

# Clinical Trial Protocol

## Iranian Registry of Clinical Trials

30 May 2026

### Comparison the effect of lidocaine inferior alveolar nerve block versus articaine buccal and lingual infiltration as primary injection on onset and duration of pulpal anesthesia in mandibular second molar with healthy pulp

#### Protocol summary

##### Summary

The aim of the present study is to compare the effect of lidocaine blocks versus articaine buccal and lingual infiltration as first injection on onset and duration of anesthesia of visitors of endo, department during 2016-2017. The distinct objectives of present study are: determining qualified patients and assigning them to control and test groups, determining time of start and duration of anesthesia for these two groups. All patients with anesthetic indication in mandibular second molar with healthy pulp and two indicative quadrants were studied. Their quadrants were randomly categorized into two groups of test (articaine infiltration) and control (lidocaine blocks). The injector (syringe) had identical needle tip. The test group had articaine infiltration made in Citodent (amount: 1 carpool) and control group will be regarded as next quadrant on which the same person is administered with same syringe and lidocaine block instruments (made by Daro-Pakhsh company). For both groups, after administration start of anesthesia is recorded every minutes through electric pulp tester and it is recorded in information form no.2. In addition, duration of anesthesia, time of anesthesia (recorded every minute) is recorded in information form no.2 in the same method until anesthesia is over. Qualified individuals without systemic and neurologic diseases and sensitivity to anesthetic drugs, smoking and alcohol and drug addiction second mandibular teeth with healthy pulp and free from infection and swelling on both sides. in the present study, 30 individuals offering 60 samples were analyzed.

#### General information

##### Acronym

##### IRCT registration information

IRCT registration number: **IRCT2017021523620N7**

Registration date: **2017-05-10, 1396/02/20**

Registration timing: **registered\_while\_recruiting**

Last update:

Update count: **0**

##### Registration date

2017-05-10, 1396/02/20

##### Registrant information

###### Name

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###### Name of organization / entity

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###### Country

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###### Phone

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rmoshari@sbmu.ac.ir

##### Recruitment status

**Recruitment complete**

##### Funding source

Investigator

##### Expected recruitment start date

2017-03-10, 1395/12/20

##### Expected recruitment end date

2018-03-11, 1396/12/20

##### Actual recruitment start date

empty

##### Actual recruitment end date

empty

##### Trial completion date

empty

##### Scientific title

Comparison the effect of lidocaine inferior alveolar nerve block versus articaine buccal and lingual infiltration as primary injection on onset and duration of pulpal anesthesia in mandibular second molar with healthy pulp

**Public title**

Efficacy of articaine buccal and lingual infiltration on pulp anesthesia

**Purpose**

Health service research

**Inclusion/Exclusion criteria**

Inclusion criteria: second mandibular molar teeth with healthy pulp. Exclusion criteria: systemic disease; sensitivity to anesthetic drugs; smoking and alcohol and drug addiction; acute infection and swelling

**Age**

From **18 years** old to **60 years** old

**Gender**

Both

**Phase**

3

**Groups that have been masked**

*No information*

**Sample size**

Target sample size: **60**

**Randomization (investigator's opinion)**

Randomized

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

Single blinded

**Blinding description****Placebo**

Not used

**Assignment**

Parallel

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

empty

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

Islamic azad university,dental branch

**Street address**

No 4, 10th Neyestan, Pasdaran avenue, Tehran, Iran

**City**

Tehran

**Postal code**

1946853314

**Approval date**

2016-12-20, 1395/09/30

**Ethics committee reference number**

IR.IAU.DENTAL.REC.1395,19

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

Pulp

**ICD-10 code**

k04

**ICD-10 code description**

Diseases of pulp and periapical tissues

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

Onset pulp anesthesia

**Timepoint**

5 minutes after injection, 8 minutes after injection, 11 minutes after injection, 15 minutes after injection, 20 minutes after injection, 25 minutes after injection, 30 minutes after injection, 45 minutes after injection, 60 minutes after injection, 75 minutes after injection, 90 minutes after injection

**Method of measurement**

In minutes

**2****Description**

Duration of pulpal anesthesia

**Timepoint**

5 minutes after injection, 8 minutes after injection, 11 minutes after injection, 15 minutes after injection, 20 minutes after injection, 25 minutes after injection, 30 minutes after injection, 45 minutes after injection, 60 minutes after injection, 75 minutes after injection, 90 minutes after injection

**Method of measurement**

In minutes

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

Duration of anesthesia

**Timepoint**

5 minutes after injection, 8 minutes after injection, 11 minutes after injection, 15 minutes after injection, 20 minutes after injection, 25 minutes after injection, 30 minutes after injection, 45 minutes after injection, 60 minutes after injection, 75 minutes after injection, 90 minutes after injection

**Method of measurement**

In minutes

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

1.8 mg articaine buccal and lingual infiltration on mandibular second molar in the intervention group

**Category**

N/A

**2****Description**

1.8 mg lidocaine inferior alveolar nerve block in the control group

**Category**

Treatment - Drugs

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

Islamic azad university, dental branch

**Full name of responsible person**

Dr Ehsan Esnaashari

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No 4, 10th Neyestan, Pasdaran avenue, Tehran, Iran

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

Islamic Azad University, Dental Branch

**Full name of responsible person**

Dr Arash Azizi

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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**

Islamic Azad University, Dental Branch

**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**

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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*