.

## Placebo

Not used

## Assignment

Parallel

## Other design features

## Secondary Ids

empty

## Ethics committees

### 1

#### Ethics committee

##### Name of ethics committee

Ethics Committe Arak University Of Medical Sciences

##### Street address

Research Center, Payambar Azam Complex, Basij square, Sardasht, Arak

##### City

Arak

##### Province

Markazi

##### Postal code

848176941

## Approval date

2018-09-23, 1397/07/01

## Ethics committee reference number

IR.ARAKMU.REC.1397.158

## Health conditions studied

### 1

#### Description of health condition studied

Mandibular Wisdom Teeth Surgery

#### ICD-10 code

K02.7

#### ICD-10 code description

Dental root caries

## Primary outcomes

### 1

#### Description

Trismus

#### Timepoint

Before surgery, instantly and 2 and 7 days after surgery

#### Method of measurement

ruler

### 2

#### Description

Inflammation

#### Timepoint

Before surgery, instantly and 2 and 7 days after surgery

#### Method of measurement

ruler

### 3

#### Description

Pain

#### Timepoint

Day 1 to 7 after surgery

#### Method of measurement

Visual analog scale

## Secondary outcomes

empty

## Intervention groups

### 1

#### Description

Intervention group: After surgery, patients receive laser epiploic 940nm diode laser (Ezlase 940 diode laser) at 0.5 watts per square inch immediately after laser suturing

#### Category

Treatment - Surgery

## 2

### Description

Control group: On the side of the placenta after the surgery, the tip of the fiber is placed, but no radiation occurs.

### Category

Treatment - Surgery

## Recruitment centers

### 1

#### Recruitment center

##### Name of recruitment center

Dental clinic

##### Full name of responsible person

Dr Ehsan Momeni

##### Street address

Payambar Azam Complex, Basij square, Sardasht, Arak

##### City

Arak

##### Province

Markazi

##### Postal code

848176941

##### Phone

+98 86 3417 3645

##### Email

e.momeni@arakmu.ac.ir

## Sponsors / Funding sources

### 1

#### Sponsor

##### Name of organization / entity

Vice chancellor for research, Arak University of Medical Science

##### Full name of responsible person

Dr Mohammad Arjmandzadegan

##### Street address

Vice chancellor for research, Payambar Azam Complex, Basij square, Sardasht, Arak

##### City

Arak

##### Province

Markazi

##### Postal code

848176941

##### Phone

+98 86 3417 3645

##### Email

m.arjmandzadegan@arakmu.ac.ir

##### Grant name

##### Grant code / Reference number

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

Yes

##### Title of funding source

Vice chancellor for research, Arak University of Medical

Science

##### Proportion provided by this source

100

##### Public or private sector

Public

##### Domestic or foreign origin

Domestic

##### Category of foreign source of funding

empty

##### Country of origin

##### Type of organization providing the funding

Academic

## Person responsible for general inquiries

#### Contact

##### Name of organization / entity

Arak University of Medical Sciences

##### Full name of responsible person

Seyed Behrouz Jalali

##### Position

Assistant Professor

##### Latest degree

Specialist

##### Other areas of specialty/work

Dentistry

##### Street address

Payambar Azam Complex, Basij square, Sardasht, Arak

##### City

Arak

##### Province

Markazi

##### Postal code

848176941

##### Phone

+98 86 3417 3505

##### Email

behrouzjalali@yahoo.com

## Person responsible for scientific inquiries

#### Contact

##### Name of organization / entity

Arak University of Medical Sciences

##### Full name of responsible person

Dr Ehsan Momeni

##### Position

Assistant Professor

##### Latest degree

Specialist

##### Other areas of specialty/work

Dentistry

##### Street address

Payambar Azam Complex, Basij square, Sardasht, Arak

##### City

Arak

##### Province

Markazi

##### Postal code

848176941

**Phone**

+98 86 3417 3505

**Email**

E.momeni@arakmu.ac.ir

**Person responsible for updating data**

**Contact**

**Name of organization / entity**

Arak University of Medical Sciences

**Full name of responsible person**

Melika Rajaei Arbabi

**Position**

Dental student

**Latest degree**

A Level or less

**Other areas of specialty/work**

Dentistry

**Street address**

Payambar Azam Complex, Basij square, Sardasht,  
Arak

**City**

Arak

**Province**

Markazi

**Postal code**

848176941

**Phone**

+98 86 3417 3505

**Email**

melishada20@gmail.com

**Sharing plan**

**Deidentified Individual Participant Data Set (IPD)**

Yes - There is a plan to make this available

**Study Protocol**

Yes - There is a plan to make this available

**Statistical Analysis Plan**

Yes - There is a plan to make this available

**Informed Consent Form**

Yes - There is a plan to make this available

**Clinical Study Report**

Yes - There is a plan to make this available

**Analytic Code**

Yes - There is a plan to make this available

**Data Dictionary**

Yes - There is a plan to make this available

**Title and more details about the data/document**

When we publish article in journal

**When the data will become available and for how long**

After the article is published

**To whom data/document is available**

researcher in university

**Under which criteria data/document could be used**

If there are additional questions

**From where data/document is obtainable**

Dr Momeni Payambar Azam Complex, Basij square,  
Sardasht, Arak E.momeni@arakmu.ac.ir

**What processes are involved for a request to access data/document**

They have to write letters to the professors and the university. Duration 1 month

**Comments**