

# Clinical Trial Protocol

## Iranian Registry of Clinical Trials

28 May 2026

### Clinical trial of comparison between Nd:YAG laser and Propolis in treatment of dental sensitivity in patients with dentin hypersensitivity

#### Protocol summary

##### Summary

The aim of this clinical study is comparative evaluation of two treatment methods including Nd:YAG laser and 40% Propolis gel to improve dentin hypersensitivity (DH) symptoms. 25 patients with DH are selected using simple sampling method. Sensitive teeth of one side are treated with Nd:YAG laser and those of the other side are treated with Propolis gel through split mouth design. The received treatment on each side of the Patients' mouth, will be determined through random numbers table. 12 patients receive laser treatment for their sensitive teeth in right side and propolis gel for their sensitive teeth in left side; and 13 patients contrariwise. Each patient receives three sessions with one week interval and is finally followed up by a blind specialist after one and three month. A Visual Analog Scale (VAS) is used to assess the amount of sensitivity at baseline, during and after treatment. Simulation of opposite side treatment in each side is in this way that fiber tip of laser device is held in off state in propolis treatment side with same time of laser treatment side and just the beep sound of device can be heard. Also the use of wet micro brush without impregnating with propolis in laser treatment side simulates the propolis application. So the study is carried out in double-blind situation. Inclusion criteria are having at least two hypersensitive teeth in two sides of mouth, no periodontal surgery within last 3 months and no desensitizing therapy within last 1 month. Patients who do not participate in all sessions are removed from this study. Finally the effect of tow treatments in decreasing DH will be compared.

#### General information

##### Acronym

##### IRCT registration information

IRCT registration number: **IRCT2016111230858N1**

Registration date: **2017-03-23, 1396/01/03**

Registration timing: **retrospective**

Last update:

Update count: **0**

##### Registration date

2017-03-23, 1396/01/03

##### Registrant information

###### Name

Maryam Rasti

###### Name of organization / entity

Shahid Sadoughi University Of Medical Science

###### Country

Iran (Islamic Republic of)

###### Phone

+98 35 3724 0171

###### Email address

dr.rasti68@gmail.com

##### Recruitment status

###### Recruitment complete

##### Funding source

Vice chancellor for research, Yazd University of Medical Sciences

##### Expected recruitment start date

2016-03-19, 1394/12/29

##### Expected recruitment end date

2017-03-19, 1395/12/29

##### Actual recruitment start date

empty

##### Actual recruitment end date

empty

##### Trial completion date

empty

##### Scientific title

Clinical trial of comparison between Nd:YAG laser and Propolis in treatment of dental sensitivity in patients with dentin hypersensitivity

##### Public title

effect of laser and Propolis in treatment of dentin hypersensitivity

## Purpose

Treatment

## Inclusion/Exclusion criteria

inclusion criteria: having at least two hypersensitive teeth in two sides of mouth (one right and one left); age of  $\geq 18$  years; vitality of examined teeth; no carious lesions; fractures or cracks and restorations in examined teeth  
exclusion criteria: patient absent in follow up appointments; systemic diseases; Pregnancy; periodontal surgery within last 3 months; orthodontic treatment in that same course; desensitizing therapy within last 1 month; existing of pulpitis and crown in examined teeth

## Age

From **18 years** old to **100 years** old

## Gender

Both

## Phase

3

## Groups that have been masked

*No information*

## Sample size

Target sample size: **25**

## Randomization (investigator's opinion)

Randomized

## Randomization description

## Blinding (investigator's opinion)

Double blinded

## Blinding description

## Placebo

Used

## Assignment

Parallel

## Other design features

Randomization is done using random numbers table to determine the kind of treatment in right or left side of patients' mouth. Therefore some patients receive laser treatment in right and Propolis gel in left side, and other patients receive conversely treatment. Because of one type treatment on right sensitive teeth and one other type on left sensitive teeth in each patient, this design study is called split mouth.

## Secondary Ids

empty

## Ethics committees

### 1

#### Ethics committee

##### Name of ethics committee

Ethics committee of Yazd University of Medical Sciences

##### Street address

Central Organism of Medical University of Yazd, Shahid Bahonar Square, Yazd

##### City

Yazd

##### Postal code

8916978477

## Approval date

2016-09-22, 1395/07/01

## Ethics committee reference number

IR.SSU.REC.1395.136

## Health conditions studied

### 1

#### Description of health condition studied

dentin hypersensitivity

#### ICD-10 code

K03.8

#### ICD-10 code description

Other specified diseases of hard tissues of teeth

## Primary outcomes

### 1

#### Description

dentin hypersensitivity

#### Timepoint

before treatment and immediately after, one week after, two weeks after, one month after and finally three months after treatment

#### Method of measurement

VAS (visual analog scale)

## Secondary outcomes

### 1

#### Description

-

#### Timepoint

-

#### Method of measurement

-

## Intervention groups

### 1

#### Description

laser radiation in cervical area of sensitive teeth in three sessions with one week intervals. Nd:YAG laser with 1064 nanometer wavelength, 1W power, 10 Hz frequency, short pulse mode, 300 $\mu$ m fiber tip was used for a time of 60 sec on each tooth.

#### Category

Treatment - Devices

### 2

#### Description

40% Propolis gel applying in cervical area of sensitive teeth in three sessions with one week interval

#### Category

Treatment - Other

## Recruitment centers

1

### Recruitment center

**Name of recruitment center**

Dental School, Daheye Fajr Street, Yazd

**Full name of responsible person**

maryam Rasti

**Street address**

Dental School, Daheye Fajr Street, Yazd

**City**

Yazd

### Other areas of specialty/work

**Street address**

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**Fax**

**Email**

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**Web page address**

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## Sponsors / Funding sources

1

### Sponsor

**Name of organization / entity**

Vice Chancellor for research of Yazd University of

Medical Sciences

**Full name of responsible person**

Dr. Amir Hooshang Mehrparvar

**Street address**

Department of Research and Technology, third floor  
of the University Central Building, South Shahid  
Sadughi street, Bahonar Square, Yazd

**City**

Yazd

**Grant name**

-

**Grant code / Reference number**

-

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

Yes

**Title of funding source**

Vice Chancellor for research of Yazd 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 collage of Yazd

**Full name of responsible person**

Maryam Rasti

**Position**

Postgraduate Student, Department of Operative  
Dentistry

## Person responsible for scientific inquiries

### Contact

**Name of organization / entity**

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**Position**

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Dentistry

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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*