

Clinical Trial Protocol

Iranian Registry of Clinical Trials

19 Jun 2026

Assessment the effects of low-level laser therapy after impacted lower third molar surgery

Protocol summary

Summary

This study aimed to assess the effect of low-level laser therapy on pain, swelling and maximum mouth opening in patients undergoing third molar surgery. Forty four patients were recruited at Dental School at Ahvaz Jundishapur University of Medical Sciences from March 2015 to January 2016. Twenty eight patients received low-level laser therapy and 16 patients received routine drug therapy including dexametazone, ibuprofen, amoxicillin and mouthwash. The laser was administrated into two manners including intraoral at two points of vestibular and lingual at the distance of 1 cm from surgery site and extraorally at the conjunction of masseter muscle immediately after surgery and repeated at 24 hours after surgery as well. The pain, swelling and MMO (maximum mouth opening) was compared between two groups at 24 hours and one week after surgery.

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT2016061228402N1**

Registration date: **2016-06-19, 1395/03/30**

Registration timing: **retrospective**

Last update:

Update count: **0**

Registration date

2016-06-19, 1395/03/30

Registrant information

Name

Mehdi Khani

Name of organization / entity

Ahvaz Jundishapur University of Medical Sciences

Country

Iran (Islamic Republic of)

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+98 61 3221 6504

Email address

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Recruitment status

Recruitment complete

Funding source

Vice chancellor for research of Ahvaz Jundishapur University of Medical Sciences

Expected recruitment start date

2015-03-21, 1394/01/01

Expected recruitment end date

2016-01-20, 1394/10/30

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Assessment the effects of low-level laser therapy after impacted lower third molar surgery

Public title

Effects of laser therapy on diminishing pain after impacted lower third molar surgery

Purpose

Prevention

Inclusion/Exclusion criteria

Inclusion criteria: a range of age from 18 to 30 years old; the absence of systemic diseases; and impacted third molar with difficulty degree of III B (according to Winter's classification and Gregory's classification). Exclusion criteria: contraindications for laser therapy; teeth with pulp involvement; smoking; oral contraception; pregnancy; and breast feeding.

Age

From **18 years** old to **30 years** old

Gender

Both

Phase

3

Groups that have been masked

No information

Sample size

Target sample size: **44**

Randomization (investigator's opinion)

Randomized

Randomization description**Blinding (investigator's opinion)**

Double blinded

Blinding description**Placebo**

Used

Assignment

Parallel

Other design features**Secondary Ids**

empty

Ethics committees**1****Ethics committee****Name of ethics committee**

Ethics committee of Ahvaz Jundishapur University of Medical Sciences

Street address

Ahvaz Jundishapur University of Medical Sciences
Ahvaz, Golestan Boulevard,

City

Ahvaz

Postal code**Approval date**

2016-02-19, 1394/11/30

Ethics committee reference number

IR.AJUMS.REC.1394.560

Health conditions studied**1****Description of health condition studied**

Impacted third molar surgery

ICD-10 code

K01.1

ICD-10 code description

An impacted tooth is a tooth that has failed to erupt because of obstruction by another tooth.

Primary outcomes**1****Description**

Post-operative pain

Timepoint

24 hours after surgery and one week after surgery

Method of measurement

Visual analogue scale

Secondary outcomes**1****Description**

Post-operative swelling of face

Timepoint

24 hours after surgery and 1 week after surgery

Method of measurement

The distance between two specified points

Intervention groups**1****Description**

Intervention group: The patients in intervention group received low-level laser therapy using diode laser (G-laser 25, Galbiati, Italy) with continuous length wave of 980 nm with hand piece of 600 µm. The laser energy was justified on 300 mW and was emitted for 180 seconds (60 seconds for each site). The laser was administrated into two manners including intraoral at two points of vestibular and lingual at the distance of 1 cm from surgery site and extraorally at the conjunction of masseter muscle immediately after surgery and repeated at 24 hours after surgery as well.

Category

Treatment - Devices

2**Description**

Control group: patients received 1 gr amoxicillin orally per 12 hours up to 5 days and 1600 mg ibuprofen up to 2 days.

Category

Treatment - Drugs

Recruitment centers**1****Recruitment center****Name of recruitment center**

Maxillofacial Operating Room of Imam Khomeini Hospital

Full name of responsible person

Mehdi Khani

Street address**City**

Ahvaz

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Vice chancellor for research of Ahvaz Jundishapur University of Medical Sciences

Full name of responsible person

Behzad Sharif Makhmalzadeh

Street address

Golestan Boulevared

City

Ahvaz

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 of Ahvaz Jundishapur University of Medical Sciences

Proportion provided by this source

100

Public or private sector

empty

Domestic or foreign origin

empty

Category of foreign source of funding

empty

Country of origin**Type of organization providing the funding**

empty

Person responsible for general inquiries

Contact**Name of organization / entity**

Ahvaz Jundishapur University of Medical Sciences

Full name of responsible person

Zeinab Shajirat

Position

Master of Sciences

Other areas of specialty/work**Street address**

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Position

Resident of oral and maxillofacial surgery

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Sharing plan

Deidentified Individual Participant Data Set (IPD)

empty

Study Protocol

empty

Statistical Analysis Plan

empty

Informed Consent Form

empty

Clinical Study Report

empty

Analytic Code

empty

Data Dictionary

empty