

# Implant-supported three-unit fixed dental prosthesis using coded healing abutments and fabricated by digital workflow: a 5-year prospective case series study

No registrations found.

<b>Ethical review</b>	Positive opinion
<b>Status</b>	Recruitment stopped
<b>Health condition type</b>	-
<b>Study type</b>	Interventional

## Summary

### ID

NL-OMON21760

### Source

Nationaal Trial Register

### Brief title

Implant-supported three-unit fixed dental prosthesis

### Health condition

missing teeth in the posterior region

## Sponsors and support

**Primary sponsor:** none

**Source(s) of monetary or material Support:** Department of Implant Dentistry and Oral Surgery, Center for Dentistry and Oral Hygiene, Dental School, University Medical Center Groningen, Groningen, The Netherlands

## Intervention

## Outcome measures

### Primary outcome

Survival of the implants and reconstruction

### Secondary outcome

Success of the prosthesis, condition of the surrounding hard and soft tissue

## Study description

### Background summary

Limited evidence exists on the results of implementing recent technical developments, such as coded healing abutments and intra-oral scanners, in the fabrication of multi-unit fixed dental prosthesis (FDP). Similarly, evidence of the usefulness of monolithic zirconia, to combat prosthetic framework fracture and chipping of veneering porcelain, is still limited. This clinical case series study aims to test the applicability of the aforementioned techniques in the fabrication of 3-unit FDP's on two dental implants.

Patients with three missing units in the posterior region of either the maxilla or mandible received two dental implants. After healing, coded healing abutments were placed. Full-arch intra-oral scans were made to produce individual titanium abutments and a 3-unit FDP. Peri-implant tissues were assessed two weeks after placement of the FDP and after five years. Patient reported outcome measures were registered prior to the treatment and after five years. The quality of the FDP's was assessed using modified USPHS (United States Public Health Service) criteria, after five years of service.

### Study objective

Not applicable

### Study design

5-year visit of first patient treated: may 2020

5-year visit of last patient treated: june 2022

### Intervention

Implant supported 3-unit fixed dental prosthesis

## Contacts

### **Public**

University Medical Center Groningen  
Christiaan Pol

0503616276

### **Scientific**

University Medical Center Groningen  
Christiaan Pol

0503616276

## Eligibility criteria

### **Inclusion criteria**

This prospective case series study considered all consecutive patients were eligible to participate, if they had at least three adjacent missing teeth in the posterior region of the mandible or maxilla and were treated with a 3-unit FDP on 2 implants. All patients were screened using clinical and radiographic examinations to determine if they met all of the following inclusion criteria:

- over 18 years of age and capable of understanding and giving informed consent;
- sufficient horizontal and vertical space to place a three-unit FDP;
- sufficient bone levels at the proposed implant sites to place implants with a length of at least 8.5mm and a width of 4mm;
- the presence of natural antagonistic teeth or a prosthetic construction.

### **Exclusion criteria**

Any of the following was regarded as a criterion for exclusion from the study:

- uncontrolled pathological processes in the oral cavity;
- known or suspected current malignancy;
- history of radiation therapy in the head and neck region;
- history of chemotherapy within 5 years prior to surgery;
- systemic or local disease, condition or medication that could compromise postoperative healing and/or osseointegration;
- is a smoker (and intends to continue);
- regular alcohol and/or drug use.

## Study design

### Design

Study type:	Interventional
Intervention model:	Other
Allocation:	Non controlled trial
Masking:	Open (masking not used)
Control:	N/A , unknown

### Recruitment

NL	
Recruitment status:	Recruitment stopped
Start date (anticipated):	01-05-2020
Enrollment:	60
Type:	Actual

### IPD sharing statement

**Plan to share IPD:** No

## Ethics review

Positive opinion	
Date:	06-02-2020
Application type:	First submission

## Study registrations

### Followed up by the following (possibly more current) registration

No registrations found.

## Other (possibly less up-to-date) registrations in this register

No registrations found.

## In other registers

Register	ID
NTR-new	NL8357
Other	METc UMCG : M13.145175

## Study results

### Summary results

Implant-supported three-unit fixed dental prosthesis using coded healing abutments and fabricated by digital workflow: a 1-year prospective case series study

Christiaan W.P. Pol, DDS / Gerry M. Raghoobar, DDS, MD, PhD / Marco S. Cune DDS, PhD / Henny J.A. Meijer, DDS, PhD (submitted September 2019)