

# 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)

###### Phone

+98 61 3221 6504

###### Email address

khani.m@ajums.ac.ir

###### 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**

Fourth floor, Imam Khomeini Hospital, Azadegan Boulevard, Research Deputy of Imam Khomeini Hospital Ahvaz

**City**

Ahvaz

**Postal code****Phone**

+98 61 3221 6504

**Fax****Email**

zeinab.shajirat@gmail.com

**Web page address**

### Person responsible for scientific inquiries

**Contact****Name of organization / entity**

Ahvaz Jundishapur University of Medical Sciences

**Full name of responsible person**

Mahdi Khani

**Position**

Resident of oral and maxillofacial surgery

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

Maxillofacial operating room, Imam Khomeini Hospital, Azadegan Boulevard, Research Deputy of Imam Khomeini Hospital

**City**

Ahvaz

**Postal code****Phone**

+98 61 3221 6504

**Fax****Email**

dr.khani6282@gmail.com

**Web page address**

### Person responsible for updating data

**Contact****Name of organization / entity**

Ahvaz Jundishapur University of Medical Sciences

**Full name of responsible person**

Zeinab Shajirat

**Position**

Master of Science (MSc)

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

Fourth floor, Research Deputy, Imam Khomeini Hospital, Azadegan Boulevard Ahvaz

**City**

Ahvaz

**Postal code****Phone**

+98 61 3221 6104

**Fax****Email**

zeinab.shajirat@gmail.com

**Web page address**

### 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*