

Clinical Trial Protocol

Iranian Registry of Clinical Trials

18 Sep 2026

The evaluation of effects of low-level laser on the healing of trismus, pain and swelling after mandibular impacted wisdom tooth extraction

Protocol summary

Study aim

Evaluation of the effect of low-level laser therapy on the healing time of trismus pain and swelling after impacted wisdom tooth extraction

Design

This study is a clinical trial study and one of the two mandibular wisdom teeth of the patient would be intervening and another side would be the control one. This study is single-blind because the patient does not know which side is intervening or control.

Settings and conduct

It would be done in the maxillofacial surgery department of the dental school of Shahid Beheshti University of medical science. Patients are going to be informed about the study plan before surgery. They get into the study just if they accept it. We start the measurements. One side would be the placebo and the other side would be the intervention. We put the laser device on both sides of the patients' mouth, turn it on, for the intervention side, and keep it off for the placebo side.

Participants/Inclusion and exclusion criteria

All patients who are aged between 18-30 years and have mandibular third molar symmetric impacted teeth are included in the study. Pregnancy; breastfeeding; smoking; any systemic or neurological disease; pericoronitis and laser therapy contraindications are not included in the study.

Intervention groups

In this study, a patient is in the intervening group in one side surgery and in the control group in the surgery of another side. The patient receives common medication in both surgeries. For intervention, we use low-level laser and LED on one side and the placebo on the other side as the control group.

Main outcome variables

We expect that this intervention affects the trismus, pain, and swelling after impacted mandibular wisdom tooth extraction.

General information

Reason for update

Acronym

IRCT registration information

IRCT registration number: **IRCT20180608040005N1**

Registration date: **2020-05-04, 1399/02/15**

Registration timing: **retrospective**

Last update: **2020-05-04, 1399/02/15**

Update count: **0**

Registration date

2020-05-04, 1399/02/15

Registrant information

Name

Ghazale Keyvani

Name of organization / entity

Country

Iran (Islamic Republic of)

Phone

+98 21 6635 0274

Email address

keyvani.ghazaleh@sbmu.ac.ir

Recruitment status

Recruitment complete

Funding source

Expected recruitment start date

2019-06-15, 1398/03/25

Expected recruitment end date

2019-07-11, 1398/04/20

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

The evaluation of effects of low-level laser on the healing of trismus, pain and swelling after mandibular impacted wisdom tooth extraction		Dental School, Daneshjoo Blvd. Chamran Expy. Tehran	
Public title	The evaluation of effects of low-level laser on the healing of trismus, pain and swelling after mandibular impacted wisdom tooth extraction	City	Tehran
Purpose	Prevention	Province	Tehran
Inclusion/Exclusion criteria		Postal code	1983963113
Inclusion criteria:	Whoever aged between 18-30 years old and has symmetric mandibular wisdom tooth which is candidate for surgical extraction	Approval date	2017-08-01, 1396/05/10
Exclusion criteria:	Not symmetric wisdom teeth Patient has any systemic or neurological disease Laser therapy contraindication Pulp involvement Smoking Pregnancy Breast feeding Pericoronitis	Ethics committee reference number	IR.SBMU.RIDS.REC.1396.502
Age	From 18 years old to 30 years old	Health conditions studied	
Gender	Both	1	
Phase	N/A	Description of health condition studied	
Groups that have been masked	Participant	Pain, trismus and swelling after mandibular impacted wisdom tooth extraction	
Sample size	Target sample size: 80 More than 1 sample in each individual Number of samples in each individual: 2 Both wisdom teeth	ICD-10 code	
Randomization (investigator's opinion)	Randomized	ICD-10 code description	
Randomization description	Simple	Primary outcomes	
Blinding (investigator's opinion)	Single blinded	1	
Blinding description	The patient does not know which side would be placebo or the laser.	Description	
Placebo	Used	Trismus, pain and swelling would be measured before and after surgery	
Assignment	Parallel	Timepoint	
Other design features		Before surgery, 3 days later, 7 days later	
Secondary Ids		Method of measurement	
empty		For Pain the VAS system, for trismus a calipers, and a bending ruler for swelling	
Ethics committees		Secondary outcomes	
1		empty	
Ethics committee		Intervention groups	
Name of ethics committee		1	
Ethics committee Shahid Beheshti University Of Medical Science		Description	
Street address		Intervention group: In this study the intervention is taking low-level laser right after surgery in 3 points. occlusal, buccal and one from out of the mouth, on the surgery spot.	
		Category	
		Treatment - Devices	
		2	
		Description	
		Control group: Patients take non-working Laser as plasebo on the same three locations mentioned before	
		Category	
		Placebo	

Recruitment centers

1

Recruitment center

Name of recruitment center

Dental School Of Shahid Beheshti University Of
Medical Science

Full name of responsible person

Ghazale Keyvani

Street address

Daneshjoo Blvd.

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Sponsors / Funding sources

1

Sponsor

Name of organization / entity

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

Yes

Title of funding source

Shahid Beheshti 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

Shahid Beheshti University of Medical Sciences

Full name of responsible person

Ghazaleh Keyvani

Position

Dentistry student

Latest degree

A Level or less

Other areas of specialty/work

Dentistry

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Person responsible for scientific inquiries

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Other areas of specialty/work

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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

The collected and measured data can be shared for
authorized executives and organizations

When the data will become available and for how long

One year after publication

To whom data/document is available

Data will be shared for people working in academic
institutions

Under which criteria data/document could be used

Using for academic studies

From where data/document is obtainable

By E-mail

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

After evaluating the reasons for asking for data, you will
be answered in one month

Comments