

# Clinical Trial Protocol

## Iranian Registry of Clinical Trials

13 Jun 2026

### Efficacy of 940 nm diode laser on the treatment of dentin hypersensitivity in periodontal maintenance patients

#### Protocol summary

##### Summary

This study will include 45 teeth with dentin hypersensitivity, using clinical and split mouth technique, in patients with periodontal diseases who have undergone periodontal care for at least a year. Dentin hypersensitivity will be evaluated using air and tactile stimulation tests. The study will be double-blind. Clinical applicability of the treatments will be evaluated by following process; the assessments will be recorded immediately following the treatment at minute 15 and in day 2, 7, and 30. 1-Air stimulus application test: the tooth being studied will be isolated and dried. Cold air is administered on the tooth surface at the distance of 1cm. Patient response will be recorded using visual analog scale (VAS). 2-Tactile stimulus application test: stimulation is made by periodontal probe scraping the radicular surface of exposed tooth. Patient response is recorded with VAS.

#### General information

##### Acronym

##### IRCT registration information

IRCT registration number: **IRCT2015102624715N1**  
Registration date: **2016-05-18, 1395/02/29**  
Registration timing: **retrospective**

Last update:

Update count: **0**

##### Registration date

2016-05-18, 1395/02/29

##### Registrant information

###### Name

Jamshid Poursamimi

###### Name of organization / entity

Qazvin University of Medical Sciences

###### Country

Iran (Islamic Republic of)

###### Phone

+98 28 3335 3061

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###### Recruitment status

**Recruitment complete**

###### Funding source

Qazvin University of Medical Sciences

###### Expected recruitment start date

2016-01-11, 1394/10/21

###### Expected recruitment end date

2016-05-05, 1395/02/16

###### Actual recruitment start date

empty

###### Actual recruitment end date

empty

###### Trial completion date

empty

###### Scientific title

Efficacy of 940 nm diode laser on the treatment of dentin hypersensitivity in periodontal maintenance patients

###### Public title

Efficacy of 940 nm diode laser on the treatment of dentin hypersensitivity in periodontal maintenance patients

###### Purpose

Treatment

###### Inclusion/Exclusion criteria

Inclusion criteria: individuals who have passed first phase of periodontal treatments and have dentin hypersensitivity in teeth with no caries, fracture; any clear tooth crack, fillings and periapical lesion, which will respond to both air and tactile stimuli application tests. Exclusion criteria: individuals with systemic diseases; allergy to materials used in the study; smokers; individuals with active periodontal diseases; pregnant and lactating women; patients who have received treatments related to increased tooth sensitivity; teeth

with occlusal overload and recent occlusal re-adjustment therapy.

**Age**

From **22 years** old to **57 years** old

**Gender**

Both

**Phase**

N/A

**Groups that have been masked**

*No information*

**Sample size**

Target sample size: **45**

**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**

Qazvin University of Medical Sciences

**Street address**

Qazvin Dental Faculty

**City**

Qazvin

**Postal code**

3328554356

**Approval date**

2015-09-30, 1394/07/08

**Ethics committee reference number**

IR.QUMS.REC.1394.141

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

Dentin hypersensitivity

**ICD-10 code****ICD-10 code description****Primary outcomes****1****Description**

Dentin hypersensitivity

**Timepoint**

The assessments will be recorded immediately following the treatment at minute 15 and in day 2, 7, and 30.

**Method of measurement**

VAS( visual analogus scale)

**Secondary outcomes**

empty

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

In the first group, laser diode of 940 nm wavelengths with uninitiated 400mm fibers and power 1.5 Watt with continuous radiation mode of two 30 seconds intervals will be used.

**Category**

Treatment - Other

**2****Description**

In second group(positive control), potassium fluoride gel 2% will be used.

**Category**

Treatment - Drugs

**3****Description**

In placebo group, both laser and potassium fluoride gel 2% will be placebo

**Category**

Placebo

**Recruitment centers****1****Recruitment center****Name of recruitment center**

Qazvin Dental Faculty

**Full name of responsible person**

Tahere Pourseyedian

**Street address**

Qazvin

**City**

Qazvin

**Sponsors / Funding sources****1****Sponsor****Name of organization / entity**

Qazvin University of Medical Sciences

**Full name of responsible person**

Dr. Taghi Naserpoor

**Street address**

Qazvin  
**City**  
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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**  
Qazvin 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

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## Person responsible for scientific inquiries

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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*