# Clinical Trial Protocol
# Iranian Registry of Clinical Trials

22 Nov 2026

## The effect of low level laser therapy on the ridge preservation process using growth factors enriched plasma and demineralized bone matrix: A Clinical trial

## Protocol summary


**Summary**

The aim of this study is to find out the clinical and radiographic effect of Adding LLLT (low-power lasers therapy) to PRP (platelet rich plasma) and DBM (Demineralized bone matrix) in the process of socket preservationon the height and width of ridge and also study the histological Above-mentioned materials effect on the Value of vital bone extraction of Multi-root teeth.and Achieving to a method that could Offering In terms of quantity and quality a better bone for correct and without problem putting up implant for clinicians. In this study, Patients are chosen that refer for treatment of isolated teeth (non-muller) and these teeth were beyond repair and in terms of prognosis have been considered hopeless and also has healthy adjacent teeth and they tend to use the implant. These patients become aware in the form of Written and oral from the Study conditions and after complete the written consent and questionnaire they enter to the study. Forty socket in Patients over 18 years that at least have a Non-maintenance multi-root teeth and elected due to the study output metrics and randomly (using randomizer software: http://www.randomizer.org) divided into two groups (each 14). Initial Clinical criteria Contains Width and height of bone and Width of Keratinized gum are measured. And stents are made for Patients in order to standardize the measured variables. And a CBCT scan is taken of each patient. After tooth Extraction with minimal trauma and without pressure to the Buccal bone and with using periotome socket carefully bring out the debridement granulation tissue and two treatment Protocol Contains: in first group we use PRP and demineralized bone matrix for fill the socket and in second group we use PRP and demineralized bone matrix for fill the socket with LLLT. All of the sockets completely covered by absorbent collagen membrane and coronally advanced flap and close it by using reverse cross-mattress suture technique. Instructions are given to the patient after surgery and patients are recommended to use Chlorhexidine Gluconate 0.12% Mouthwashes twice a day for two weeks. after 10 days for Suture removal and examination Restoration Area Patients will visit again.Re-evaluate the clinical criteria will be measured Three month after process of bone repair with using stents that were - Build as a guide in 4 place : mid-buccal , mid-ligual , mid-mesial and mid-distal .and also with using trephine concurrent with implant placement preparation of histological samples from bone in that area and for check the value and rate of new bone formation , residual particle , connective tissue and vital bone are sent to the laboratory.


## General information

**Acronym**

**IRCT registration information**

IRCT registration number: **IRCT2015042410501N4**
Registration date: **2015-12-11, 1394/09/20**
Registration timing: **retrospective**

Last update:
Update count: **0**

**Registration date**

2015-12-11, 1394/09/20

**Registrant information**


**Name**

Nader Abolfazli

**Name of organization / entity**

Departyment of periodontics, Tabriz faculty of dentistry

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Iran (Islamic Republic of)

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**Recruitment status**
**Recruitment complete**
**Funding source**
Gum and Tooth Research Center Of Dental College, Tabriz University Of Medical Sciences

**Expected recruitment start date**
2014-12-23, 1393/10/02
**Expected recruitment end date**
2015-04-29, 1394/02/09
**Actual recruitment start date**
empty
**Actual recruitment end date**
empty
**Trial completion date**
empty

**Scientific title**
The effect of low level laser therapy on the ridge preservation process using growth factors enriched plasma and demineralized bone matrix: A Clinical trial

**Public title**
The effect of low level laser therapy on the ridge preservation process
**Purpose**
Treatment
**Inclusion/Exclusion criteria**
inclusion criteria:Age (18 years or older) ;complete and sign a written consent form; tend to use the implant restoration; clinically at least have one non-molar teeth that need to be extract ; good general health ; the ability to participate in follow up examinations. Exclusion criteria: systemic or topical antibiotics up to three months before the start of study ;regular use of anti-inflammatory drugs in the last three months; Dental infections and bone abscesses ;Poor oral hygiene (no visible plaque); Smoking;ankylosed teeth; pregnancy and lactation; the presence of severe periodontal disease activist; uncontrolled diabetes and debilitating systemic diseases ;people addicted to drugs and alcohol;teeth with Fenestration or Dissidence
**Age**
From **18 years** old to **75 years** old
**Gender**
Both

**Phase**
N/A
**Groups that have been masked**
*No information*
**Sample size**
Target sample size: **30**
**Randomization (investigator's opinion)**
Randomized
**Randomization description**
**Blinding (investigator's opinion)**
Double blinded
**Blinding description**
**Placebo**
Not used

**Assignment**
Parallel
**Other design features**

## Secondary Ids

empty

## Ethics committees

### 1

**Ethics committee**
**Name of ethics committee**
Tabriz University Of Medical Science
**Street address**
Department of Periodontics, Faculty of Dentistry, Daneshgah Street
**City**
Tabriz
**Postal code**
5516613345
**Approval date**
2010-09-23, 1389/07/01
**Ethics committee reference number**
TBZMED.REC.1394.448

## Health conditions studied

### 1

**Description of health condition studied**
Alveolar ridge atrophy
**ICD-10 code**
K08.2
**ICD-10 code description**
Atrophy of edentulous alveolar ridge

## Primary outcomes

### 1

**Description**
Ridge bone dimensions
**Timepoint**
3 month after the start of study
**Method of measurement**
With photos gauge and probing

### 2

**Description**
new bone formation
**Timepoint**
3 month after the start of study
**Method of measurement**
by histologic survey

## Secondary outcomes

empty

## Intervention groups

### 1

**Description**
using enriched plasma in case group
**Category**
Prevention

### 2

**Description**
using low level laser in case group
**Category**
Prevention

## Recruitment centers

### 1

**Recruitment center**
**Name of recruitment center**
Department Of Periodontics, Tabriz Faculty Of Dentistry
**Full name of responsible person**
Dr. Nader Abolfazli
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Department of Periodontics, Faculty of Dentistry, Daneshgah Street
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tabriz

## Sponsors / Funding sources

### 1

**Sponsor**
**Name of organization / entity**
Vice-Chancellor for research of Tabriz University Of Medical Sciences
**Full name of responsible person**
Dr. Mohammad Reza Rashidi
**Street address**
Faculty Of Dentistry, Daneshgah Street
**City**
Tabriz
**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 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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## 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*