Clinical Trial Protocol
Iranian Registry of Clinical Trials

18 Sep 2026

A clinical trial about comparison of novel adjustment with conventional techniques on orthodontic plates` retention

Protocol summary

Summary

Therapeutic target of the present study is to introduce a new technique for adjusting Adams clasp, which is the most important component involved in the retention of removable appliances, to provide greater retention and patient comfort. In the present double-blind randomized clinical trial, 45 patients, in the 17–25 age range will be randomly selected from those referring to the Department of Orthodontics, Faculty of Dentistry, Tabriz University of Medical Sciences and the study will be performed at the time interval from 22-09-2014 to 19-02-2015. Four removable maxillary plaques will fabricate for each patient, which has two Adams clasps on first molars with hooks on both sides (in order to apply force on the plaque) on the middle portion of the palate along the mesial surfaces of first premolars with acrylic resin covering of the palate. One plaque will adjust from the area of both Adams clasps at overhead areas in the conventional technique. In the three remaining plaques, the Adams clasp will be bent by the Three-plong plier in the middle area of the bridge under three vertical angles of 8, 15 and 20 degrees .after placing the plate in the patients` oral cavity the degree of retention will be measured. For the blindness of the present study the plates will be randomly coded as A, B, C, and D.

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT2014100819465N1**
Registration date: **2014-10-28, 1393/08/06**
Registration timing: **registered_while_recruiting**

Last update:
Update count: **0**

Registration date

2014-10-28, 1393/08/06

Registrant information

Name
somaye naghinejad ahmadi

Name of organization / entity
tabriz university of medical sciences-dental faculty

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Recruitment status
Recruitment complete

Funding source
Tabriz University of Medical Sciences

Expected recruitment start date
2014-10-17, 1393/07/25

Expected recruitment end date
2015-02-19, 1393/11/30

Actual recruitment start date
empty

Actual recruitment end date
empty

Trial completion date
empty

Scientific title
A clinical trial about comparison of novel adjustment with conventional techniques on orthodontic plates` retention

Public title
Effect of novel adjustment on plate`s retention

Purpose
Treatment

Inclusion/Exclusion criteria
Inclusion criteria: Presence of first upper molars on both sides; Permanent dentition period; Absence of any rotation of first molars. Exclusion criteria: Patients with

congenital maxillofacial syndromes; Patients whom upper first molars do not have proximal contacts on both sides; Lack of patient cooperation during recall visits.

Age

From **17 years** old to **25 years** old

Gender

Both

Phase

N/A

Groups that have been masked

No information

Sample size

Target sample size: **45**

Randomization (investigator's opinion)

N/A

Randomization description

Blinding (investigator's opinion)

Double blinded

Blinding description

Placebo

Not used

Assignment

Single

Other design features

Secondary Ids

empty

Ethics committees

1

Ethics committee

Name of ethics committee

Tabriz University of Medical Sciences, Dental Faculty

Street address

Central building of University of Medical Sciences, Golgasht Ave. , Azadi st. , Tabriz, Iran

City

Tabriz

Postal code

5166713898

Approval date

2014-02-12, 1392/11/23

Ethics committee reference number

92204

Health conditions studied

1

Description of health condition studied

Retention of orthodontic plate

ICD-10 code

Z46.4

ICD-10 code description

Fitting and adjustment of orthodontic device

Primary outcomes

1

Description

Plate`s retention

Timepoint

Immediate

Method of measurement

Using a Correx Tension gauge by the scale of newton

Secondary outcomes

1

Description

Amount of bite opening

Timepoint

Immediate

Method of measurement

Using orthodontic gauge by the scale of millimeter

Intervention groups

1

Description

In the middle portion of the adams clasp`s bridge respectively angels of 0,8,15,20 degrees will be applied.

Category

N/A

Recruitment centers

1

Recruitment center

Name of recruitment center

Department of Orthodontics, Faculty of Dentistry

Full name of responsible person

Somaye Naghinejad Ahmadi

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City

Tabriz

Sponsors / Funding sources

1

Sponsor

Name of organization / entity

Tabriz University of Medical Sciences

Full name of responsible person

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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
Tabriz 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

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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