Clinical Trial Protocol
Iranian Registry of Clinical Trials

05 Nov 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)

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+98 86 3222 2003

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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
+98 86 3417 3645
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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 Arjmanzadegan
Street address
Vice chancellor for research, Payambar Azam Complex, Basij square, Sardasht, Arak
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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
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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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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 Rajaee Arbabi

Position

Dental student

Latest degree

A Level or less

Other areas of specialty/work

Dentistry

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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