

Clinical Trial Protocol

Iranian Registry of Clinical Trials

18 Jun 2026

Comparison of the effect of three different approaches of retention on reopening of extraction space of fixed orthodontic patients in three different retention phases

Protocol summary

Summary

The aim of the present study is to evaluate the effect of three different retention techniques on the amount of reopening of the extraction space at different retention phase intervals in fixed orthodontic patients. The study design is random single-blind. The subjects will consist of patients receiving comprehensive orthodontic treatment in association with the extraction of mandibular first premolars. The inclusion criteria consist of the presence of all the permanent teeth irrespective of third molars and the use of a fixed flexible spiral wire retainer or an extended fixed retainer or a fixed flexible spiral wire retainer along with a Hawley plaque. The exclusion criteria consist of missing teeth and the use of other types of retainers. The study will be carried out on 90 patients in three groups, who are in the final phase of fixed orthodontic treatment. The intervention will consist of administration of an extended fixed retainer in group 1, a fixed flexible spiral wire retainer in group 2, and a fixed flexible spiral wire retainer along with a Hawley plaque in group 3. The primary outcome which will be evaluated is the reopening of extraction space between the mandibular canine and second premolar on both sides, measured in millimeters by a leaf gauge in the patient's oral cavity and on a stone cast at three different time intervals: on the debonding day, and 2 and 6 months after debonding.

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT2013113015598N1**
Registration date: **2014-10-25, 1393/08/03**
Registration timing: **registered_while_recruiting**

Last update:

Update count: **0**

Registration date

2014-10-25, 1393/08/03

Registrant information

Name

Farzaneh Rasouli

Name of organization / entity

dental faculty, Tabriz university of medical sciences

Country

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Recruitment status

Recruitment complete

Funding source

Tabriz University of Medical Sciences

Expected recruitment start date

2013-12-22, 1392/10/01

Expected recruitment end date

2015-03-20, 1393/12/29

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Comparison of the effect of three different approaches of retention on reopening of extraction space of fixed orthodontic patients in three different retention phases

Public title

Evaluating the success of fixed retainers in orthodontic patients

Purpose

Treatment

Inclusion/Exclusion criteria

Inclusion criteria:the presence of all the permanent teeth irrespective of third molars; the use of a fixed flexible spiral wire retainer or an extended fixed retainer or a fixed flexible spiral wire retainer along with a Hawley plaque Exclusion criteria:missing teeth; the use of other types of retainers

Age

No age limit

Gender

Both

Phase

N/A

Groups that have been masked

No information

Sample size

Target sample size: 90

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**

Ethics Committee of Tabriz University of Medical Science

Street address

Ethics Committee of Tabriz University of Medical Sciences, Vice Chancellor for Research of Tabriz University of Medical Sciences, Tabriz University of Medical Sciences, Golghasht street,Tabriz

City

Tabriz

Postal code**Approval date**

2014-08-11, 1393/05/20

Ethics committee reference number

9373

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

Evaluating the success of fixed retainers in orthodontic patients

ICD-10 code

Z46.4

ICD-10 code description

Fitting and adjustment of orthodontic device

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

reopening of extraction space

Timepoint

debonding day, 2 month and 6 month after debonding day

Method of measurement

In millimetre by leaf guage

Secondary outcomes

empty

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

Extended fixed retainer in group 1

Category

Other

2**Description**

flexible spiral wire retainer

Category

Treatment - Drugs

3**Description**

Fixed flexible spiral wire retainer along with a Hawley plaque

Category

Treatment - Drugs

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

Faculty of Dentistry, Tabriz University of Medical Sciences

Full name of responsible person

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2

Recruitment center

Name of recruitment center

private office

Full name of responsible person

Dr Aydin Sohrabi

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City

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3

Recruitment center

Name of recruitment center

private office

Full name of responsible person

Dr Ali Rafighi

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17-Shahrivar

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Sponsors / Funding sources

1

Sponsor

Name of organization / entity

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Full name of responsible person

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Tabriz University of Medical Sciences, Golghasht street, Tabriz

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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

Contact

Name of organization / entity

Orthodontics Department of Dental Faculty, Tabriz University of Medical Sciences

Full name of responsible person

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Position

post graduate student

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Web page address

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