

# Clinical Trial Protocol

## Iranian Registry of Clinical Trials

10 Jun 2026

### Efficacy of low level laser therapy on postendodontic pain in mandibular molars with symptomatic irreversible pulpitis

#### Protocol summary

##### Summary

Title of this study is the efficacy of low level laser therapy on postendodontic pain in mandibular molars with symptomatic irreversible pulpitis . Inclusion criteria :20-50 years old male or female who needed root canal therapy of mandibular molars exclusion criteria:root canal teeth, no history of drug use ( antibiotic , NSAID , opioid ,corticosteroid) ,analgesic use during 12 hours before treatment, pregnancy, diabetes, malignancy, complicated anatomy ,close canals in graphy, internal and external resorption,open apex ,periodontal disease , swelling , abscess , lesion in graphy ,sensitive in percussion .90 patiens (45 females, 45 males, mean age: 20-50years) with the demand for endodontic treatment on their permanent mandibular molars with symptomatic irreversible pulpitis )moderate to sever pain )who refered to Zahedan dentistry university and informed consent was obtained prior to the treatments. after endodontic treatment All patients were randomly selected and divided into two groups. In the laser group, In the control group patients received placebo without laser. The patients were blinded to the difference between these groups. All root canal therapies were performed in a single-visit treatment. After the standard chemomechanical preparation of the canals by recieproc(rotary) files. they were obturated using lateral compaction technique and AH26 sealer . laser was given to mandibular molars at a right angle to the buccul and lingual mucosa at the level of the apices for 60 seconds. Application of the laser probe was straight and close to mucosae overlying the apices.In group 1 after treatment The laser unit was a diode laser with a wavelength of 940 nm and output power 200 mv . Pain was evaluated using the Visual Analog Scale and patients were instructed to fill in the questionnaire at 6, 12, 24, and 48 AND 72 hours after root canal treatment.also a packet contains 6 lpobrophen 400 mg were given to patient and they were advised to use them just in sever pain. The information collected from the questionnaires was about the

prevalence and the intensity of post-treatment pain. The intensity of pain was evaluated on a numeric rating scale (Visual Analogue Scale) of 0 for “no pain” to 10 for “unbearable pain”. This method makes it possible to quantify the pain level.

#### General information

##### Acronym

##### IRCT registration information

IRCT registration number: **IRCT2017052834193N1**  
Registration date: **2017-11-01, 1396/08/10**  
Registration timing: **registered\_while\_recruiting**

Last update:

Update count: **0**

##### Registration date

2017-11-01, 1396/08/10

##### Registrant information

##### Name

Bitá Aramesh

##### Name of organization / entity

Pardis

##### Country

Iran (Islamic Republic of)

##### Phone

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##### Email address

dr.aramesh20@zaums.ac.ir

##### Recruitment status

**Recruitment complete**

##### Funding source

Zahedan Dentistry University

##### Expected recruitment start date

2016-12-31, 1395/10/11

##### Expected recruitment end date

2017-12-31, 1396/10/10

**Actual recruitment start date**

empty

**Actual recruitment end date**

empty

**Trial completion date**

empty

**Scientific title**

Efficacy of low level laser therapy on postendodontic pain in mandibular molars with symptomatic irreversible pulpitis

**Public title**

low level laser therapy on postendodontic pain

**Purpose**

Treatment

**Inclusion/Exclusion criteria**

Inclusion criteria:20-50 years old male or female.needind root canal therapy of mandibular molars with irreversible pulpitis exclusion criteria:Root canal treatment before:any antibiotics.NSAID used: analgesics used during 12 hours before the endodontic treatment :pregnancy :malignancy: diabetes:complicated anatomy of root:internal and external resorption: open apex:periodontal disease: swelling and abscess:radiographic lesion:pain in percussion:no occlusal contact.

**Age**From **20 years** old to **50 years** old**Gender**

Both

**Phase**

N/A

**Groups that have been masked***No information***Sample size**Target sample size: **90****Randomization (investigator's opinion)**

Randomized

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

Double blinded

**Blinding description****Placebo**

Not used

**Assignment**

Parallel

**Other design features****Secondary Ids**

empty

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

Dental University

**Street address**

Zahedan

**City**

Zahedan

**Postal code****Approval date**

2016-11-21, 1395/09/01

**Ethics committee reference number**

IR.ZAUMS.REC.1395. 243

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

pain after endodontic treatment

**ICD-10 code**

K04.4

**ICD-10 code description**

Acute apical periodontitis of pulpal origin

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

PAIN

**Timepoint**

6.12.24.48.72 HOURS AFTER TREATMENT

**Method of measurement**

VAS

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

nothing

**Timepoint**

nothing

**Method of measurement**

nothing

**2****Description**

nothing

**Timepoint**

nothing

**Method of measurement**

nothing

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

Intervention group: laser was given to endodontically treated molars by virtue of a dental applicator positioned at a right angle to the mucosa at the level of the apices both the buccal and lingual mucosae overlying the apices of the target tooth. Total exposure time for each side was 30 seconds . diode laser with a wavelength of 940

nm ,constant wave with a mean output of 200 mw.

**Category**

Other

**2**

**Description**

in control group,laser used placebo (no laser)

**Category**

Other

**Recruitment centers**

**1**

**Recruitment center**

**Name of recruitment center**

Dentistry University

**Full name of responsible person**

Dr Bita Aramesh

**Street address**

Azadegan Street

**City**

Zahedan

**Sponsors / Funding sources**

**1**

**Sponsor**

**Name of organization / entity**

Zahedan University of Medical Sciences

**Full name of responsible person**

Dr Noormohamad Bakhshani

**Street address**

Hesabi Square .Pardis

**City**

Zahedan

**Grant name**

**Grant code / Reference number**

**Is the source of funding the same sponsor organization/entity?**

Yes

**Title of funding source**

Zahedan 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**

Dentistry University

**Full name of responsible person**

Dr Bita Aramesh

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Resident

**Other areas of specialty/work**

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## **Sharing plan**

**Informed Consent Form**

*empty*

**Deidentified Individual Participant Data Set (IPD)**

**Clinical Study Report**

*empty*

*empty*

**Study Protocol**

**Analytic Code**

*empty*

*empty*

**Data Dictionary**

**Statistical Analysis Plan**

*empty*