

Clinical Trial Protocol

Iranian Registry of Clinical Trials

09 Jun 2026

Evaluation of Clinical effects of 940 nm Diode laser irradiation on post bleaching sensitivity reduction according to the common technique

Protocol summary

Summary

This study with the aim of "Evaluation of Clinical effects of 940 nm Diode laser irradiation on post bleaching sensitivity reduction according to the common technique" is a prospective double blind clinical trial study. 30 persons with the tooth whitening requirement will take part in our study. Participants should be 18-35 years old, caries free, no periodontal and tooth sensitivity disease especially for anterior teeth, canines and premolars. Bleaching technique according to the therapeutic instructions will be performed on both mandibular and maxillary teeth, then the teeth of a randomized jaw will be irradiated by Diode laser with specified irradiation characteristics. Afterward, tooth sensitivity degree will be measured according to the VAS technique in 1, 24, 48 hrs and 7 days after treatment.

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT2017010231732N1**

Registration date: **2017-02-15, 1395/11/27**

Registration timing: **registered_while_recruiting**

Last update:

Update count: **0**

Registration date

2017-02-15, 1395/11/27

Registrant information

Name

Loghman Rezaei-Soufi

Name of organization / entity

Department of Restorative Dentistry, Dental Research Center, Hamadan University of Medical Sciences

Country

Iran (Islamic Republic of)

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+98 81 3838 0262

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Recruitment status

Recruitment complete

Funding source

Research and Technology vice chancellor of Hamadan University of Medical Sciences

Expected recruitment start date

2016-11-21, 1395/09/01

Expected recruitment end date

2017-03-20, 1395/12/30

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Evaluation of Clinical effects of 940 nm Diode laser irradiation on post bleaching sensitivity reduction according to the common technique

Public title

Laser effect of bleaching teeth sensitivity

Purpose

Treatment

Inclusion/Exclusion criteria

-Inclusion criteria: No caries and periodontal diseases in all anterior teeth, canines and premolars of upper and lower jaw; Lack of any permanent and temporary restorations on more than 1/4 labial surface all anterior teeth, canines and premolars of upper and lower jaw; Lack of any tooth sensitivity (assessed by dental air-water spray); Persons with aged over 18 years and less than 30 years; cooperation ability for periodical follow-up; Lack of any analgesic drugs consumption at least 72 hrs before bleaching; Lack of any desensitizing

toothpaste usage at least 6 weeks before bleaching -
Exclusion criteria: Pregnancy and breast feeding; Patient with periodontal diseases or under treatment; History of tooth bleaching treatment; Tetracycline tooth discoloration; Smoking; Tooth sensitivity; History of tooth sensitivity treatment

Age

From **18 years** old to **35 years** old

Gender

Both

Phase

N/A

Groups that have been masked

No information

Sample size

Target sample size: **30**

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

Street address

Hamedan University of Medical Scinces

City

Hamedan

Postal code

Approval date

2016-12-24, 1395/10/04

Ethics committee reference number

IR.UMSHA.REC.1395.413

Health conditions studied

1

Description of health condition studied

Tooth sensitivity

ICD-10 code

K03.8

ICD-10 code description

Other specified diseases of hard tissues of teeth

Primary outcomes

1

Description

Tooth sensitivity

Timepoint

1, 24, 48 hrs and 7 days after intervention

Method of measurement

According to VAS technique

Secondary outcomes

empty

Intervention groups

1

Description

- Control group: For being patient blindness, the opposite teeth surfaces of intervention group will be irradiated only by laser guiding beam for 60s.

Category

Treatment - Other

2

Description

- Intervention group: The teeth of one of the randomized jaws, immediately after bleaching, Diode laser (Biolase, USA) with 940 nm wave length, 1w power, no sound, continuously and sweeping movement from 5 mm distance, none contact, will be irradiated on study group teeth by a specialist person.

Category

Treatment - Other

Recruitment centers

1

Recruitment center

Name of recruitment center

Dental research center of Hamedan University of Medical Sciences

Full name of responsible person

Dr. loghman rezaei sofi

Street address

School of Dentistry, Hamedan University of Medical Sciences, Shahid Fahmideh Street, Hamedan City, Hamedan, Iran.

City

Hamedan

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Rsearch and technology vice chancellor of Hamedan

University of Medical Sciences

Full name of responsible person

Leila asgary

Street address

Rsearch and technology vice chancellor, Hamedan
University of Medical Sciences, Hamedan

City

Hamedan

Grant name

Grant code / Reference number

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

Yes

Title of funding source

Rsearch and technology vice chancellor of Hamedan
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

Dental research center of Hamedan University of
Medical Sciences

Full name of responsible person

Dr. Loghman rezaei soufi

Position

Associate Professor of Esthetic and Operative
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Other areas of specialty/work

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Person responsible for updating data

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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