

Clinical Trial Protocol

Iranian Registry of Clinical Trials

21 Jul 2026

Evaluation of Extraoral 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

Evaluation of Extraoral 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 study. The clinical trial is double-blinded.

Participants/Inclusion and exclusion criteria

Inclusion criteria: lack of systemic disease, lack of chronic pain Lack of neurological disorders or psychiatry, no sensitivity to light Insensitivity to local anesthesia,not having acute pericoronitis, not having periodontal disease, no pregnancy, no breastfeeding, lack of smoking, don't use anti-inflammatory or analgesic drugs 2 weeks ago Exclusion criteria:Lack of cooperation,view post-surgical side effects,see infection or acute abscess after surgery,lack of timely patient referral for postoperative laser sessions

Intervention groups

After surgery, patients receive laser epiploic 940nm diode laser (Ezlase 940 diode laser) at 0.5 watts per square inch immediately after laser suturing, and no laser will be applied on the other side (on the side of the placebo).

Main outcome variables

Trismus-pain-inflammation

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20141209020258N91**

Registration date: **2018-12-29, 1397/10/08**

Registration timing: **registered_while_recruiting**

Last update: **2018-12-29, 1397/10/08**

Update count: **0**

Registration date

2018-12-29, 1397/10/08

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

2019-10-02, 1398/07/10

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

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

Public title
Evaluation of Extraoral 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:
Lack of systemic disease Lack of chronic pain Lack of neurological disorders or psychiatry No sensitivity to light Insensitivity to local anesthesia Not having acute pericoronitis Not having periodontal disease no pregnancy no breastfeeding Lack of smoking Don't use anti-inflammatory or analgesic drugs 2 weeks ago
Exclusion criteria:
Unwillingness to continue cooperation View post-surgical side effects See infection or acute abscess after surgery Lack of timely patient referral for postoperative laser sessions

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

Gender
Both

Phase
2-3

Groups that have been masked

- Participant
- Data analyser

Sample size
Target sample size: **25**

Randomization (investigator's opinion)
N/A

Randomization description

Blinding (investigator's opinion)
Double blinded

Blinding description
This study is double blind.Participant and analyzer are blind (double blind).Participant and analyzer don't 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.1397.159

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
millimeter

2

Description
Inflammation

Timepoint
Before surgery, instantly and 2 and 7 days after surgery

Method of measurement
millimeter

3

Description
Pain

Timepoint
2 and 4 and 8 and 10 hours after surgery and 7 days 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: no laser will be applied on the other side (on the side of the placebo).

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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e.momeni@arakmu.ac.ir

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Arak University of Medical Sciences

Full name of responsible person

Dr Mohammad Arjmandzadegan

Street address

Dr Mohammad Rafiee, 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

Arak University of Medical Sciences

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

Dr Seyed Behrouz Jalali

Position

Assistant Professor

Latest degree

Specialist

Other areas of specialty/work

Dentistry

Street address

Payambar Azam Complex, Basij square, Sardasht, Arak

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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

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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

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

They have to write letters to the professors and the university

Comments**Person responsible for updating data****Contact****Name of organization / entity**

Arak University of Medical Sciences

Full name of responsible person

Farahnaz Kazemi

Position

Dental student

Latest degree

A Level or less

Other areas of specialty/work

Dentistry

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