

Clinical Trial Protocol

Iranian Registry of Clinical Trials

10 Jun 2026

Effect of low power Laser on reduction pain and trismus after third Molar.

Protocol summary

Summary

Objective: A randomized, double-blind comparative study was undertaken to assess the efficacy of low level laser therapy in the reduction of postoperative pain and trismus in patients undergoing the extraction of impacted mandibular third molar teeth. This study included 40 patients of both sexes; they were randomly selected from patients undergoing surgical extraction of impacted LTM of the same position in the jaw and had similar status with regard to the difficulty of surgical removal. Patients were randomly allocated to one of two groups: LLLT, or placebo. Subsequently to suturing, patients in LLLT group had their operation side, treated with an 810 nm, infrared laser irradiation, intraorally 1 cm from the target tissue 10 min after surgery. The other group just received routine recommendation. In the placebo group the handpiece was inserted into the operative side intraorally but laser was not activated. Inter incisal opening and pain were evaluated on second and 7th postoperative days. Patients were instructed to evaluate their postoperative pain on 2 and 7 days after surgery by means of visual analogue scale (VAS). Student's t-test or U-Mann Whitney used to analyze the data.

General information

Acronym

LPL, LTM

IRCT registration information

IRCT registration number: **IRCT138904134278N2**

Registration date: **2010-10-17, 1389/07/25**

Registration timing: **retrospective**

Last update:

Update count: **0**

Registration date

2010-10-17, 1389/07/25

Registrant information

Name

Mehrnoush Momeni

Name of organization / entity

Faculty of Dentistry, Tehran University of Medical Sciences

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Recruitment status

Recruitment complete

Funding source

Deputy Dean for research, Faculty of Dentistry, Tehran University of Medical Sciences.

Expected recruitment start date

2009-05-01, 1388/02/11

Expected recruitment end date

2010-04-05, 1389/01/16

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Effect of low power Laser on reduction pain and trismus after third Molar.

Public title

The effect of low power Laser on pain and trismus after third Molar surgery.

Purpose

Supportive

Inclusion/Exclusion criteria

Inclusion criteria: Patients with unilateral impacted lower Third molar and no systemic problem and also not used any analgesic, antibiotic, corticosteroid, and sedative drug at least for fifteen days before surgery were

registered at the surgery department of faculty of dentistry of Tehran university of Medical science.
Exclusion criteria: Low compliant patients Not attending at the expected time of measurement.

Age

From **19 years** old to **29 years** old

Gender

Both

Phase

N/A

Groups that have been masked

No information

Sample size

Target sample size: **40**

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

Tehran university of medical sciences, vice chancellor for research

Street address

Faculty of Dentistry, Tehran University of Medical Sciences

City

Tehran

Postal code

Approval date

2010-05-10, 1389/02/20

Ethics committee reference number

88-03-70-8972

Health conditions studied

1

Description of health condition studied

Trismus

ICD-10 code

-

ICD-10 code description

-

Primary outcomes

1

Description

Pain

Timepoint

Before surgery-48 h after surgery-7 days after surgery

Method of measurement

Using VAS

Secondary outcomes

1

Description

Trismus

Timepoint

Before surgery-48 h after surgery-7 days after surgery

Method of measurement

Using a rule that measure intra incisal.mm

Intervention groups

1

Description

Intervention group: patients in LLLT group had their operation side, treated with an 810 nm, infrared laser irradiation, intraorally 1 cm from the target tissue 10 min after surgery.

Category

Treatment - Devices

2

Description

Control group: Received routine recommendation. In the placebo group the handpiece was inserted into the operative side intraorally but laser was not activated.

Category

Placebo

Recruitment centers

1

Recruitment center

Name of recruitment center

Faculty of Dentistry, Tehran University of Medical Sciences

Full name of responsible person

Dr Mehrnoush Momeni

Street address

Ghods avenue-Enghelab square

City

Tehran

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Faculty of Dentistry, Tehran University of Medical Sciences

Full name of responsible person

Dr.Fotoohi

Street address

Ghods Ave-Enghelab square

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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

Faculty of Dentistry, Tehran 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**

Faculty of dentistry

Full name of responsible person

Sheida Kordi

Position

Administrator-student of professional doctor

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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