

PLEASE NOTE: *This trial has been registered retrospectively.*

Trial Description

Title

Clinical survival and success of various post and core systems for non-vital teeth

Trial Acronym

[---]*

URL of the trial

[---]*

Brief Summary in Lay Language

Over the last decades there was a doctrine in dentistry saying, that root canal filled teeth need a post to get enough retention for the buildup filling. Different studies showed that the additional dentin removal which is necessary to set the post lead to a weakening of the root and increases the fracture risk. This clinical study evaluates the clinical and radiological performance of three different post systems for the reconstruction of root-canal-treated teeth. The posts are made up of zirconia, glass-fiber or titanium. All three systems are standard use in daily routine. The clinical performance of teeth with posts will be compared with that of teeth without posts. Additionally, the effect of the post material on the color of the gingiva will be assessed.

Brief Summary in Scientific Language

Over the last decades there was a doctrine in dentistry saying, that root canal filled teeth need a post to get enough retention for the build-up filling with composite. Different studies showed that the additional dentin removal which is necessary to set the post lead to a weakening of the root and increases the fracture risk. This clinical study evaluates the clinical and radiological performance of three different post systems for the reconstruction of root-canal-treated teeth. The posts are made up of zirconia, glass-fiber or titanium. As a control group there will also be teeth treated without any posts. The aim of this study is to test whether or not root-canal-treated teeth with full-coverage crowns restored by means of titanium, zirconia or glass-fiber posts perform differently from non-vital teeth without posts with respect to teeth and reconstruction survival and success rates. Additionally, the effect of the post material on the color of the gingiva will be assessed by spectrophotometric analyses.

Organizational Data

■

DRKS-ID: **DRKS00006262**

- Date of Registration in DRKS: **2014/09/18**
- Date of Registration in Partner Registry or other Primary Registry: [---]*
- Investigator Sponsored/Initiated Trial (IST/IIT): **yes**
- Ethics Approval/Approval of the Ethics Committee: **Approved**
- (leading) Ethics Committee Nr.: **StV 07/04 (neu: PB_2016-02680) , Kantonale Ethikkommission Zürich**

Secondary IDs

Health condition or Problem studied

- ICD10: **K08.3 - Retained dental root**

Interventions/Observational Groups

- Arm 1: **placing of a titanium post in the root canal filled root+ composite build-up before crown preparation**
- Arm 2: **placing of a zirconia post in the root canal filled root + composite build-up before crown preparation**
- Arm 3: **placing of a glass fiber post in the root canal filled root + composite build-up before crown preparation**
- Arm 4: **sole composite build-up before crown preparation (without post)**

Characteristics

- Study Type: **Interventional**
- Study Type Non-Interventional: [---]*
- Allocation: **Randomized controlled trial**
- Blinding: [---]*
- Who is blinded: [---]*
- Control: **Active control (effective treatment of control group)**
- Purpose: **Treatment**
- Assignment: **Parallel**
- Phase: **N/A**
- Off-label use (Zulassungsüberschreitende Anwendung eines Arzneimittels): **N/A**

Primary Outcome

**Tooth and reconstruction survival rates
1, 3, 5 years after crown insertion
clinical examination**

Secondary Outcome

**Biological and technical complication rates
1, 3, 5 years after crown insertion
clinical and radiographic examination
Amendment: biological and technical complication rates 7-9 after crown insertion
(one single additional follow up visit)**

Countries of recruitment

- **CH Switzerland**

Locations of Recruitment

- University Medical Center **Zentrum für Zahnmedizin, Klinik für Kronen- und Brückenprothetik, Teilprothetik und zahnärztliche Materialkunde, Zürich**

Recruitment

- Planned/Actual: **Actual**
- (Anticipated or Actual) Date of First Enrollment: **2007/01/17**
- Target Sample Size: **50**
- Monocenter/Multicenter trial: **Monocenter trial**
- National/International: **National**

Inclusion Criteria

- Gender: **Both, male and female**
- Minimum Age: **18 Years**
- Maximum Age: **no maximum age**

Additional Inclusion Criteria

Need of comosite build-up and full-coverage crown for the prosthetic reconstruction of a root-canal-treated incisor, canine or premolar
- **state-of-the-art root canal treatment**
- **periodontal health**
- **< 50% of residual detin walls after tooth preparation**
- **> 1.5 mm height of ferrule**



Exclusion criteria

None

Addresses

■ Primary Sponsor

Zentrum für Zahnmedizin
Mr. PD Dr. med. dent. Goran I. Benic
Plattenstrasse 11
8032 Zürich
Switzerland

Telephone: [---]*

Fax: [---]*

E-mail: [---]*

URL: [---]*

■ Contact for Scientific Queries

Zentrum für Zahnmedizin
Mr. PD Dr. med. dent. Goran I. Benic
Plattenstrasse 11
8032 Zürich
Switzerland

Telephone: **+41 44 634 04 04**

Fax: [---]*

E-mail: **goran.benic at zzm.uzh.ch**

URL: [---]*

■ Contact for Public Queries

Zentrum für Zahnmedizin
Mr. PD Dr. med. dent. Goran I. Benic
Plattenstrasse 11
8032 Zürich
Switzerland

Telephone: **+41 44 634 04 04**

Fax: [---]*

E-mail: **goran.benic at zzm.uzh.ch**

URL: [---]*

Sources of Monetary or Material Support

- **Institutional budget, no external funding (budget of sponsor/PI)**



Institutional budget, no external funding (budget of sponsor/PI)

**Universität Zürich, Zentrum für Zahnmedizin, Klinik für Kronen- und
Brückenprothetik, Teilprothetik und zahnärztliche Materialkunde
8032 Zürich
Switzerland**

Telephone: [---]*

Fax: [---]*

E-mail: [---]*

URL: [---]*

Status

- Recruitment Status: **Recruiting complete, follow-up complete**
- Study Closing (LPLV): **2019/03/12**

Trial Publications, Results and other documents

* This entry means the parameter is not applicable or has not been set.

*** This entry means that data is not displayed due to insufficient data privacy clearing.