

Clinical Trial Protocol

Iranian Registry of Clinical Trials

10 Jun 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

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848176941

Phone

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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

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

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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

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Person responsible for scientific inquiries

Contact

Name of organization / entity

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Full name of responsible person

Dr Ehsan Momeni

Position

Assistant Professor

Latest degree

Specialist

Other areas of specialty/work

Dentistry

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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

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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