

Immediate versus delayed restoration of immediate single-tooth implants in the anterior maxilla

Submission date 08/05/2008	Recruitment status No longer recruiting	<input type="checkbox"/> Prospectively registered
		<input type="checkbox"/> Protocol
Registration date 11/07/2008	Overall study status Completed	<input type="checkbox"/> Statistical analysis plan
		<input type="checkbox"/> Results
Last Edited 11/07/2008	Condition category Oral Health	<input type="checkbox"/> Individual participant data
		<input type="checkbox"/> Record updated in last year

Plain English summary of protocol
Not provided at time of registration

Contact information

Type(s)
Scientific

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Additional identifiers

Protocol serial number
N/A

Study information

Scientific Title

Study objectives

The influence of immediate versus delayed restoration of immediate single-tooth implants in the aesthetic region is evaluated. The study documents the treatment outcome of both strategies as well as the hard and soft tissue response. All parameters are carefully recorded to identify the treatment strategy with the best aesthetic results.

Ethics approval required

Old ethics approval format

Ethics approval(s)

Ethics approval received from the Commissie Medische Ethiek (O.G.016) on the 18th October 2007 (ref: B.U.N. B14320072578).

Study design

Single-centre, randomised single-blind controlled clinical trial

Primary study design

Interventional

Study type(s)

Treatment

Health condition(s) or problem(s) studied

Dental implants

Interventions

Two separate treatment groups were randomly created:

Immediate restoration group:

The total treatment is to be done in one surgical appointment. After extraction of the failing tooth, the implant is immediately inserted into the extraction cavity. Within 3 hours the implant is loaded with a provisional restoration. At the 6 month recall visit the final restoration (crown) is connected.

Delayed restoration group:

This treatment involves two surgical interventions. First the tooth is extracted and an implant is immediately inserted into the extraction cavity. The surgical site is closed and a 3-month healing period started. Following this healing period implants were uncovered at second-stage surgery and a provisional restoration was connected to the implant. Again at the 6-month recall visit the final restoration (crown) is connected.

For both groups the moment of provisional crown connection is selected as baseline.

Restorations were followed-up for at least one year following provisional crown connection.

Intervention Type

Other

Phase

Not Specified

Primary outcome(s)

Mucosa levels were recorded by means of an acrylic stent provided with three direction grooves: mesial, midfacial and distal. All measurements were assessed with a periodontal probe.

1. Papilla levels: a papilla level (mesial papilla level - distal papilla level) is defined as the distance between the top of the corresponding groove and the top of the papilla
2. Midfacial mucosa level: the midfacial level is defined as the distance between the top of the groove and the first contact with the peri-implant mucosa

Key secondary outcome(s)

At each re-assessment, namely 3, 6 and 12 months after baseline (i.e. provisional crown connection), mesial and distal marginal bone changes over time were calculated using standardised peri-apical radiographs.

Completion date

01/05/2010

Eligibility

Key inclusion criteria

Patients were selected and consecutively treated in the Dental Clinic of the Free University in Brussels (VUB):

1. 18 years or older, either sex (the mean age was 53 with a range of 24 to 76 years)
2. Good oral hygiene
3. Existence of one failing tooth in the anterior maxilla (15 - 25) with both neighbouring teeth present
4. Healthy soft tissues surrounding the facial aspect of the hopeless tooth in perfect harmony with the adjacent teeth
5. Normal to thick-flat gingival biotype
6. Adequate bone height apical to the alveolus of the failing tooth (greater than or equal to 5 mm) to ensure primary implant stability of at least 35 Ncm

Participant type(s)

Patient

Healthy volunteers allowed

No

Age group

Adult

Lower age limit

18 years

Sex

All

Key exclusion criteria

1. Systemic diseases
2. Smoking (greater than or equal to 10 cigarettes a day)
3. Bruxism, lack of posterior occlusion
4. Non-treated periodontal diseases

5. Presence of active infection (pus, fistula) around the hopeless tooth
6. Loss of the labial crest after extraction of the failing tooth

Date of first enrolment

01/05/2005

Date of final enrolment

01/05/2010

Locations

Countries of recruitment

Belgium

Study participating centre

Laarbeeklaan 103

Brussels

Belgium

1090

Sponsor information

Organisation

Free University of Brussels (VUB) (Belgium) - School of Dental Medicine

ROR

<https://ror.org/006e5kg04>

Funder(s)

Funder type

University/education

Funder Name

Free University of Brussels (VUB) (Belgium) - School of Dental Medicine

Results and Publications

Individual participant data (IPD) sharing plan

IPD sharing plan summary

Not provided at time of registration

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Participant information sheet	Participant information sheet	11/11/2025	11/11/2025	No	Yes