# The long-term effect of full-mouth tooth extraction and subsequent implant placement on the oral microflora

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The aim of this study is to analyze the long-term effect of full-mouth tooth extraction and subsequent implant placement on the oral microflora (colonization of implants), using 16S next-generation sequencing technique. A secondary aim is to analyse...

Ethical review	Approved WMO
Status	Pending
Health condition type	Bacterial infectious disorders
Study type	Observational non invasive

# Summary

### ID

NL-OMON45370

**Source** ToetsingOnline

**Brief title** Full mouth tooth extraction and implant placement

## Condition

• Bacterial infectious disorders

**Synonym** edentulism, toothless

**Research involving** Human

## **Sponsors and support**

**Primary sponsor:** Universitair Medisch Centrum Groningen **Source(s) of monetary or material Support:** Ministerie van OC&W

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### Intervention

Keyword: dental implants, edentulism, microbiology, tooth extraction

#### **Outcome measures**

#### **Primary outcome**

Changes in relative abundance of bacterial species over time as analysed by 16S

next generation sequencing technique.

#### Secondary outcome

Not applicable

# **Study description**

#### **Background summary**

Full-mouth tooth extraction significantly changes the oral microflora. These changes include reduction of A. actinomycetemcomitans and P. gingivalis, frequently to levels below detection threshold. However, in some patients, A. actinomycetemcomitans and P. gingivalis can persist in the edentulous oral cavity up to 3 months after full-mouth tooth extraction. Nowadays many fully edentulous subjects receive dental implants to support their full prosthesis. It is currently unknown if periodontal pathogens persist in the oral cavity in the long-term and if persisting periodontal pathogens pose a risk for dental implants (increase the risk for development of peri-implant infections.)

#### **Study objective**

The aim of this study is to analyze the long-term effect of full-mouth tooth extraction and subsequent implant placement on the oral microflora (colonization of implants), using 16S next-generation sequencing technique. A secondary aim is to analyse the effect of remaining periodontal pathogens on long-term implant success.

#### Study design

The present study is a prospective cohort study.

#### Study burden and risks

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No risks are involved with participation in this study. Full-mouth tooth extraction will be performed by the patient\*s own dentist (regular dental care). Microbiological samples will be obtained by the researcher from various locations in the oral cavity prior to full-mouth tooth extraction and 3 months and 1 year, 3 years, 5 years, 7 years and 9 years after full mouth tooth extraction. To minimize the burden, research appointments will be combined with regular visits to the patient\*s own dentist.

# Contacts

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# **Trial sites**

# **Listed location countries**

Netherlands

# **Eligibility criteria**

#### Age

Adults (18-64 years) Elderly (65 years and older)

### **Inclusion criteria**

1) The patient is >= 18 years of age;

2) The patient has a hopeless residual dentition of at least 4 teeth for which extraction of all teeth is the only remaining treatment modality.

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3) The patient is diagnosed with mild or severe periodontitis (2 approximal sites with at least

2 mm of clinical attachment loss or probing pocket depth of at least 5 mm).

4) The patient is capable of understanding and giving informed consent.

# **Exclusion criteria**

- 1) Medical and general contraindications for the surgical procedures;
- 2) A history of local radiotherapy to the head and neck region;
- 3) Chemotherapy in the previous 6 months;
- 4) Systemic or local use of antibiotics in the oral cavity during the last 3 months;

5) Use of anti-septic / antimicrobial therapies (including mouthrinses) in the oral cavity during the last 4 weeks;

6) Patients with dental implants remaining in the oral cavity after full-mouth tooth extraction.

# Study design

# Design

Study type: Observational non invasive		
Masking:	Open (masking not used)	
Control:	Uncontrolled	
Primary purpose:	Prevention	

## Recruitment

NL	
Recruitment status:	Pending
Start date (anticipated):	01-02-2017
Enrollment:	100
Туре:	Anticipated

# **Ethics review**

Approved WMO	
Date:	13-04-2017
Application type:	First submission
Review commission:	METC Universitair Medisch Centrum Groningen (Groningen)

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# **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** CCMO **ID** NL60374.042.16