Clinical Trial Protocol
Iranian Registry of Clinical Trials

22 Nov 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 LTMs 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

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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
City
Tehran
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

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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